

# Publication Report



## **The National Drug Related Deaths Database (Scotland) Report 2010**

**Lesley Graham**

**Natalie Stoner**

**Tony Martin**

**Gordon Bruce**

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## About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

**Purpose:** To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

**Mission:** Better Information, Better Decisions, Better Health

**Vision:** To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

## Key points

- In 2010, a total of 365 cases were identified as eligible for inclusion in the NDRDD.
- Over three quarters (79.2%) were male; over half (54.8%) lived in the most deprived areas with the age groups 25-34 and 35-44 years having the highest frequency of deaths (35.9% and 32.3% respectively).
- Co-morbidities in the six months prior to death were common with over half (55.4%) having a psychiatric condition (55.4%) and almost half (47.6%) having had problematic alcohol use.
- The majority had died in a home, either their own (53.3%) or someone else's (26.9%) with, where known, someone present at the scene in over half (62.4%) of cases. Resuscitation had been attempted by a friend, witness, relative, spouse or partner in 116 cases.
- Where known, nearly two thirds (62.4%) had been in contact with a drug treatment service at some point prior to their death.
- Diazepam was the most commonly reported drug found in over three quarters of cases (77.5%) followed by Heroin/Morphine (63.7%) and Methadone (44.9%). *It should be noted that these are reports of drugs found in the body, there is not attribution as to whether they caused the death or not.*

## 1.0 INTRODUCTION

### 1.1 Overview

This is the second report from the National Drug Related Deaths Database (NDRDD) for Scotland and reports on the calendar year 2010. Against a backdrop of a long-term upward trend 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 the routine national reporting of drug related deaths in Scotland by the National Records of Scotland (NRS), formerly the General Register Office of Scotland. This report is on a subset of the overall drug related deaths in 2010. 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 to inform the development of optimal preventive, harm reduction and therapeutic interventions to reduce drug related deaths in Scotland.

The structure of the report is as follows:

Section 1 gives an introduction and overview

Section 2 outlines the process for data collection and construction of the cohort as well as data quality and information governance;

Section 3 presents the results. These include socio-demographic 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;

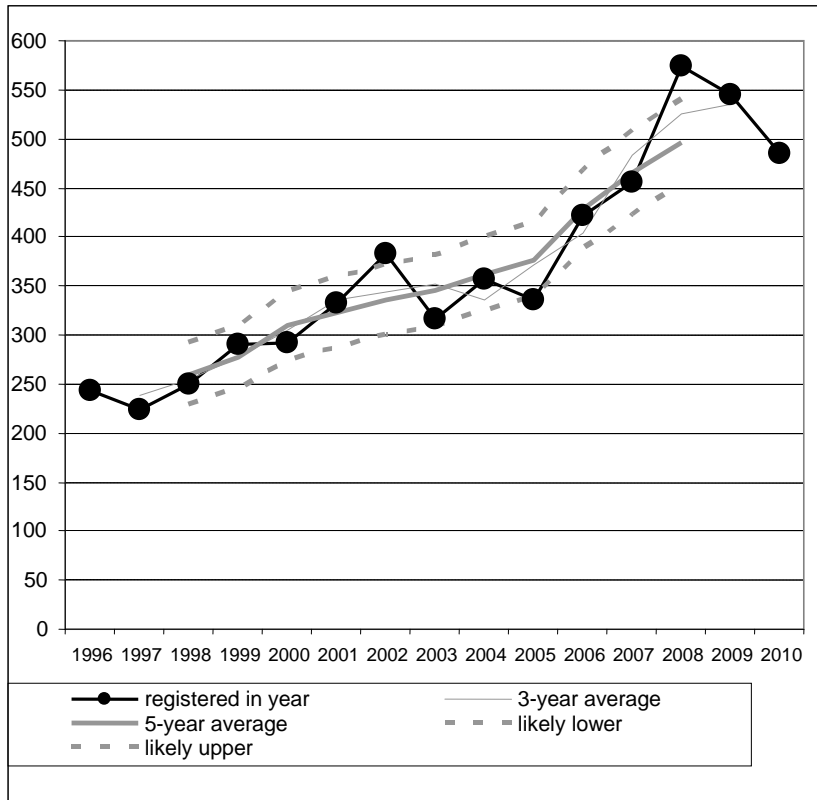
Section 4 provides a discussion and conclusion on the findings and what the implications of these might be.

Although reporting this year is consistent with the 2009 report, not all tables have been replicated [1]. Decisions on which data to report were taken by the Data Collection sub group which oversees NDRDD reporting.

### 1.2 National Reporting of Drug Related Deaths

The National Records of Scotland (NRS) report on Drug Related Deaths in Scotland in 2010 recorded an 11% decrease between 2009 and 2010 [2]. Despite this reduction, the overall figure of 485 was still the third highest figure recorded since this series began in 1996. Over the past fourteen years, a comparison of the five-year averages between 1996-2000 and 2006-2010 show an increase of 91% of the number of DRDs in Scotland. This trend is shown in Figure 1.

Figure 1 Drug Related deaths in Scotland, 3- and 5-year moving averages, and likely range of values around the 5-year moving average



Source: Drug Related Deaths in Scotland in 2010, NRS 2011

This rise in drug related deaths over the past fourteen years is similar for both men and women with an increase of 90% in males and 94% in females. There were higher than average increases in those aged 35-44 years and 45-54 years compared with those aged 25-34 years and over 55 years. There was a fall in deaths over the time period in those aged under 25 years.

For 2006-2010, for Scotland as a whole, the drug related mortality rate was 0.10 per 1,000 population. The NHS Health Board area with the highest mortality rate was Greater Glasgow and Clyde (0.15 per 1,000 population) higher than the Scottish average of 0.10 per 1,000 population, whilst the next highest area was Tayside at 0.10 per 1,000 population. The lowest rate was for Orkney at 0.04 per 1,000 population.

The pathological findings of those who died in 2010 indicated that, as in 2009, the majority of individuals died from the effects of more than one drug. Of all 485 drug related deaths recorded in 2010, Heroin/Morphine was implicated in, or potentially contributed to 52% of drug related deaths (254), a 6% decrease compared with figures for 2009. Methadone was implicated in, or potentially contributed to 36% (174) of deaths, a small increase from 32% (173) in 2009. Benzodiazepines (e.g. Diazepam) were implicated in, or potentially contributed to 25% (122) of deaths, a small fall from 28% (154) deaths in 2009. In addition there was a small increase in the proportion of those who died from using Cocaine (7% (33) versus 6% (32) in 2010 and 2009 respectively), whilst there was a small decrease in the proportion of those who died from Amphetamine (0.5% (3) in 2010 compared with 1% (6) in 2009). In 2010, no individual died from misuse of Ecstasy. Finally the proportion of cases

with alcohol present was slightly decreased in 2010 (26% (165) and 30% (127) in 2010 and 2009 respectively).

## 2. METHODS

### 2.1 Data Collection Development

#### 2.1.1 The National Forum on Drug Related Deaths (NFDRD) Data Collection Sub-Group

The National Forum Drug Related Death Data collection sub-group was established to help oversee and support the implementation of the National Drug Related Deaths Database which is led by ISD. Membership of the group can be found in [Appendix A1](#).

#### 2.1.2 Definition for the National Drug Related Deaths Database

The case definition of a drug related death for the 2010 NDRDD data collection is based on the UK wide definition as reported by the National Records for Scotland (NRS) for national reporting **but excludes confirmed suicides** (see [Appendix A2](#)).

#### 2.1.3 The NDRDD Data Collection Form

The data collection form gathers information on a wide range of variables. These include: socio-demographic details; drug using history; medical history; the circumstances surrounding death; the pathological and toxicological cause of death and prior contact with health, care and criminal justice services. The data collection form can be found in Appendix A8.

