Doncaster NHS
Public Health Intelligence Unit

SUICIDE

August 2003

INTRODUCTION

The Government document *Saving Lives: Our Healthier Nation* (DoH, 1999a) includes the target of reducing the suicide rate by at least one-fifth by 2010 and the National Service Framework for Mental Health describes how this will be achieved. Standard seven of the NSF highlights nine interventions to prevent and reduce suicides at a local level.

Following the introduction of the Mental Health National Service Framework (DoH, 1999b) it was thought appropriate that an interim report on suicides in the Doncaster area be produced. It is intended to give a brief overview of the current situation. A full audit report carried out by the Suicide Working Group was published in July 1998 (Sims, 1998). Amongst the recommendations from that report was the suggestion that a re-audit should take place in 2003. This report, therefore, is an update to the previous work carried out and links in to the outline of the National Suicide Prevention Strategy for England (DoH, 2002).

The definition used for suicide includes deaths with undetermined injury as it is assumed that the majority of these are suicides. The coding used therefore is: ICD-9 E950–E959, E980–E989 not E988.8 and ICD-10 X60–X84, Y10–Y34 not Y33. Following coroners inquest they are categorised as suicide or open verdict, both have been included in the analysis. Doncaster residents and occurrences within Doncaster from those resident in other districts have been analysed except in the case of the PCT rates where only Doncaster residents have been included.

Data were extracted from the public health mortality file (PHMF) and include all suicides and open verdicts where suicide was a high probability between January 1st 1996 and December 31st 2002. One entry for a 3 year old boy was removed prior to analysis as it is unlikely to be suicide. This identified 223 such deaths, 174 of which were classified as suicides and 49 as open verdict. The data for 2002 are not final – it is possible that additional deaths will be identified following inquests.

	Occurred in Doncaster	Occurred in other district
Doncaster resident	201	9
Resident of other district	13	

The time series data are from ONS annual death extracts, which go back to 1975, as the PHMF is only available from 1996. The comparison with England and Wales was done using the Compendium for Clinical and Health Indicators 2001. Unfortunately there is no way of looking at the ethnic breakdown of the suicides from the routine data as it is not routinely recorded. Social class could be derived from the occupation as this is stated on the death record but there are no comparative denominator data.

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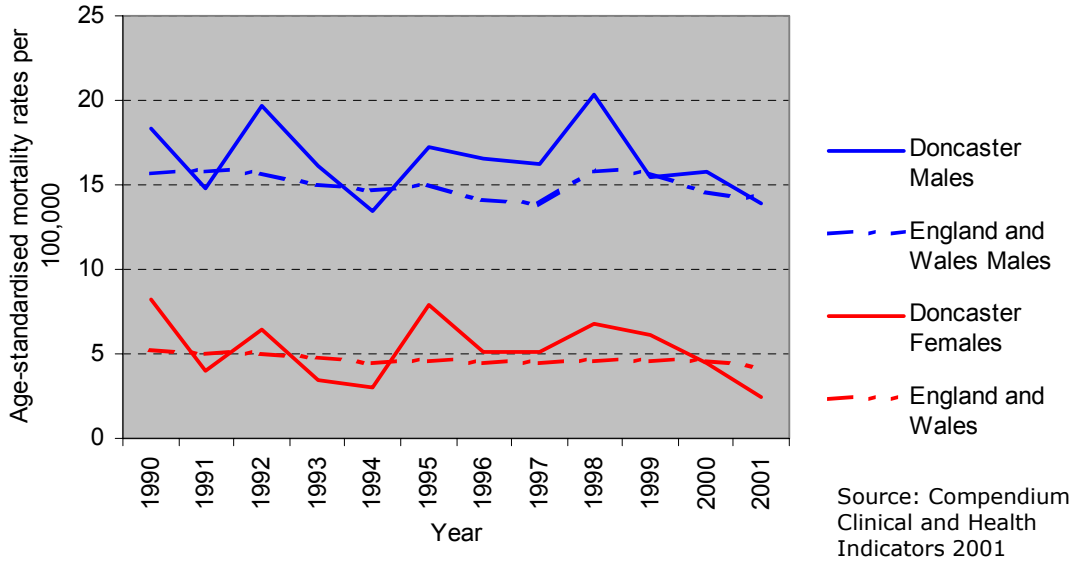
TRENDS IN SUICIDE MORTALITY

