



**General Register Office
for
SCOTLAND**
information about Scotland's people

Drug-related Deaths in Scotland in 2005

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This paper describes the system by which the Registrar General for Scotland collects information on drug-related deaths in Scotland and presents selected statistical information covering the period 1996 to 2005.

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Introduction

1. This paper gives information about drug-related deaths in Scotland over the period 1996 – 2005, using the definition for baseline figures introduced in 2001. This definition was agreed by a working party set up following the publication, by the Advisory Council on the Misuse of Drugs (ACMD), of a report ¹ on ‘Reducing drug related deaths’. The Office for National Statistics has also prepared data on drug-related deaths in England and Wales using this new definition.

2. Paragraph 3 below gives some background on the collection of information on drug-related deaths in Scotland; paragraphs 4 – 11 summarise the main points arising from the information for 2005 and earlier years presented in **Tables 1 – 6**; and **Annex A** gives background on the definition of drug-related deaths including a detailed description of the definition used in this paper.

Data sources

3. Drug-related deaths are identified using details from death registrations supplemented by information from a specially designed questionnaire, completed by forensic pathologists, for all deaths involving drugs or persons known or suspected to be drug-dependent. Additionally, the General Register Office for Scotland (GROS) follows up all cases of deaths of people where the information on the death certificate is vague or suggests that there might be a background of drug abuse. A copy of the questionnaire currently used is attached (**Annex B**). A paper ² published in June 1995 by GROS described this enhancement to the data collection system.

Summary of results

Recent trends (Table 1)

4. There were 336 drug-related deaths in 2005, 20 (6 %) fewer than in 2004 and 46 (12%) fewer than in 2002. Within these totals, the number of deaths of known or suspected habitual drug abusers fell from 232 in 2004 to 204 in 2005. This is 27 % lower than the figure of 280 recorded in 2002. **Table 1** also shows that there was a large increase in the number of drug-related deaths coded to ‘intentional self-poisoning’, from 32 in 2004 to 43 in 2005.

Table 1: Drug-related deaths, Scotland, 1996-2005

Year	Total	Cause of death category (ICD10 codes)				Undetermined (Y10-Y14)
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	
1996	244	175	10	41	-	18
1997	224	142	14	42	-	26
1998	249	179	16	32	-	22
1999	291	227	12	19	1	32
2000	292	220	11	34	-	27
2001	332	227	19	34	-	52
2002	382	280	17	30	-	55
2003	317	216	15	40	-	46
2004	356	232	32	32	-	60
2005	336	204	31	43	-	58

NHS Board areas (Tables 2 and 3)

[Note: Tables 2, 3 and 6 present information for the new NHS Board areas created following the dissolution of NHS Argyll & Clyde. The trend data in Table 2 has been reworked to the new areas. To assist users, the tables also present data for Argyll & Clyde and the former Greater Glasgow and Highland areas.]

5. Of the 336 deaths in 2005, 111 (33%) occurred in the Greater Glasgow & Clyde NHS Board area. Lothian with 57 (17%) had the next highest total and was followed by Lanarkshire with 40 (12%). The Greater Glasgow & Clyde total showed an decrease of 40 since 2004 whereas there was an increase of 21 in Lothian. Grampian also recorded a significant drop, down 16 from 39 to 23.

6. Because of the relatively small numbers involved, particularly for some NHS Board areas, and the possibility that more complete information has been reported in recent years, care should be taken when assessing the trends shown in **Tables 1 and 2**.