### 2.2 Data Collection Process

#### 2.2.1 Local Area Drug Related Death Surveillance

Surveillance of every drug related death in a locality is commonly recorded by local critical incident monitoring groups. The process for identification of a drug related death is variable but will normally include collaboration between members of the critical incident monitoring group, the police and the local Procurator Fiscal. Each area has a Data Collection Co-ordinator whose role is to collate the information on each drug related death. They work closely with local critical incident monitoring groups and key partners. [Appendix A3](#) lists the local Data Collection Co-ordinators.

#### 2.2.2 Case Identification

Cases for inclusion within the NDRDD are initially identified following the submission of a Sudden Death Report to the Procurator Fiscal, after the sudden or unexplained death of an individual. Under the instruction of the Procurator Fiscal, a full pathological and toxicological post mortem will be undertaken to identify the cause of death. This process can take several weeks to complete following which the local critical incident group will determine if the case fits the necessary criteria for the NDRDD. If these criteria are met, a case record will be submitted to ISD.



### 2.2.3 Data Sources and Data Collection

The main data sources for the required data collection items within the NDRDD record were generally similar across all areas of Scotland. These include the Police Sudden Death Report, Pathology Report, GP notes, and other specialist drug treatment notes. A full list of typical sources is listed in Appendix 5 of the National Drug Related Deaths Database (Scotland) Report 2009 [1].

### 2.2.4 Information Support, Data Entry and Data Transfer

The electronic spreadsheet used for data collection in 2009 was also used in 2010, with some minor enhancements. In addition, the ISD NDRDD manager was available to provide IT support, advice and guidance throughout. Similar to the agreed process in 2009, data was submitted to ISD via the Government Secure Internet email network into a restricted secure mailbox. This data was then entered into a secure Oracle database at ISD from which personal identifiable information was removed prior to data extraction and analysis using SPSS software.

## 2.3 Data Quality Assurance

The data quality assurance process for 2010 was similar to that for 2009 data. Briefly, in addition to front end validation within the electronic spreadsheet and Oracle database, each case considered for inclusion within the NDRDD was also cross-matched to records obtained from the National Records of Scotland Vital Events database which contains the records of all who die within Scotland. ICD-10 codes were then extracted and compared with those codes which define the NDRDD. Any anomalous differences were thoroughly investigated, the details of which are outlined in [Appendix A4](#).

## 2.4 Data Confidentiality and Information Governance

Whilst the data collected as part of the NDRDD are not directly covered by the Data Protection Act 1998, ISD considers the data to be protected under a duty of confidence. Consequently all measures are taken to protect the confidentiality of the data on personal details of individuals (necessary for potential linkage to other data sets and cross-matching). All local data collection co-ordinators have been circulated "How ISD's National Drug Related Death Database Project Meets the 6 Caldicott Guardian Principles", a copy of which is found in [Appendix A5](#).

## 3. RESULTS AND COMMENTARY

### 3.1 The National Drug Related Deaths Database cohort for 2010

In 2010, a total of **365** records were identified as eligible for inclusion within the NDRDD population. This was a fall in the number of cases reported on compared to 2009 (432).

In 2010, a total of 416 records were returned to ISD for the NDRDD but 51 (12.3%) did not meet the criteria for inclusion. The reasons for non inclusion are set out in [Appendix A4](#). The proportion of those returned that did not meet the criteria for inclusion is higher than for 2009 (7.0%, 33/465).

After matching to NRS drug related death records, 82 records were identified that should have been returned to ISD to the NDRDD but for which records were not received. Full details on these are set out in [Appendix A4](#). In 2010, the proportion of missing records was comparable to 2009 (18.3%, 82/447 and 17.6%, 92/524 respectively).

Investigation where data was recorded as unknown was able to confirm that the majority of these were confirmed unknowns as opposed to incompleteness of data entry. In general, data completeness for individual data items had improved compared to 2009.

### 3.2 Socio-demographics

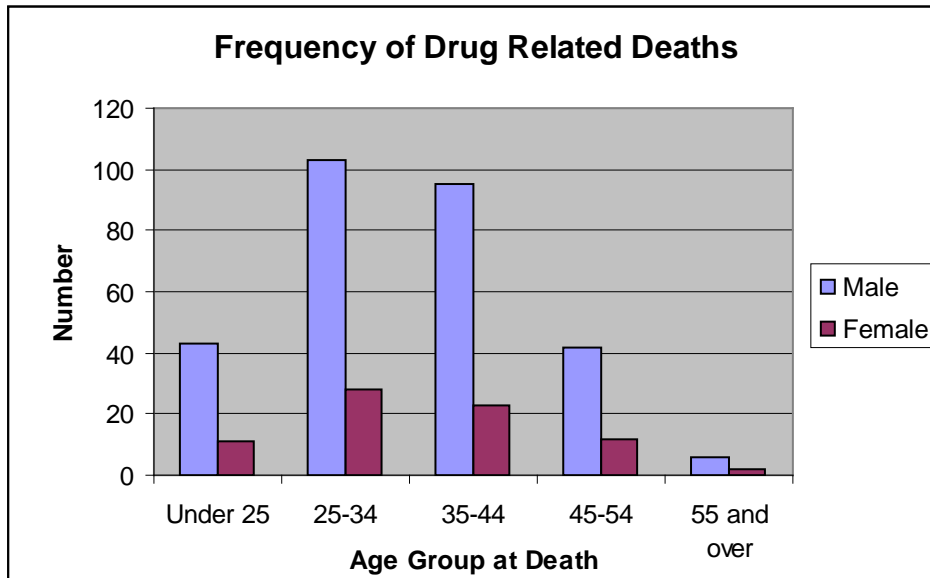
#### 3.2.1 Geographical Area

Tables [1](#) and [2](#) shows the numbers and crude mortality rates for the NDRDD reported in 2010 by council area and Health Board. Geographically, the council area with the highest crude mortality rate is Inverclyde (0.16 deaths per 1000 population), with zero rates recorded in Argyll & Bute, Eilean Siar and the Orkney Islands. The Health Board with the highest crude mortality rate is Greater Glasgow and Clyde (0.11 per 1,000 population) with Orkney and Western Isles recording zero rates.

#### 3.2.2 Age and Gender

The gender and age group breakdown are shown in [Table 3](#) and Figure 2. Over three quarters were male (289, 79.2%), a similar percentage to 2009 (78.9%). The age groups with the highest frequency of deaths are the 25-34 and 35-44 year age groups (35.9% and 32.3% respectively) with similar patterns observed for both males and females. 17% were over aged 45, a rise from 13.5% in 2009.

Figure 2 NDRDD reported frequency of Drug Related Deaths: Age & Gender



### 3.2.3 Deprivation

The Scottish Index of Multiple Deprivation classifies postcode areas by deprivation on a scale of 1 to 5, with 1 being the least affluent. Deprivation status was known for 330 (90.4%) of the cohort. [Table 4](#) shows that over half (181, 54.8%) of the cohort lived in the most deprived neighbourhoods in Scotland.

### 3.2.4 Living Arrangements

In 2010, where the deceased had lived prior to death was known in 348 cases ([Table 5](#)). Consistent with 2009, over three-fifths (213, 61.2%) of individuals lived in their own home at the time of their death. 105 (30.2%) individuals lived with friends or relatives, a small increase compared to 2009 where 28.1% (120/427) individuals lived with the friends or relatives. In 2010, there were 35 (10.1%) individuals who were living in homeless or temporary accommodation. This is a slight fall compared with the 11.5% (49) cases in 2009.

In 2010, whom the deceased lived with was known in 340 cases ([Table 6](#)). Of these cases, 182 of them lived alone (53.5%), whilst a further 58 individuals (17.1%) lived with their parents. 57 (16.8%) lived with their spouse or partner whilst 44 (13.0%) lived with a friend or other relative. In 17 cases (5.0%) it was unclear with whom the deceased lived with as they lived in hostels, hospitals or prisons. There was a 6.8% increase in the proportion of individuals who lived alone compared to the 46.7% (195/418) reported in 2009. There were decreases in the percentages of those living with spouses/partners (6.6%), parents (1.3%), friends (1.0%) or relatives (0.1%) compared to 2009.