The suicide rate in Doncaster varies more than the national figures due to the smaller number of deaths each year. The graph below suggests a very slight downward trend over 10 years with the Doncaster rates generally slightly above the England and Wales figures. Suicides over the past 20 years have fallen in older men and women but risen in younger men (DoH, 2002).

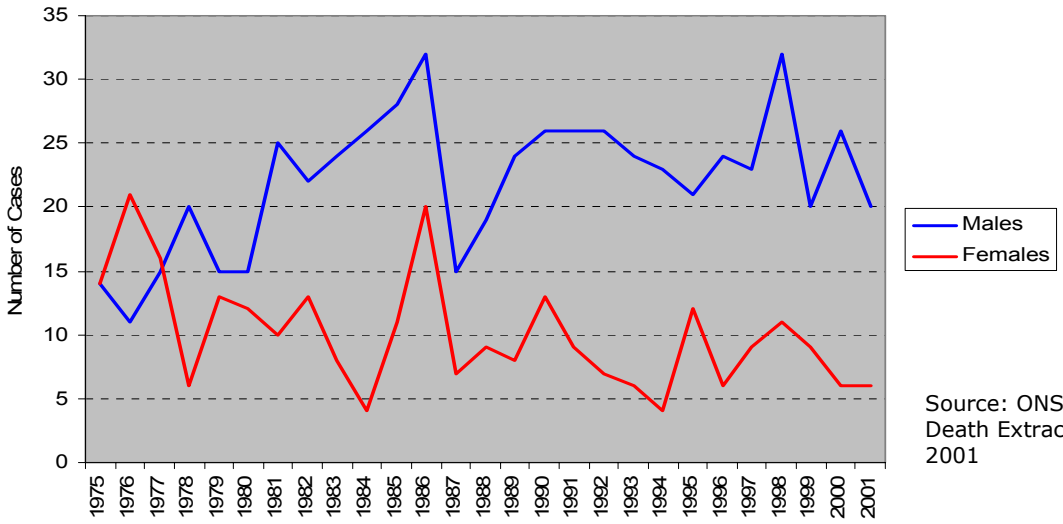
Trends in Mortality from suicide and undetermined injury, 1990 to 2000 annually, All ages



Source: Compendium of Clinical and Health Indicators 2001

Suicide rates in females have been generally lower than in males since the late 1970s. The numbers of suicides in men in Doncaster rose during the late seventies and eighties and have remained at around 20 to 30 per year since, although there are year to year fluctuations as expected with the small numbers involved.