Table 2: Drug-related deaths, by NHS Board area, 1996 - 2005

NHS Board area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Scotland	244	224	249	291	292	332	382	317	356	336
Ayrshire & Arran	3	6	4	15	20	35	33	19	20	15
Borders	2	1	1	-	1	1	-	2	2	7
Dumfries & Galloway	4	7	4	7	7	8	9	9	7	7
Fife	3	8	13	9	12	11	12	12	17	21
Forth Valley	-	4	2	8	4	9	24	12	16	14
Grampian	29	22	26	38	31	46	47	37	39	23
Greater Glasgow & Clyde ¹	107	83	115	129	132	117	152	131	151	111
Highland ¹	3	3	2	8	4	6	13	10	12	13
Lanarkshire	11	12	21	23	29	24	37	25	33	40
Lothian	58	48	37	39	37	54	39	40	36	57
Orkney	-	-	-	-	-	-	-	-	-	-
Shetland	-	-	1	-	1	1	1	-	-	1
Tayside	24	30	23	14	14	19	14	19	23	26
Western Isles	-	-	-	1	-	1	1	1	-	1
Argyll & Clyde ²	18	16	23	30	31	22	31	27	35	29
Greater Glasgow & Clyde pt.	17	16	22	29	28	21	26	24	31	26
Highland pt.	1	-	1	1	3	1	5	3	4	3
Greater Glasgow ²	90	67	93	100	104	96	126	107	120	85
Highland ²	2	3	1	7	1	5	8	7	8	10

1. New NHS Board areas including parts of former Argyll & Clyde

2. Former NHS Board areas (before dissolution of Argyll & Clyde on 1 April 2006).

Table 3: Drug-related deaths, by NHS Board area, 2005

NHS Board area	Total	Cause of death category (ICD10 codes)				Undetermined (Y10-Y14)
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	
Scotland	336	204	31	43	-	58
Ayrshire & Arran	15	9	1	2	-	3
Borders	7	4	2	-	-	1
Dumfries & Galloway	7	3	-	1	-	3
Fife	21	13	-	3	-	5
Forth Valley	14	8	3	-	-	3
Grampian	23	17	-	3	-	3
Greater Glasgow & Clyde ¹	111	83	6	10	-	12
Highland ¹	13	2	1	2	-	8
Lanarkshire	40	25	6	2	-	7
Lothian	57	25	5	17	-	10
Orkney	-	-	-	-	-	-
Shetland	1	1	-	-	-	-
Tayside	26	13	7	3	-	3
Western Isles	1	1	-	-	-	-
Argyll & Clyde ²	29	21	3	2	-	3
Greater Glasgow & Clyde pt.	26	19	2	2	-	3
Highland pt.	3	2	1	-	-	-
Greater Glasgow ²	85	64	4	8	-	9
Highland ²	10	-	-	2	-	8

1. New NHS Board areas including parts of former Argyll & Clyde

2. Former NHS Board areas (before dissolution of Argyll & Clyde on 1 April 2006).

Age groups and sex (Table 4)

7. Most deaths (83%) were to persons aged under 45. However only 14% were under 25 compared to 23% in 2004. Of the 58 cases aged 45 and over, only 21 were known, or suspected, to be drug-dependent. Men accounted for 259 (77%) of the 336 drug-related deaths in 2005. The number of female deaths increased from 67 in 2004 to 77 in 2005. Almost two-thirds (65%) of the male deaths were of known or suspected drug abusers compared to only 45% of the female deaths.

Table 4: Drug-related deaths, by age and by sex, Scotland, 2005

	Total	Cause of death category (ICD10 codes)				Undetermined (Y10-Y14)
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	
All ages	336	204	31	43	-	58
Under 25	48	32	7	3	-	6
25-34	104	67	9	11	-	17
35-44	126	84	12	10	-	20
45 and over	58	21	3	19	-	15
Males	259	169	25	22	-	43
Females	77	35	6	21	-	15

Types of drug involved (Tables 5 and 6)

8. **Tables 5 and 6** give information on the involvement of selected drugs, either alone or, more commonly, in combination with other drugs. Since the tables record individual mentions of particular drugs they involve double counting of some deaths. It is believed that for the overwhelming majority of cases where morphine has been identified in post-mortem toxicological tests its presence is a result of heroin use. The tables therefore show a combined figure for 'heroin/morphine'.

9. In 2005, the drugs listed in the Tables were known to be involved in 282 (84%) of the 336 deaths. Heroin/morphine was involved in 194 (58%) of the deaths; diazepam was involved in 90 (27%) of the deaths; and methadone was involved in 72 (21%) of the deaths. Cocaine and ecstasy were involved in 44 and 10 cases respectively. A wide range of drug combinations was recorded. Of particular note was the fact that diazepam was also mentioned in 58 (30%) of the 194 deaths involving heroin/morphine. The presence of alcohol was mentioned for 114 of the 336 drug-related deaths in 2005. The blood-alcohol level was not given for all cases but, where mentioned, it was sometimes at a relatively low level.