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

For 359 cases, it was known whether the deceased had children or had been a parental figure to a child under 16 at the time of death or not ([Table 7](#)). Of these, 219 (61.0%) individuals were not a parent or parental figure while 140 (39.0%) were so (broadly similar to figures for 2009, 63.5% and 36.5% respectively). It was known for 341 individuals whether a child was living with the deceased or not at the time of death. For the overwhelming majority (312, 91.5%), this was not so. 29 individuals (8.5%) were parents or a parental figure to a child under 16 and where the child lived with the deceased. 45

children lost a parent or parental figure in 2010 whose care they were in (a fall from the figure of 59 in 2009).

### 3.3 Drug Use History

#### 3.3.1 Known Intravenous Drug Use by Length of Time of Use

Of the 365 cohort, for 361 cases it was known if the deceased was a drug user or not ([Table 8](#)). Of these, 311 (86.1%) individuals were known to have misused any drugs at some point in their life. Of the 311 known drug users, it was known whether or not they had used drugs intravenously in 281 cases ([Table 8](#)). Of these 281, 199 (70.8%) had used drugs intravenously at some point in their life, a similar proportion to those reported in 2009 (69.5%, 232/334).

#### 3.3.2 Drug Detoxification in the Past 12 Months by Length of Time

It was known in 333 (91.2%) cases if the deceased had completed a drug detoxification intervention in the past 12 months ([Table 9](#)). Of these, whilst the vast majority (286, 85.9%) had not undergone any detoxification intervention, 47 (14.1%) cases had completed one within the previous year. Of those who had completed a detoxification intervention, 32 (68.0%) had died within 3 months of detoxification ([Table 10](#)). This shows a similar pattern to those who died in 2009 where 13.6% (51/375) had completed a drug detoxification intervention in the previous 12 months with (52.0% (26/50)) having died within 3 months. There was therefore a 16% increase in the proportion of those who died following a drug detoxification intervention in the previous 3 months in 2010.

#### 3.3.3 Previous Non-fatal Overdose Events

In 2010, 167 individuals had at least one overdose prior to their death recorded (data not shown). In 158 cases the number of previous overdose events was known with over one-third of these (61, 38.6%) having had just one previous overdose event in their lifetime ([Table 11](#)). In contrast, 38 (24.1%) were known to have more than 5 previous overdose events in their lifetime. Comparison with 2009 shows that 44.3% (86/194) had only one previous experience whilst 33 (17.0%) had experienced 5 or more overdoses.

In 2010, of all those who had previously experienced an overdose, the length of time since the last event was known in 154 cases ([Table 12](#)). Whilst 87 (56.5%) of these were recorded over one year prior to their death, 32 (20.8%) were within 3 months prior to death. In 2009, for those who had experienced an overdose, over half (54.7%, 104/190) had experienced it more than 1 year prior to their death with 20.5% (39) having experienced it within 3 months.

### 3.4 Medical and Psychiatric History and Adverse Life Events

#### 3.4.1 Previous Medical History (In Previous 6 Months)

271 (74.2%) cases from the cohort had a previous medical condition recorded within the 6 months prior to their death, whilst 94 (25.8%) had none ([Table 13](#)). This is a fall from figures in 2009 where 84.7% (366) individuals had some previous medical history recorded in the 6 months prior to death. In 2010, of those who had an underlying condition noted, over half (150, 55.4%) had a psychiatric condition, 129 (47.6%) had problematic alcohol misuse, 72 (26.6%) had Hepatitis C, 68 (25.1%) had a respiratory condition whilst 38 (14.0%) had liver disease. In 2009 there were similar proportions to 2010 for those with a psychiatric condition (46.7%) and alcohol problems (49.2%), a rise in proportion of those with Hepatitis C (16.1%) and liver disease (6.0%) and a fall in those with respiratory conditions (19.1%).

#### 3.4.2 Previous Psychiatric History (In Previous 6 Months)

Of the 150 cases with a psychiatric condition recorded in the past 6 months over half (83, 55.3%) had depression, over one third (55, 36.7%) had anxiety and 16 (10.7%) had a personality disorder ([Table 14](#)). Schizophrenia was identified in 10 (6.7%) cases, with 7 (4.7%) having Post Traumatic Stress Disorder. 26 (17.3%) cases had “other” psychiatric disorders including behavioural problems, psychosis, obsessive compulsive disorder and eating disorders (Tables [14](#) and [15](#)). In 2009 there were higher proportions of those with depression (58.5%), anxiety (38.6%) personality disorder (14.0%) and schizophrenia (11.1%) but lower proportions of those with Post Traumatic Stress Disorder (3.5%) and other psychiatric conditions (13.5%).

#### 3.4.3 Recent Significant Event

In 2010, 220 (60.3%) of the cohort had experienced one or more significant events in the 6 months prior to their death ([Table 16](#)). Of these individuals, over one quarter (62, 28.2%) reported ill health/ recent diagnosis, whilst 37 (16.8%) reported a relapse within the 6 months prior to death. 26 (11.8%) experienced a breakdown of a significant relationship, whilst 22 (10.0%) had suffered a bereavement. In addition, nearly one in ten (21, 9.5%) cases experienced recent housing issues, whilst 8 (3.6%) individuals had been recently assaulted. 8 individuals (3.6%) had ongoing criminal justice concerns, whilst 6 (2.7%) had recently lost their job. Over one in five individuals (50, 22.7%) had experienced some “other” significant event to their lives. In 2009, a smaller proportion (55.1%, 238/432) of the cohort had experienced any significant event in the 6 months prior to their death. Broadly similar proportions compared to 2010 had reported ill health/ recent diagnosis (26.1%), breakdown of a significant relationship (14.7%), had housing problems (8.0%), been recently assaulted (4.2%) or had lost their job (3.4%).

## 3.5 The Death

### 3.5.1 Place of Drug Use and Place of Death

Information on where the deceased was reported to have taken the drug(s) responsible for the fatal overdose was recorded in 341 cases of the cohort ([Table 17](#)). Of these, nearly three-fifths (201, 58.9%) reported taking the drugs within their own home, a small increase compared with 2009 (54.9%, 214/390). In 2010, a further 103 (30.2%) of cases were reported as having taken them in another person's home, again a small proportional increase compared to 2009 (29.0%, 113/390). Information on where the individual was pronounced deceased was available in all but one case ([Table 18](#)). This shows that over half died within their own home (194, 53.3%) whilst a further 98 (26.9%) died within another person's home. Relatively few cases (35, 9.6%) were taken to hospital where they later died. Collectively 21 individuals (5.8%) died either in a hostel, supported accommodation, hotel, B&B or other form of temporary accommodation, whilst 9 (2.5%) individuals died in an outside environment. Seven individuals died within another setting including stairwells, prison, car parks and public toilets. This pattern is similar to that reported in 2009, where 50.7% (219/432) individuals died in their own home, 25.0% (108/432) died in another person's home; 10.0% (43) were taken to hospital where they later died and all forms of temporary accommodation as a place of death accounted for 6.9% (30) cases.

### 3.5.2 Death by Day of the Week

Information was available on which day of the week the deceased died for all 365 cases ([Table 19](#)). More individuals died on a Sunday (66, 18.1%) than any other day. This is in contrast to 2009 where the highest proportion of deaths (17.1%, 73/428) occurred on a Saturday.

### 3.5.3 Persons Present at Scene of Overdose (By Exact Location)

343 cases had reports of whether there were any persons present at the scene (in the vicinity) of the overdose ([Table 20](#)). Of these, 214 (62.4%) had at least one other individual present at the scene of the overdose whilst for over one third (37.6%, 129) no-one else was present. Further detail on the location of the persons present relative to the deceased was available in 187 of those 214 cases ([Table 20](#)). This shows that for the majority of cases there was not anyone present in the *same room* as the deceased at the point of overdose (107, 57.2%). This pattern is consistent with that found in 2009, where nearly two-thirds (64.2%, 271/422) had reported at least one person present at the scene but only 41.0% (107/261) had had someone in the same room as the deceased at the point of overdose.