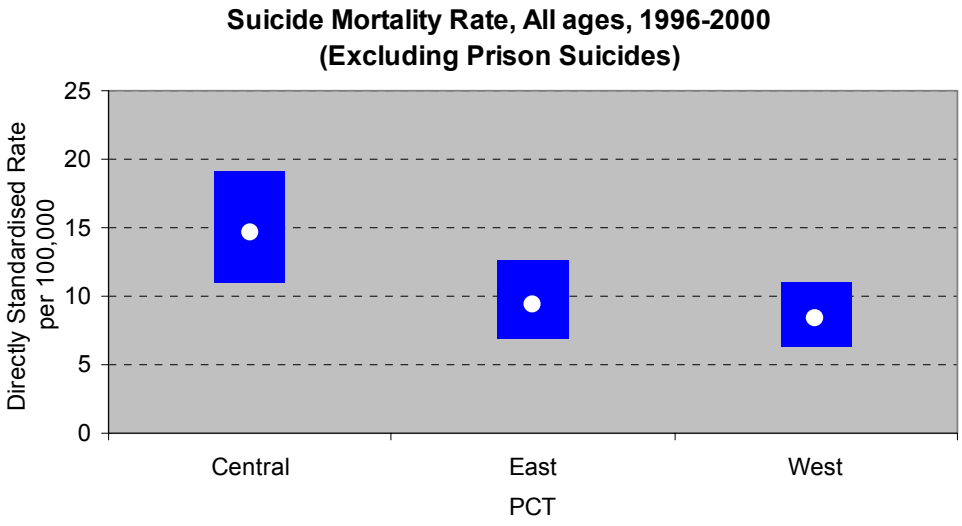
Suicides by Year



Source: ONS Annual Death Extracts 1975-2001

PRIMARY CARE TRUSTS

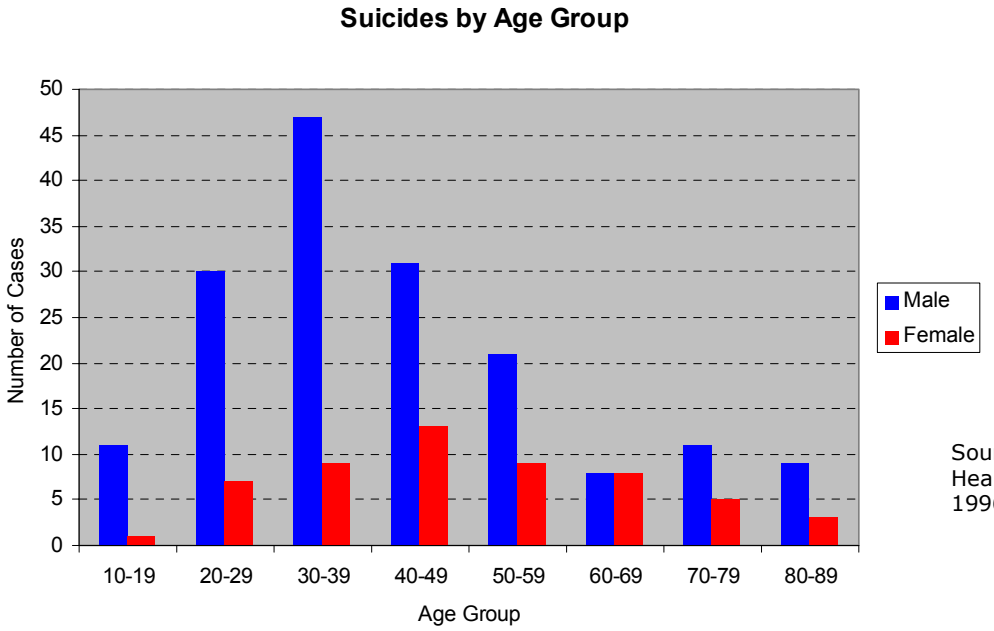
Central PCT has the highest rate of suicide of the three Doncaster PCTs, excluding the prison suicides. If prison suicides are included the rate for Central is higher still, at 17.8 suicides per 100,000 resident population (95% confidence interval 13.1–22.6). Prison suicides are discussed later in this report.



Source: ONS Annual Death Extracts, ONS Mid-year estimates of population, Exeter patient database