10. **Table 5** shows that, since 1996, there has been a significant increase in the involvement of heroin/morphine, though recent years have seen a limited reduction from the peak of 248 recorded in 2002. The number of deaths involving diazepam also peaked in 2002, since when it has dropped back almost to the 1996 level. Over the period there have also been marked changes in the smaller numbers involving cocaine and ecstasy. Whilst the number of deaths involving cocaine has continued to increase, to a new high of 44 in 2005, that for ecstasy has fallen back in recent years. Between 1996 and 2000 there was a downward trend in the number of deaths involving methadone; 2001 and 2002 saw a sharp rise, but since then a downward trend has resumed. The table also shows the dramatic recent fall in the number of deaths involving temazepam.

Table 5: Drug-related deaths; selected drugs involved¹, Scotland, 1996 - 2005

Year	Heroin/ morphine ²	Diazepam	Methadone	Cocaine	Ecstasy	Temazepam	Alcohol
1996	84	84	100	3	9	48	87
1997	74	93	86	5	2	33	70
1998	121	113	64	4	3	58	86
1999	167	142	63	12	8	56	89
2000	196	146	55	4	11	39	123
2001	216	156	69	19	20	20	140
2002	248	214	98	31	20	16	156
2003	175	153	87	29	14	35	128
2004	225	113	80	38	17	5	116
2005	194	90	72	44	10	7	114

1. Individual deaths often involved more than one of these drugs. The numbers given are mentions of the drug and should not be added to give total deaths.

2. See paragraph 8 of commentary.

11. **Table 6** shows some geographical differences in the reported involvement of certain drugs. For most NHS Board areas, heroin/morphine was involved in a majority of the deaths e.g. 65 out of 111 in Greater Glasgow & Clyde, 26 out of 40 in Lanarkshire. However, much lower proportions were observed in Lothian

(15 out of 57) and Forth Valley (6 out of 14). Lothian (19 out of 57) and Greater Glasgow & Clyde (29 out of 111) showed relatively high proportions involving methadone. These contrast the very low proportion (3 out of 23) recorded in Grampian. The table also shows that diazepam was involved in almost one in three (34 out of 111) of the deaths in Greater Glasgow & Clyde; and that cocaine was involved in one in five (22 out of 111).

Table 6: Drug-related deaths; selected drugs involved¹, by NHS Board area, 2005

NHS Board area	Heroin/ morphine ²	Diazepam ³	Methadone	Cocaine	Ecstasy	Temazepam ³	Alcohol
Scotland	194	90	72	44	10	7	114
Ayrshire & Arran	11	4	5	-	-	-	2
Borders	3	1	-	1	-	-	1
Dumfries & Galloway	6	-	-	1	-	-	1
Fife	17	1	1	1	-	1	7
Forth Valley	6	2	3	1	-	-	3
Grampian	17	4	3	3	2	1	9
Greater Glasgow & Clyde ⁴	65	34	29	22	2	1	45
Highland ⁴	9	2	3	2	-	-	4
Lanarkshire	26	15	7	6	3	-	14
Lothian	15	22	19	4	1	4	17
Orkney	-	-	-	-	-	-	-
Shetland	1	-	-	-	-	-	-
Tayside	17	4	2	2	2	-	11
Western Isles	1	1	-	1	-	-	-
Argyll & Clyde ⁵	18	9	6	6	1	-	14
Greater Glasgow & Clyde pt	15	8	6	5	1	-	11
Highland pt.	3	1	-	1	-	-	3
Greater Glasgow ⁵	50	26	23	17	1	1	34
Highland ⁵	6	1	3	1	-	-	1

1. Individual deaths often involved more than one of these drugs. The numbers given are mentions of the drug and should not be added to give total deaths.