### 3.5.4 Ambulance Attendance and Attempted Resuscitation (By Whom and Location)

In all 365 cases it was reported whether the Scottish Ambulance Service had attended the scene of death, which had happened for 306 (83.8%) individuals ([Table 21](#)). In 34 (9.3%) cases, an ambulance did not attend the scene of the overdose and for 25 (6.8%) cases there was no reason to call an ambulance as it was clear the deceased was beyond medical intervention. This pattern is broadly similar to that of 2009 where an ambulance attended in 83.1% (359/432) cases, for 9.5% (41) an ambulance did not attend the scene and 7.4% (32) were beyond medical intervention.

In 2010, it was known for 356 cases if the deceased had received any resuscitation attempts prior to death ([Table 22](#)). Of these, just over half received no resuscitation attempts (189, 53.1%), a similar proportion to 2009 (56.0%, 239/427). In 2010, of those where resuscitation had been attempted (167), it was known by whom in all but 1 case ([Table 23](#)). The majority were given attention by the Scottish Ambulance Service (117, 70.5%), and in 116 (69.9%) cases, a friend, witness, relative, spouse or partner had attempted resuscitation. It should be noted that different people (of differing roles) may have attempted resuscitation on one individual. These findings are consistent with 2009 where 75.0% (141/188) of cases where resuscitation had been attempted, it had been administered by the Scottish Ambulance Service. In addition, a friend, witness, relative, spouse or partner also attempted resuscitation in 68.3% (120/188) cases.

### 3.5.5 'Take Home' Naloxone

There were 303 cases where it was reported if 'Take Home' or Community Prescribed Naloxone (an opioid antagonist, used to reverse the effects of an overdose) was available at the scene of the overdose or not ([Table 24](#)). 21 cases reported the *availability* of 'Take Home' Naloxone at the scene, whilst only 13 cases reported the *use* of 'Take Home' Naloxone, ultimately to no effect. This is a substantial increase compared to 2009, where the availability of 'Take Home' Naloxone was only reported in two cases, being administered on both occasions.



## 3.6 Toxicology and Substitute Prescribing

### 3.6.1 Deaths by Drug Type Present; Gender and Age Group

Toxicology results were available for 361 (98.9%) of the cohort, 285 of whom were male and 76 of whom were female ([Table 25](#)). It is important to note that the toxicology results in this report indicate the presence of the drug found at post mortem. It does *not* make any attribution to which of these drugs may have been reported in the final pathological cause of death.

Diazepam was the drug which was most commonly present in the body at post mortem (283, 78.4%) with similar proportions for men (78.2%) and women (78.9%). These are consistent with findings in 2009 where 78.5% (335/427) of deaths had Diazepam present (78.0% and 80.0% for men and women respectively).

Heroin/Morphine was the next most common drug found at post mortem, identified in 230 (63.7%) of cases, with slightly higher proportions in men (64.6%) compared to women (60.5%). This is a proportional reduction to figures in 2009 when 73.3% (313/427) cases had Heroin/ Morphine present, 75.7% for men and 64.4% in women.

In 2010, alcohol was present in just over half of cases overall (187, 51.8%), 53.3% of men and 46.1% of women. There was a slight proportional fall overall compared to 2009 (58.1%, 248/427) and a fall for both men (from 61.7%) but a rise for women (44.4%).

Methadone was present in 162 (44.9%) of deaths in 2010, with a higher percentage for women (56.6%) than for men (41.8%). This is a slight increase on figures from 2009, where methadone was present in 39.3% (168/427) of deaths, again with higher percentages in women (54.4%) than for men (35.3%).

Anti-depressants were found in over a quarter of all cases (105, 29.1%), also with higher proportions in women (43.4%) than in men (25.3%). This was an overall increase compared with 2009 (22.5%, 96/427) but with a similar pattern by gender in that figures were proportionally higher for women than men (33.3% and 19.6% respectively)

Codeine was present in 71 (19.7%) of cases, more so for men (21.1%) than for women (14.7%). These were similar to findings for 2009 (20.6% overall, 22.9% for men and 12.2% for women).

Dihydrocodeine was found in 51 (14.1%) of cases in 2010, in 18.4% of women and 13.0% of men. This was a small overall fall compared to cases in 2009 (16.4%, 70/427) where women and men had similar proportions. Dihydrocodeine was prescribed as a substitute drug in only 6 cases ([Table 27](#)).

Cocaine was identified in 38 (10.5%) deaths in 2010, compared with 13.6% (58/427) in 2009.

In general, there was little difference in proportions of drug type present by age group although for some drug types, numbers broken down to both age group and gender were small making it difficult to draw definitive conclusions (data not shown).

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

[Table 26](#) shows the 361 deaths where toxicology was reported, key combinations of drugs type present, by gender and age group. Heroin and Diazepam was the most common combination found at toxicology (180, 49.9%). This combination was identified in a slightly higher proportion of female deaths (40, 52.6%) compared to male deaths (140, 49.1%). Overall, there was a slight proportional decrease in this drug combination type compared to data reported in 2009 (57.9%, 247/427).

Diazepam and Alcohol was the next most common combination of drug types found at toxicology (138, 38.2%). This was identified in a higher proportion of male deaths (114, 40.0%) compared with female deaths (24, 31.6%), a similar pattern to 2009 (46.6% and 35.6% respectively). In deaths overall in 2010, there was a proportional decrease compared to the 44.3% (189/427) found in 2009.

Methadone and Diazepam were found in the toxicology of 134 cases (37.1%). This combination was found in a higher proportion of female deaths (32, 42.1%) compared with 102 (35.8%) male deaths, a similar pattern to 2009 (46.7% for women and 29.1% for men). For deaths overall, there was a slight proportional increase compared to the 32.8% (140/427) of cases identified in 2009.

Heroin and methadone were found in 60 (16.6%) of cases, present in 23.7% (18) women compared to 14.7% (42) of men. A similar pattern had been found in 2009 (26.7% for women and 15.7% for men). Overall, there was a slight fall compared to 2009 (18.0%, 77/427).

### 3.6.3 Substitute Prescribing by Drug Prescribed and Supervision

In 2010, it was known for all 365 of the cohort, whether the individual was in receipt of a substitute prescription at the time of death or not ([Table 27](#)). In total, 89 (24.4%) were being prescribed a substitute drug at the time of death whilst 276 (75.6%) were not. Of these 89, 74 (83.1%) had been prescribed Methadone, whilst 9 (10.1%) individuals had been prescribed Buprenorphine/ Suboxone with a further 6 (6.7%) individuals having been prescribed Dihydrocodeine.

In 2010, the proportion receiving a substitute prescription overall was slightly higher than in 2009 (21.1%, 91/432) but with broadly similar patterns of prescribing by drug type with 86.8% (79/91) prescribed Methadone and 7.7% (7/91) prescribed Dihydrocodeine.

Of those who were prescribed any opiate substitution therapy, information as to the level of supervision was available in 84 cases ([Table 28](#)). 64 (76.2%) of individuals were supervised when taking their medication, an increase on the 67.1% (59/88) individuals who had their medication supervised in 2009.

### 3.6.4 Drug Type found in Toxicology by Substitute Prescription

Of the 361 cases where toxicology data was reported, 89 were receiving a substitute prescription. In one of these, a toxicology report was not provided ([Table 29](#)).

86.4% (76/88) of those who were receiving a substitute prescription had Methadone present in their body at the time of death compared to 31.5% (86/273) of those who were not receiving a substitute prescription.

84.6% (74/88) of those who were receiving a substitute prescription had Diazepam present compared to 76.6% (209/273) of those who were not receiving a substitute prescription.

50.0% (44/88) of those who were receiving a substitute prescription at the time of their death had Heroin or Morphine present in their body compared to 68.1% (186/273) of those who were not receiving a substitute prescription.

38.6% (34/88) of those receiving a substitute prescription had Alcohol present in their body at the time of death compared to 56.0% (153/273) of those who were not receiving a substitute prescription.