GENDER AND AGE

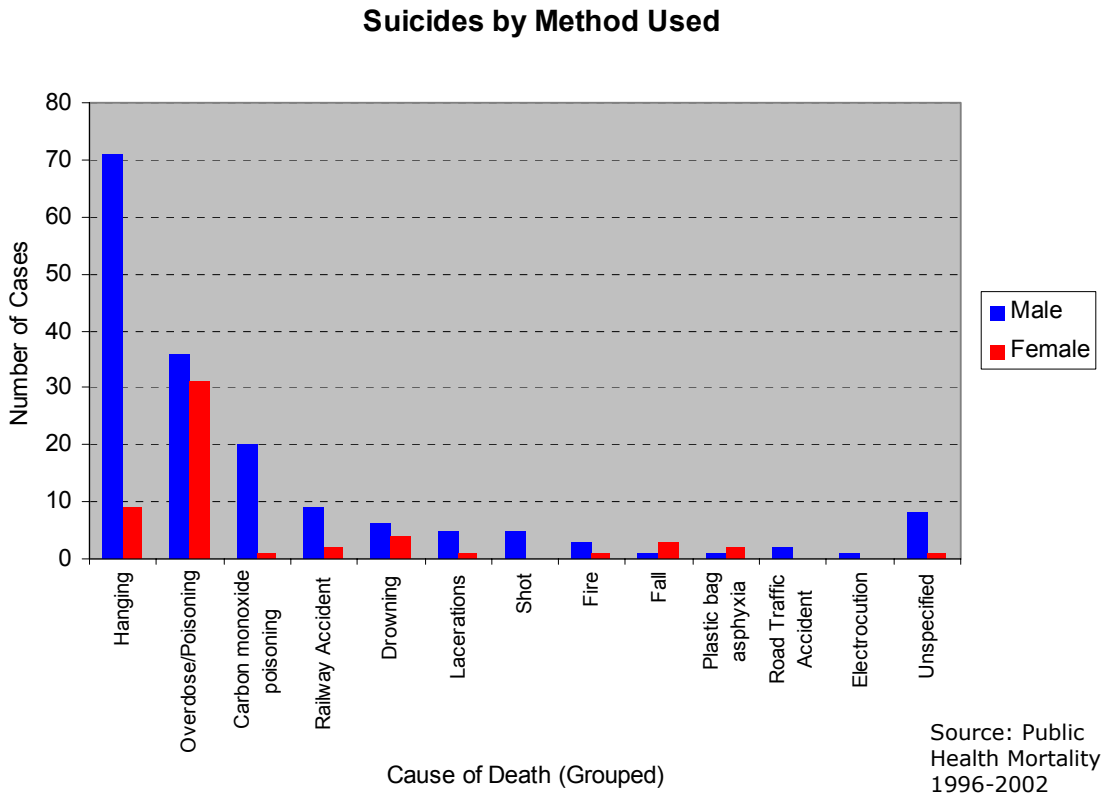
As already mentioned, there is a significant difference in numbers between the sexes: 75% of all suicides were committed by men. The most common age for men to commit suicide has been between 20–49 years with a peak in the 30–39 age group. In women there is a peak in the 40–49 age group, with the age distribution being much more broad. Nationally the pattern is the same with the majority of suicides occurring in young males, with suicide being the main cause of death in men under 35 (DoH, 2002).



Source: Public Health Mortality File 1996-2002

SUICIDE METHODS USED

The most commonly used method in men has been hanging (42% in males compared with 16% in women) followed by drug overdose/poisoning. The third most commonly used method in men was by carbon monoxide poisoning with 12% using this method. This method has become more difficult with the increase in diesel cars and petrol cars with catalytic converters. In women the most popular method by far is by drug overdose/poisoning (56% in females compared with 21% in males). Hanging is the second most common method used by women. This pattern is the same for the national data.



Source: Public Health Mortality File 1996-2002

Age Group Differences

The method of suicide varies little across age groups in both men and women. Women in all age groups were more likely to commit suicide by overdosing than any other method, followed by hanging. In men hanging has been the most frequently used method in all age groups followed by overdosing in most age groups. Carbon monoxide poisoning is used more by those aged 40–49 years and under. The hanging figure is higher due to the inclusion of suicides in prison.

Year-on-Year Differences

Overdose has been the most common method every year for females except 2002 where there was one of each of five methods. Hanging was most common in men in all years except 1997 where overdose was the main method.