2. See paragraph 8 of commentary.

3. Each year there are also a small number of mentions of unspecified benzodiazepines.

4. New NHS Board areas including parts of former Argyll & Clyde

5. Former NHS Board areas (before dissolution of Argyll & Clyde on 1 April 2006).

References

1. The Advisory Council on the Misuse of Drugs. Reducing drug related deaths. Home Office, 2000.
2. Arrundale J and Cole S K. Collection of information on drug-related deaths by the General Register Office for Scotland. GROS, 1995.
3. Christophersen O, Rooney C and Kelly S. Drug-related mortality: methods and trends. Population Trends 93, ONS, 1998.

Notes on the definition of ‘drug-related’ deaths

1. The definition of a ‘drug-related death’ is not straightforward. A useful discussion on the definitional problems may be found in an article in the Office for National Statistics publication Population Trends ³. More recently, a report ¹ by the Advisory Council on the Misuse of Drugs (ACMD) considered current systems used in the United Kingdom to collect and analyse data on drug related deaths. In its report, the ACMD recommended that ‘a short life technical working group should be brought together to reach agreement on a consistent coding framework to be used in future across England, Wales, Scotland and Northern Ireland’. GROS was represented on this group and this paper presents information on drug-related deaths using the approach agreed.

2. The baseline covers the following cause of death categories (the relevant codes from the International Classification of Diseases, 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).

3. Categories of death excluded:

- a) deaths coded to mental and behavioural disorders due to the use of alcohol (F10), tobacco (F17) and volatile substances (F18);
- b) deaths coded to drug abuse which were caused by secondary infections and related complications (for example the 20 or so deaths in 2000 caused by clostridium novyi infection);
- c) deaths from AIDS where the risk factor was believed to be the sharing of needles;
- d) deaths from road traffic and other accidents which occurred under the influence of drugs; and
- e) deaths where a drug listed under the Misuse of Drugs Act was present because it was part of a compound analgesic or cold remedy: specific examples are:
 - Co-proxamol*: paracetamol, dextropropoxyphene
 - Co-dydramol*: paracetamol, dihydrocodeine
 - Co-codamol*: paracetamol, codeine sulphate

All three of these compound analgesics, but particularly co-proxamol, have commonly been used in suicidal overdoses.

Note: As it is believed that dextropropoxyphene has rarely if ever been available other than as a constituent of a paracetamol compound, it has been ignored on all occasions (even if there is no mention of a compound analgesic or paracetamol). However, deaths involving codeine or dihydrocodeine without mention of paracetamol have been included in the baseline as these drugs are routinely available on their own and known to be abused in this form.

General Register Office for Scotland

Crown Office

Confidential form to be completed in all deaths involving drugs, solvents or poisons

This information is essential for the correct coding and monitoring of drug-related deaths.

If you have any queries about the form or its completion, please contact Graham Jackson, telephone 0131 314 4229.

Please complete the form and return it, in the pre-paid addressed envelope provided, to:

Vital Events & NHS Branch
General Register Office for Scotland
Ladywell House
Ladywell Road
Edinburgh EH12 7TF

Name of deceased

Date of birth

Date of death

Place of death

Usual residence

Questions

(please tick)

- 1 Was alcohol involved in this death? Yes No Not known
If "Yes" what was the blood/alcohol level in mg/100ml?
- 2 If any other drugs or solvents were involved in this death, please specify the principal drug or solvent found in a fatal dose:- **IF NONE GO TO QUESTION 9**
- 3 Please specify any other drugs or solvents involved in this death.
- 4 Was the deceased a known or suspected habitual drug or solvent abuser? Yes No Not known
IF YES GO TO QUESTION 7
- 5 Was the deceased a novice or experimenting drug or solvent abuser? Yes No Not known
IF YES GO TO QUESTION 7
- 6 Was there any evidence from the police report or autopsy of a long-standing drug or solvent-abusing history?
Yes No Not Known N/A
- 7 Do you believe this overdose to have been:-
accidental
suicidal
homicidal
or unknown/uncertain?
- 8 Were the drugs prescribed to the deceased? Yes No Not Known N/A
- 9 Any other comments or information which may help in coding this death?

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