39.7% (35/88) of those receiving a substitute prescription had Anti-depressants present in their body at the time of death compared to 25.6% (70/273) of those who were not receiving a substitute prescription.

12.5% (11/88) of those receiving a substitute prescription had Dihydrocodeine present in their body at the time of death compared to 14.7% (40/273) of those who were not receiving a substitute prescription.

5.7% (5/88) of those receiving a substitute prescription had Cocaine present in their body at the time of death compared to 12.1% (33/273) of those who were not receiving a substitute prescription.

A comparison of drug types found in toxicology by substitute prescription between 2010 and 2009 shows similar patterns with those receiving a substitute prescription more likely to have Methadone and Anti-depressants and those not on a substitute prescription more likely to have Heroin or Morphine, Alcohol and Cocaine in their toxicology.

## 3.7 Contact with Drug Treatment Services

### 3.7.1 Length of Time since Contact with Drug Treatment Services

In 2010, it was recorded for 343 cases whether the deceased had been in contact with drug treatment services or not at some point prior to their death ([Table 30](#)). Of these, 214 (62.4%) individuals had been in contact. This is similar to figures in 2009 where 60.1% (259/431) of reported cases had been in contact with a drug treatment service at some point prior to death. Further analysis of the treatment population in 2010 shows that over half (90, 62.9%) had last been in contact within a month prior to death ([Table 31](#)), compared with 64.4% (105/163) cases in 2009. In 2010, for 7 cases, despite knowledge that they had been in contact with drug treatment services within the last 6 months, it was unknown precisely when that had been. This is comparable with 5 cases in 2009.

### 3.7.2 Contact with Services Providing Drug Treatment by Type of Service

[Table 32](#) shows the type of service providing drug treatment for the 214 individuals who had been contact with services at some point prior to their death. The most common service was an Addiction Service which over three-quarters of individuals had been previously in contact with (165, 77.1%). The next most common service was the patient's GP, with whom over two-thirds (147, 68.7%) of patients had been in contact at some point prior to death. Nearly one fifth (42, 19.6%) had been in contact with Accident and Emergency Services whilst 37 (17.3%) had been in contact with Psychiatric Services. Lastly, 24 (11.2%) of cases had been in contact with Social Work Services at some point prior to death. A broadly similar pattern was reported in 2009: Statutory Addiction Services (72.6%, 188/259); GPs (62.6%, 162/259); Accident and Emergency Services (18.5%, 48/259) and Social Work Services (12.7%, 33/259).

## 4. DISCUSSION

This is the second report from the National Drug Related Death Database and describes in detail the characteristics and circumstances of death for the majority of those dying a drug related death in Scotland in 2010, drawing comparisons with the report for 2009. In general, findings were broadly similar to those observed in 2009. Figures in the Results section have been presented by sub-sets for which data were known. In this section, figures are also expressed for the cohort as a whole and are shown in square brackets.

The majority of those who died a drug related death in the 2010 cohort were men with a male to female ratio of 3.8:1. This supports the evidence that male gender is a risk factor [3]. 8 out of 10 (83.0%) deaths occurred in those under the age of 45. There was a slight increase (13.5%) in the proportion of deaths in those over 45 compared to 2009, mirroring the estimated increase in the estimated prevalence of problem drug use (2010-11), treatment attendance and hospital admissions in older age groups in Scotland [4]. Older age is a recognised risk factor for drug related mortality [5-7].

Where known, around half [49.6% of the cohort overall] were from the least affluent neighbourhoods in Scotland suggesting strong links with poverty and deprivation. It is important to note that, despite smaller numbers, drug deaths do occur in those living in the more affluent areas and, as such, are not confined to those from the poorest areas.

The variation in crude mortality rates by geographical area shows that drug related deaths are not uniformly distributed throughout Scotland. Of note is that the Health Board area of Greater Glasgow and Clyde which has the highest mortality rates also had the highest estimated prevalence of problem drug use in 2009/10 (Greater Glasgow & Clyde 2.59% (95% CI = 2.53%-2.72%) compared with the Scottish average of 1.71% (95% CI=1.67%-1.75%) [4].

Almost three fifths were living in their own home [58.4% overall] with a sizeable minority living with family or friends [28.8% overall]. However, 1 in 10 were homeless or living in temporary accommodation, perhaps indicative of the increase in social exclusion associated with drug misuse. It is important to recognise that when someone gains a residence e.g. from a hostel setting, isolation could increase and so risk, such as from solitary drug use, still remains [8].

Where known, over half of those who died were living alone, a small increase compared to 2009. This suggests that those living alone may be at greater risk due to lack of opportunity for interventions by others. Recognition of this and attempts to engage with such individuals should be made.

Over a third [38.4% overall] of those who died were parents or a parental figure. 29 individuals [7.9% overall] were living with a child (theirs or not) at the time of death and 45 children were living with someone who died a drug related death (a fall from 59 in 2009). This continues to underline the importance of identification of these children and ensuring they are not at risk. Overall, 238 children lost a parent or parental figure in 2010 from a drug related death (a fall from 254 in 2009).

The vast majority [85.2% overall] were known to services or other agencies as a drug user. Where status was known, over 70% [54.5% overall] were IV drug users, a known risk factor for drug related deaths [9]. Another risk factor for drug related mortality is having

undergone a recent drug detoxification, as tolerance can be reduced [10]. 47 of the 2010 cohort [12.9% overall] had been through drug detoxification in the previous 12 months with over two thirds of these (68.0%) having done so within the 3 months prior to their death. In practical terms, this emphasises the need for both services and service users to be aware of this risk. Over a third of the overall cohort (43.3%) had experienced a non-fatal overdose at some point in their lives, with many having had multiple episodes, again a risk factor [11]. In addition, non-fatal overdose is linked to other morbidity such as injury and assault [12]. This highlights the need for intelligence gathering and sharing between, the emergency services and drug treatment and primary care services to identify those at risk and target them for effective interventions such as access to naloxone provision.

The majority of those who died [74.2% overall] had a significant health burden although a slight reduction compared to the 2009 cohort. Of these, nearly half [35.3% overall] had problematic alcohol use, a known risk factor [13]. Alcohol was also present in the body at the time of death in just over half of all cases, more so for men than women. This emphasises the importance of detecting and treating alcohol problems in those who misuse drugs, not only to reduce the risk of fatal overdose but also for other health concerns. In the cohort overall, 19.7% had Hepatitis C and 10.4% had liver disease, a rise from figures in 2009 which were 13.7% and 5.1% respectively. Hepatitis C infection is a known consequence of injecting drug use [14] and this rise may be emerging evidence of a growing co-morbidity in drug users. This emphasises the importance of identification and delivery of HCV treatment which has the potential to have a considerable impact in reducing drug related deaths [15]. Problematic alcohol use not only causes liver damage directly but can potentiate liver damage from other causes such as Hepatitis C [16]. As drug users age and acquire more of a disease burden (especially hepatic and cardiac disease) this means they are more at risk of an overdose [17].

There was also a considerable mental health burden with 2 out of 5 [41.1%] of the overall cohort reporting a psychiatric condition in the previous six months. The most common conditions were depression [22.7% overall]; anxiety [15.1% overall] and personality disorder [4.4% overall]. 1 in 50 [2.7% overall] had schizophrenia. Anti-depressants were found present in the body at the time of death in over a quarter of cases [28.8% overall], more so for women than men. A range of studies show that mortality rates from suicide in drug users are high and account for between 10-20% of deaths [18]. Depression is a key risk factor for this, potentiated by social isolation and adverse life circumstances. Nearly two thirds [60.3%] of the overall cohort had experienced a significant life event in the six months prior to death including breakdown of an important relationship and bereavement. This underlines the importance of identifying these risks and addressing them as part of comprehensive and integrated packages of care.