PRISONS

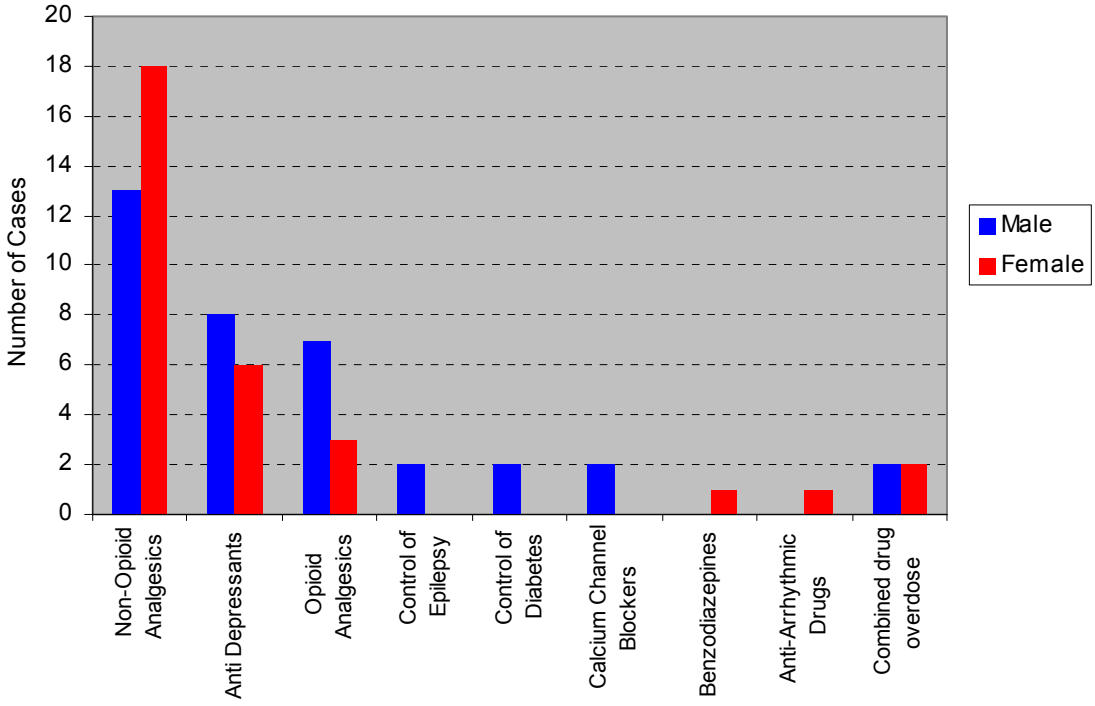
Doncaster has three prisons and two youth offenders' institutions within its boundary: HMP and YOI Doncaster (Marshgate), HMP Lindholme and HMP and YOI Moorland (Hatfield). Suicides within these prisons are included in Doncaster's figures if the prisoners have been in custody for over six months. The key points are:

- 13 suicides between 1996 and 2002, all hangings, all male.
- One in 1996, four in 1998, one in 1999, five in 2000 and two in 2002.
- Eight were under 30 and five were between 30 and 49.
- All 13 were in HMP Doncaster (Marshgate) and therefore within Central PCT.

DRUGS USED IN OVERDOSE/POISONING SUICIDES

- Most common drug group (see table 6 for groupings) used in overdose deaths were non-opioid analgesics (painkillers) (31/67 or 46%).
- Paracetamol on its own was only used in one case.
- The most frequently used drug in overdose by far was co-proxamol (25 cases out of 67 or 37%), mostly on its own (22 cases) but in two cases in combination with alcohol and in another in combination with codeine tablets.
- Alcohol was used in combination with drugs in four cases.
- Antidepressants were the second most frequently used group of drugs (14 cases or 21%), of these dothiepin being used most frequently (8 cases).
- Benzodiazepines were used in only two cases (one in combination with dihydrocodeine, which is categorised in the opioid analgesics group).