The majority of drug use took place within a home, either the deceased or another's [83.3% overall], with very little use known to have occurred outdoors [4.7% overall]. As in 2009, in almost all cases where the place of drug use was the home, this is where the person had died. Although someone else was present at the scene of death in over half of cases [58.6% overall], far fewer people were present in the room itself [21.9% overall]. However, it is encouraging to note that bystanders had attempted resuscitation efforts even if to no avail. Take home Naloxone was available for 21 cases but only administered in 13 of these. As in 2009, an ambulance was called out in over 4 out of 5 cases [83.8% overall] but for the remainder, an ambulance was not called or else this was not applicable, for example, the person was clearly dead. It would appear that for many cases where an ambulance had been called, resuscitation was not carried out by ambulance staff. These findings emphasise the importance of awareness of the symptoms of overdose and for the potential for life saving interventions to be delivered in a timely way by those at the scene. The

national Naloxone programme is crucial in this respect, providing resuscitation training in tandem with the supply of Naloxone. Full roll out of the national programme commenced in 2011 and future reporting will seek to provide additional evidence of its impact. As in 2009, there was little variation in deaths by days of the week .

The toxicology results in this report are for the presence of a given drug in the body at the time of death and there is *no attribution* as to whether it caused the death or not. Diazepam was the most commonly reported drug found in over three quarters of cases [77.5% overall], similar to findings in 2009. By contrast, the proportion of cases where Heroin/Morphine was found fell to 63.7% [63.0% overall] from 73.3% [72.5% overall] in 2009. There was a slight rise in the proportion of cases where Methadone was present in the body, to 44.9% [44.4% overall] from 39.8% [38.9% overall] in 2009. Polydrug use was again the norm and is a known risk factor [9, 18].

The proportion of the cohort who had been prescribed a substitute prescription rose slightly to nearly a quarter [24.4%] in 2010 compared to 21.1% in 2009. This is despite the fact that being on a substitute prescription is known to be a protective factor against drug related deaths [19, 20]. However, it does point to the considerable potential for detecting and engaging with users who are not in treatment. Over three quarters (76.2%) of those on a substitute prescription received supervised prescribing, a rise from the 67.1% in 2009.

Just over half (53.1%, 86/162) of those with Methadone present in their body had *not* been on a substitute prescription. This is a slight fall from the figure of 56.0% (94/168) in 2009 but does still point to illicit Methadone use in those who have not been prescribed it. It should be noted that Methadone may not have directly caused these deaths as attribution has not been determined from the toxicology reporting. As in 2009, Methadone was more likely to be found in women than men and is consistent with other Scottish based research [21, 22], highlighting it as a key risk for this group. Heroin/Morphine and alcohol were *less* likely to be found in those who were on substitute prescribing, similar to findings in 2009. Additionally, Anti-depressants were *more* likely to be present, perhaps as a result of service contact. These are similar findings to those in 2009,

Where known, nearly two thirds of the cohort [58.6 % overall] had been in contact with a drug treatment service at some point prior to their death. These services are not only specialist addiction services but others such as primary care, A&E and social work. Where known, over half of these had been in contact in the previous month [24.7% overall]. This is a similar pattern to the cohort in 2009 and continues to highlight the opportunity for detection and intervention for those at risk in a range of settings given the protective effect of treatment [10].

This report has been able to build on the evidence from last year's report on the nature and circumstances of those dying a drug related death in Scotland. In general, the findings show a broadly similar pattern and confirm that individuals vulnerable to a drug related death are not a homogenous group. Some lead lives in close contact with others and/or services which provides opportunities for risk reduction and life saving intervention. There would appear to be an ageing cohort of individuals with drug use problems, who may be at increased risk, such as through multiple health problems; recurrent overdoses and, for some, social isolation. Problematic alcohol use is widely prevalent in Scotland [23] and to which this group is not immune. There are key messages for practice, in particular, raising awareness in all services in contact with drug use of the risk factors for drug related mortality, of the high contact rate with services for many in the weeks and months before death and of effective interventions.

## 5. REFERENCES

1. The National Drug Related Deaths Database (Scotland) Report 2009 ISD 2011  
[http://www.drugmisuse.isdscotland.org/publications/local/NDRDD\\_2009.pdf](http://www.drugmisuse.isdscotland.org/publications/local/NDRDD_2009.pdf)
2. Drug Related Deaths in Scotland in 2010 National Records for Scotland 2011  
<http://www.gro-scotland.gov.uk/statistics/theme/vital-events/deaths/drug-related/2010/index.html>
3. Degenhardt, L., Bucello, C., Mathers, B., Briegleb, C., Ali, H. et al. (2011), Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies, *Addiction* 106(1), pp. 32–51.
4. Estimating the National and Local Prevalence of Problem Drug Use in Scotland ISD 2011 [http://www.drugmisuse.isdscotland.org/publications/local/Prevalence2009\\_10.pdf](http://www.drugmisuse.isdscotland.org/publications/local/Prevalence2009_10.pdf)
5. Beynon, C., McVeigh, J., Hurst, A., & Marr, A. (2010). Older and sicker: Changing mortality of drug users in treatment in the North West of England. *International Journal of Drug Policy*, 21, 429–431
6. Bird, S.M., Hutchinson, S.J., & Goldberg, D.J. (2003). Drug related deaths by region, sex, and age group per 100 injecting drug users in Scotland, 2000–01. *The Lancet*, 362, 941–944.
7. Warner-Smith M., Darke S., Lynskey M., Hall W. (2001) Heroin overdose: causes and consequences *Addiction* 96 (8) p1113-1125
8. Wright N., Oldham N., Jones L. Exploring the relationship between homelessness and risk factors for heroin related death- a qualitative study” (2005) *Drug and Alcohol Review* 24(3) p245-251
9. Darke, S. Hall, W. (2003) Heroin overdose: research and evidence-based intervention. *J Urban Health* 80, 189-200
10. Davoli M, Bargagli AM, Perucci CA, Schifano P, Belleudi V, Hickman M, et al. (2007) Risk of fatal overdose during and after specialist drug treatment: the VEdeTTE study, a national multi-site prospective cohort study. *Addiction* 102:1954-9.
11. Stoope, M. A., Dietze, P. M. and Jolley, D. (2009) Overdose deaths following previous non-fatal heroin overdose: Record linkage of ambulance attendance and death registry data. *Drug and Alcohol Review*, 28: 347–352.
12. Warner-Smith M., Darke S., Day C. (2002) Morbidity associated with non-fatal heroin overdose *Addiction* 97 (8) p 963-967
13. Best D, Man LH, Zador D, Darke S, Bird S, Strang J, Aston M. (2000) Overdosing on opiates. *Drug and Alcohol Findings* Issue 4,
14. Hepatitis C Action Plan for Scotland : Phase II; May 2008-March 2011 Scottish Government 2008



<http://www.scotland.gov.uk/Publications/2008/05/13103055/6>

15. National Forum on Drug Related Deaths Annual Report 2010-11 Scottish Government 2011

<http://www.scotland.gov.uk/Publications/2011/11/09091958/4>

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

17, Darke S., Kaye S., Duflou J. (2006) Systemic disease among cases of fatal opioid toxicity *Addiction* 101 (9) p1299-1305

18. Mortality related to drug use in Europe: Public Health Implications EMCDDA 2011

<http://www.emcdda.europa.eu/publications/selected-issues/mortality>

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

20. Strang, J., Hall, W., Hickman, M., & Bird, S.M. (2010). Impact of supervision of methadone consumption on deaths related to methadone overdose (1993–2008): Analyses using OD4 index in England and Scotland. *BMJ*, 341, c4851.

21. Bird, S., & Robertson, R. (2011). Toxicology of Scotland's drugs-related deaths in 2000–2007: Presence of heroin, methadone, diazepam and alcohol by sex, age group and era. *Addiction Research and Theory*, 19, 170–178.

22. McAuley, A., & Best, D. W. 2011. A quantitative exploration of risk factors associated with drug-related deaths involving heroin, alcohol or methadone in the West of Scotland. *Addiction Research & Theory*, early online.

23. Alcohol Statistics Scotland 2011 ISD 2011

## Glossary

ISD	Information Services Division
NDRDD	National Drug Related Deaths Database
DRD	Drug Related Death
NRS	National Records of Scotland
ACMD	Advisory Council on the Misuse of Drugs
SCDEA	Scottish Crime and Drug Enforcement Agency
ACPOS	Association of Chief Police Officers, Scotland
ICD	International Classification of Diseases

## List of Tables

Table No.	Name	File & size
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2	<a href="#">Crude Mortality Rate by Health Board area of residence</a>	Excel [20kb]
3	<a href="#">Age and Gender</a>	Excel [20kb]
4	<a href="#">SIMD Quintile Areas of Deprivation</a>	Excel [20kb]
5	<a href="#">Where the deceased was living at the time of death</a>	Excel [20kb]
6	<a href="#">Whom the deceased was living with at the time of death</a>	Excel [20kb]
7	<a href="#">Children under 16 Years the Deceased was a Parent or Parental Figure To</a>	Excel [20kb]
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## Contact

### **Lesley Graham**

Associate Specialist, Public Health

[Lesley.Graham@nhs.net](mailto:Lesley.Graham@nhs.net)

0131 275 6322

### **Gordon Bruce**

Database Manager

[gordon.bruce@nhs.net](mailto:gordon.bruce@nhs.net)

0131 275 7096

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## Appendix

### A1 – 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
John Somers	Head of Strategy, Treatment and Prevention, Drugs Policy Unit, Scottish Government
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
Dr. Lesley Graham	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 (until June 2011)	NDRDD Project Lead, NHS National Services Scotland, Information Services Division
Dr. Tony Martin (from July 2011)	Research Associate, University of Glasgow and NHS Greater Glasgow & Clyde Data Collection Co-ordinator
Julie Carr	Principal Researcher (Drugs Misuse), Scottish Government
Gordon Bruce (from Sep 2011)	NDRDD Project Lead, NHS National Services Scotland, Information Services Division

## A2 – National Records of Scotland Definition of a Drug Related Death

The following is extracted from the report National Records of Scotland, Drug Related Deaths in Scotland 2010 [1]

### The definition of drug related deaths used for these statistics (the NRS implementation of the 'baseline' definition for the UK Drugs Strategy)

1. 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' (please go to References in Annex C). A report by the Advisory Council on the Misuse of Drugs (ACMD – mentioned in the References) 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'. National Records of Scotland (NRS) formerly General Register Office for Scotland (NRS) was represented on this group, and this publication presents information on drug related deaths using the approach that was agreed, on the basis of the definition as it was implemented by NRS.
2. 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).

**Note:** If a drug's legal status changes, NRS aims to count it on the basis of its classification on the day the person died (as NRS 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 NRS's implementation of the 'baseline' definition if it occurred before 16 April 2010.

3. 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 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, or choking on food) 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. National Records of Scotland (NRS) formerly General Register Office for Scotland (NRS) 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 which were due to clostridium novyi infection that was the result of the injection of contaminated heroin (Annex A of 'Drug related Deaths in Scotland in 2000' explained that 22 such cases had been identified when the 2000 deaths data file was closed in May 2001, adding that it was not clear whether additional deaths had subsequently been identified). Similarly, these figures exclude the 13 deaths which were caused by the outbreak of anthrax that was associated with contaminated heroin and started in December 2009. Also excluded from the statistics are deaths caused by 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);
  - 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.

4. From time to time, there may be minor discrepancies between the figures that were published previously and those which are produced henceforth. This is due to a change in the way in which 'drug related' deaths are identified using the data held by NRS. This process has two stages:

- first, extract all the records of deaths which satisfy the 'wide' definition (Annex B). The method used for this stage has not been changed; and
- second, scrutinise the extracted records and identify the ones which should be counted under NRS's implementation of the 'baseline' definition. The method used for this stage was changed with effect from June 2008.

- Previously, the data were examined by the then NRS Vital Events Statistician, who had considerable knowledge and experience of dealing with information about drug related deaths. He used Excel's facilities to set a number of indicators, and so identified the cases which should be counted under NRS's implementation of the 'baseline' definition. This method clearly relied greatly on the Statistician's personal expertise. He retired in Spring 2008.
- Now, most of this work is done by SAS computer programs, using a look-up table to identify particular types of drugs (John Corkery of the National Programme on Substance Abuse Deaths supplied most of the content of the look-up table).

The new method was tested by using it to prepare figures for each year for 2000 to 2006, inclusive. The results were the same as, or within just 1-2 of, the figures which had been published previously. After examining the cases which were being counted differently by the old and the new methods, it was concluded that any flaws in the new method were not significant, and that it should be used henceforth. However, to avoid confusing users of these statistics, the tables which appeared in editions of this publication which were produced before the method was changed give figures for 2006 and earlier years which were extracted from the database produced by the old method, and so are as published previously. However, any subsequent new analyses of the data for 2000 onwards are likely to use the database produced by the new method, and so may include some totals or sub-totals (for the years from 2000 to 2006, inclusive) that differ slightly from the figures which were published previously, because the new method was used to produce the database of relevant cases for those years.



### A3 – National Drug Related Deaths Data Collection Co-ordinators

Health Board Area	Data Collection Coordinator(s)	Organisation	Email	Other Data Collectors
Ayrshire & Arran	Lesley Robb	East, North and South Ayrshire Alcohol & Drug Partnerships Support Team (ADP)	<a href="mailto:lesleyrobb@nhs.net">lesleyrobb@nhs.net</a>	Ruth Shepherd
Borders	Susan Walker	Scottish Borders ADP	<a href="mailto:susan.walker14@nhs.net">susan.walker14@nhs.net</a>	Julie Murray
Dumfries & Galloway	Jackie Davies	Dumfries & Galloway ADP	<a href="mailto:jdavies1888@nhs.net">jdavies1888@nhs.net</a>	
Fife	Julia Neufeind	NHS Fife	<a href="mailto:julia.neufeind@nhs.net">julia.neufeind@nhs.net</a>	
Forth Valley	Julia Neufeind	NHS Fife	<a href="mailto:julia.neufeind@nhs.net">julia.neufeind@nhs.net</a>	Elaine Lawler/ Anita Dufton
Grampian	Lynn Sutherland	Grampian Public Health	<a href="mailto:lynnsutherland@nhs.net">lynnsutherland@nhs.net</a>	Alison McLaughlin/ Maria Rossi
Greater Glasgow & Clyde	Tony Martin	Glasgow Addiction Services	<a href="mailto:tonymartin@nhs.net">tonymartin@nhs.net</a>	
Highland	Tom Ogilvie	Northern Constabulary, HQ Policy & Co-ordination Unit	<a href="mailto:tom.ogilvie@northern.pnn.police.uk">tom.ogilvie@northern.pnn.police.uk</a>	
Orkney	Tom Ogilvie	Northern Constabulary, HQ Policy & Co-ordination Unit	<a href="mailto:tom.ogilvie@northern.pnn.police.uk">tom.ogilvie@northern.pnn.police.uk</a>	
Shetland	Tom Ogilvie	Northern Constabulary, HQ Policy & Co-ordination Unit	<a href="mailto:tom.ogilvie@northern.pnn.police.uk">tom.ogilvie@northern.pnn.police.uk</a>	
Western Isles	Tom Ogilvie	Northern Constabulary, HQ Policy & Co-ordination Unit	<a href="mailto:tom.ogilvie@northern.pnn.police.uk">tom.ogilvie@northern.pnn.police.uk</a>	
Lanarkshire	Lucie Giles	Lanarkshire ADP	<a href="mailto:Lucie.Giles@lanarkshire.scot.nhs.uk">Lucie.Giles@lanarkshire.scot.nhs.uk</a>	Fiona McIntyre
Lothian	Jim Sherval	Lothian Public Health	<a href="mailto:jim.sherval@nhs.net">jim.sherval@nhs.net</a>	Jennifer Irvine
Tayside	Julia Neufeind	NHS Fife	<a href="mailto:julia.neufeind@nhs.net">julia.neufeind@nhs.net</a>	Caroline Snowdon
Argyll & Bute <sup>1</sup>	Lurette Roberts	Argyll & Bute ADP	<a href="mailto:l.roberts3@nhs.net">l.roberts3@nhs.net</a>	

<sup>1</sup> Part of Argyll & Bute belongs to Highland Health Board with the other part belonging to Greater Glasgow & Clyde Health Board. However, Argyll & Bute is treated as a separate entity as far as the NDRD data collection is concerned.