Suicides by Drug Group



Source: Public Health Mortality File 1996-2002

SUICIDE AND CO-PROXAMOL

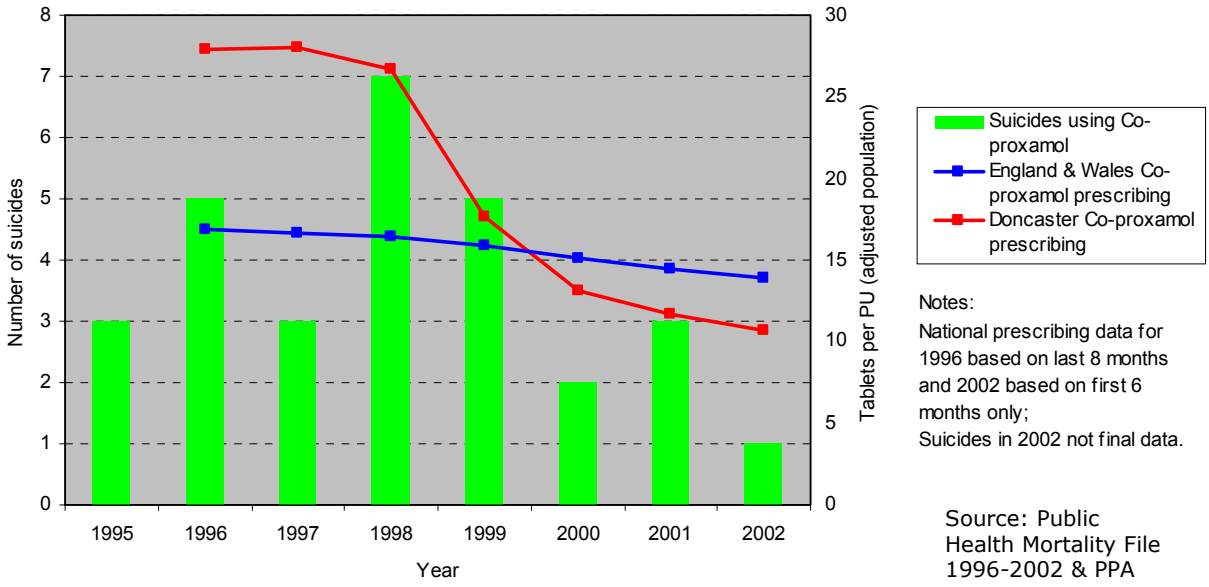
In 1998, a local audit of suicides (Sims, 1998) revealed that one of the commonest methods was by overdose of the painkiller co-proxamol: there had been 18 between 1995 and 1998. To put this in context, during that period there were only 26 suicides using all other prescribed medicines put together, one with paracetamol, the subject of national legislation to limit pack sizes.

Doncaster Health Authority undertook to reduce the amount of co-proxamol in circulation, by asking GPs to be more cautious in prescribing the drug. Doncaster Royal Infirmary also removed co-proxamol from its formulary.

Several years on, the graph shows how effectively the policy of reducing prescribing has been implemented: less than half as many tablets have been prescribed since 2000, compared with the period up to 1998.

The numbers of suicides, also shown in the graph, are too small to prove that the policy has been successful in reducing suicides. However, the numbers are encouraging: there were two in 2000, three in 2001 and one in 2002, although the suicide data for 2002 are not yet final.

Co-proxamol prescribing rates and Suicides



Notes:
National prescribing data for 1996 based on last 8 months and 2002 based on first 6 months only;
Suicides in 2002 not final data.

Source: Public Health Mortality File 1996-2002 & PPA

REFERENCES

Department of Health (1999a). *Saving Lives: Our Healthier Nation*. London: The Stationery Office.

Department of Health (1999b). *National Service Framework for Mental Health*. London: Department of Health.

Department of Health (2002). *National Suicide Prevention Strategy for England*. London: Department of Health.

Sims A (1998). *Doncaster Suicide Audit*. Doncaster: Doncaster Health Authority.