## A4 – Construction of the 2010 National DRD Database Cohort

### 1. Drug Related Deaths for 2010 Reporting By Different Agencies

NDRDD	NRS	SCDEA
365	485	429

The National Drug Related Deaths Database (NDRDD) figure of 365 drug related deaths in 2010 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 are registered annually in Scotland is published by the National Records of Scotland (NRS) in its 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 429 given in the table above is the number of drug related deaths that occurred in Scotland during 2010 as confirmed by toxicology testing.

### 2. Matching the NDRDD Records to NRS Death Records

The NRS 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 NRS figure is arrived at is therefore comprehensive.

To quality assure the NDRDD data collection, the returned NDRDD records were compared with NRS death records. A total of 416 records were returned to the NDRDD at ISD for 2010. These records were matched to the equivalent NRS death records and the NRS 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 [2].

51 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 2010 NDRDD cohort (analysed for this report) comprised of 365 records. The reasons for the removal of the 51 records are shown in the following table.

	No. of cases excluded
NRS coded the death (ICD 10 codes) to something unrelated to the use of a controlled substance e.g. Chronic ischaemic heart disease (ICD10 code I25), Status asthmaticus (J46), Other chronic obstructive pulmonary disease (J44).	15
NRS 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 before NRS finalised its statistical database for deaths registered in 2010 at the end of May 2011	18
NRS coded the death to 'intentional self-poisoning by drugs, medicaments and biological substances' (X60 – X64) i.e. suicide	14
NRS coded the death to 'volatile substances' (F18)	2
For two records there was no match to any 2010 NRS death record, drug related or otherwise	2
	TOTAL = 51

### 3. Explanation of the Difference between the NDRDD and NRS Figures

The reasons why the figure of 485 DRDs reported by NRS for 2010 is much higher than the 365 DRDs that make-up the 2010 NDRDD cohort for this report are shown in the table below.

Reconciling the NDRDD Figure (2010 Drug Related Deaths) with the NRS figure

	Number	Total
The number of drug related deaths reported by NRS for 2010	485	
Less the deaths that have been coded by NRS to 'intentional self-poisoning by drugs, medicaments and biological substances' (X60 – X64) i.e. suicides. The NDRDD definition of a DRD excludes suicides	-28	457
Less the NRS deaths that occurred in 2009 but were registered in 2010 i.e. not included in the 2010 NDRDD figure	-24	433
Add the NDRDD deaths that occurred in 2010 but were registered in 2011 i.e. not included in the 2010 NRS figure (but will be included in NRS's figure for 2011)	+3	436
Add the deaths that were not included in the 2010 NRS figure due to their not being classifiable as 'drug-related' on the basis of the information that was available to NRS when it finalised its statistical database for deaths registered in 2010	+11	447
Less the deaths that were included in the 2010 NRS figure but for which a NDRDD record was not returned to ISD	-82	365
Cases in NDRDD cohort to be analysed	365	

The table above shows that some of the difference between the NRS figure and the NDRDD figure is explained by the fact that 28 of the NRS 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. The table above also illustrates that the NDRDD uses the date of death to allocate the death to a particular year whereas NRS uses the date death registered resulted in a net loss of 21 cases to the NDRDD figure.

A further 11 deaths were included in the final NDRDD figure that were not counted as 2010 DRDs by NRS because this was not appropriate, on the basis of the information that was available to NRS when it finalised its statistical database for deaths registered in 2010 at the end of May 2011. Note – NRA data is "frozen" around May/June of the following calendar year. Taking the above explanations into account there still remains 82 deaths that NRS have counted as DRDs for which ISD did not receive any returns for the NDRDD database. These 82 deaths were more or less evenly distributed across all NHS Board areas of Scotland.

#### **4. Reasons Why 82 NRS 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 NRS had counted the death as an "event of undetermined intent" because NRS had not been told that the death was believed to be a suicide by the date on which NRS "froze" its statistical data records for 2010 (N.B. A death certificate will not state whether a death was a suicide. NRS 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 NRS 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 NRS received had indicated that the death was a drug related death.

3. The NRS 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  
 NRS 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 NRS 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 2.b in [Appendix A2](#)).

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 NRS 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 NRS 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. 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 NRS 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 NRS 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, NRS'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, NRS is likely to count the death by the former 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 NRS 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.”

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 A4](#) shows that for 2010 the SCDEA reported 64 more DRDs than make up the final 2010 NDRDD cohort.

However, 28 NDRDD records were returned to ISD that were excluded from the final NDRDD cohort because they were coded by NRS 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 28 deaths are subtracted from the SCDEA figure then the number of 2010 confirmed DRDs reported by SCDEA can be considered similar to the number of DRDs that constitute the final 2010 NDRDD cohort.

## A5 – Caldicott 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 has used 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.

## **A6 – Early Access details (including Pre-Release Access)**

### **Pre-Release Access**

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

#### **Standard Pre-Release Access:**

Scottish Government Health Department  
NHS Board Chief Executives  
NHS Board Communication leads

#### **Extended Pre-Release Access**

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

#### **Early Access for Quality Assurance**

These statistics will also have been made available to those who needed access to help quality assure the publication:

Julie Carr  
John Somers  
Kathleen Glazik  
Jim Sherval  
Roy Robertson  
Malcolm Bruce  
Tony Martin  
Ian Smillie  
Andrew McAuley  
Frank Dixon

## A7 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	The National Drug Related Deaths Database (Scotland) Report 2010
Description	A report into a subset of the drug related deaths in Scotland that occurred within the calendar year 2010.
Theme	Health and Social Care
Topic	Causes of Death
Format	PDF with Excel tables
Data source(s)	Data from the National Drug Related Deaths Database held by ISD. Data is gathered at a local level by the data co-ordinators. For each record they access a variety of source including – Drug Treatment Services, GPs, Prisons, Police etc.
Date that data are acquired	Data for this report was submitted to ISD by July 2011 and was then quality assured. Note - Data is gathered soon after each death at a local level and is gradually built up before being sent over to ISD before the agreed deadline.
Release date	28 <sup>th</sup> February 2012
Frequency	Annually
Timeframe of data and timeliness	All deaths that occurred in calendar year 2010 are considered relevant.
Continuity of data	This is only the 2 <sup>nd</sup> report of its kind, but the definitions and data collection techniques used are consistent.
Revisions statement	No planned revisions.
Revisions relevant to this publication	n/a
Concepts and definitions	Detailed definition of the deaths relevant to the report is shown in <a href="#">Appendix A2</a> . The dataset as a whole is shown in <a href="#">Appendix A8</a> .
Relevance and key uses of the statistics	planning; epidemiology; research; provision of services and access to services; improved understanding of topic area
Accuracy	All records are validated when entered into the ISD database. Any issues identified within the record are highlighted to the data provider and corrected before analysis begins.
Completeness	Detailed breakdowns of completeness are available in <a href="#">Appendix A4</a> .
Comparability	The data captured can be used for comparison year-on-year. The data cannot be directly compared to the NRS figures due to the differences in the definition.
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to <a href="#">published guidelines</a> .
Coherence and clarity	The report is available as a PDF file with tables clearly linked for ease of use.
Value type and unit of measurement	Counts, numbers and percentages
Disclosure	The <a href="#">ISD protocol on Statistical Disclosure Protocol</a> is followed.

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UK Statistics Authority Assessment	n/a
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Help email	<a href="mailto:Gordon.bruce@nhs.net">Gordon.bruce@nhs.net</a>
Date form completed	15/02/2012

## **A8 – National Drug Related Deaths Data Collection Form**

[Click here](#) to view this form [PDF 81kB]