APPENDIX

Table 1. Number of Suicides by Age Group

	Males	Females	Total
10-19	11	1	12
20-29	30	7	37
30-39	47	9	56
40-49	31	13	44
50-59	21	9	30
60-69	8	8	16
70-79	11	5	16
80-89	9	3	12
Total	**168**	**55**	**223**

Note: an record for a 3 year-old boy was excluded as it was unlikely to be suicide.

Table 2. Number of Suicides per Year

	Males	Females	Total
1996	25	5	30
1997	25	11	36
1998	34	11	45
1999	19	8	27
2000	27	7	34
2001	23	7	30
2002	15	6	21
Total	**168**	**55**	**223**

Table 3. Number of Suicides by Method

	Males	Females	Total
Carbon monoxide poisoning	20	1	21
Drowning	6	4	10
Electrocution	1	0	1
Fall	1	3	4
Fire	3	1	4
Hanging	71	9	80
Lacerations	5	1	6
Multiple injuries	2	1	3
Overdose/poisoning	36	31	67
Plastic bag asphyxia	1	2	3
Railway 'accident'	9	2	11
Shot	5	0	5
Road traffic 'accident'	2	0	2
Other	6	0	6
Total	**168**	**55**	**223**

Table 4. Number of Female Suicides by Method and Age Group

	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	Total
Drowning			1	1	1		1		4
Fall			1		1			1	3
Fire				1					1
Hanging		3	1	3		2			9
Lacerations					1				1
Multiple injuries			1						1
Overdose/poisoning	1	4	3	8	5	5	3	2	31
Plastic bag asphyxia					1		1		2
Railway 'accident'			1			1			2
Total	**1**	**7**	**8**	**12**	**9**	**8**	**5**	**3**	**55**

Table 5. Number of Male Suicides by Method and Age Group

	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	Total
Carbon monoxide poisoning		4	4	9	2		1		20
Drowning		2	1		1		1	1	6
Electrocution								1	1
Fall			1						1
Fire			1	1	1				3
Hanging	8	13	21	12	7	4	4	2	71
Lacerations			3		2				5
Multiple injuries			2						2
Overdose/poisoning	2	9	8	6	5	2	2	2	36
Plastic bag asphyxia			1						1
Railway 'accident'			3	1	2	2		1	9
Shot			1	1	1		1	1	5
Road traffic 'accident'		1					1		2
Other*	1	1	1	1			1	1	6
Total	**11**	**30**	**47**	**31**	**21**	**8**	**11**	**9**	**168**

* Unspecified external cause.

Table 6. Overdose/Poisoning Suicides Drug and Gender

BNF Drug Category		Males	Females	Total
Anti-Arrhythmic Drugs	Disopyramide		**1**	**1**
Calcium Channel Blockers	Diltiazem	**1**		**1**
	Verapamil	**1**		**1**
Benzodiazepines	Temazepam		**1**	**1**
Anti-depressants	Amitriptyline	**2**	**1**	**3**
	Dothiepin	**4**	**4**	**8**
	Trazodone	**1**	**1**	**2**
	Venlafaxine	**1**		**1**
Non-Opioid Analgesics	Co-codamol	**1**	**3**	**4**
	Co-dydramol[1]	**1**		**1**
	Co-proxamol[2]	**10**	**15**	**25**
	Paracetamol	**1**		**1**
Opioid Analgesics	Dihydrocodeine[3]		**2**	**2**
	Heroin	**3**		**3**
	Meptazinol	**1**		**1**
	Morphine[4]	**3**		**3**
	Pethidine[5]		**1**	**1**
Control of Epilepsy	Carbamazepine	**1**		**1**
	Sodium valproate	**1**		**1**
Control of Diabetes	Insulin	**2**		**2**
Combined drug overdose	Combined drug overdose	**2**	**2**	**4**
Total		**36**	**31**	**67**

[1] 1 with alcohol
[2] 1 with codeine, 2 with alcohol
[3] 1 with diazepam, 1 with amylobarbitone
[4] 1 with seconal
[5] 1 with diphenhydramine

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