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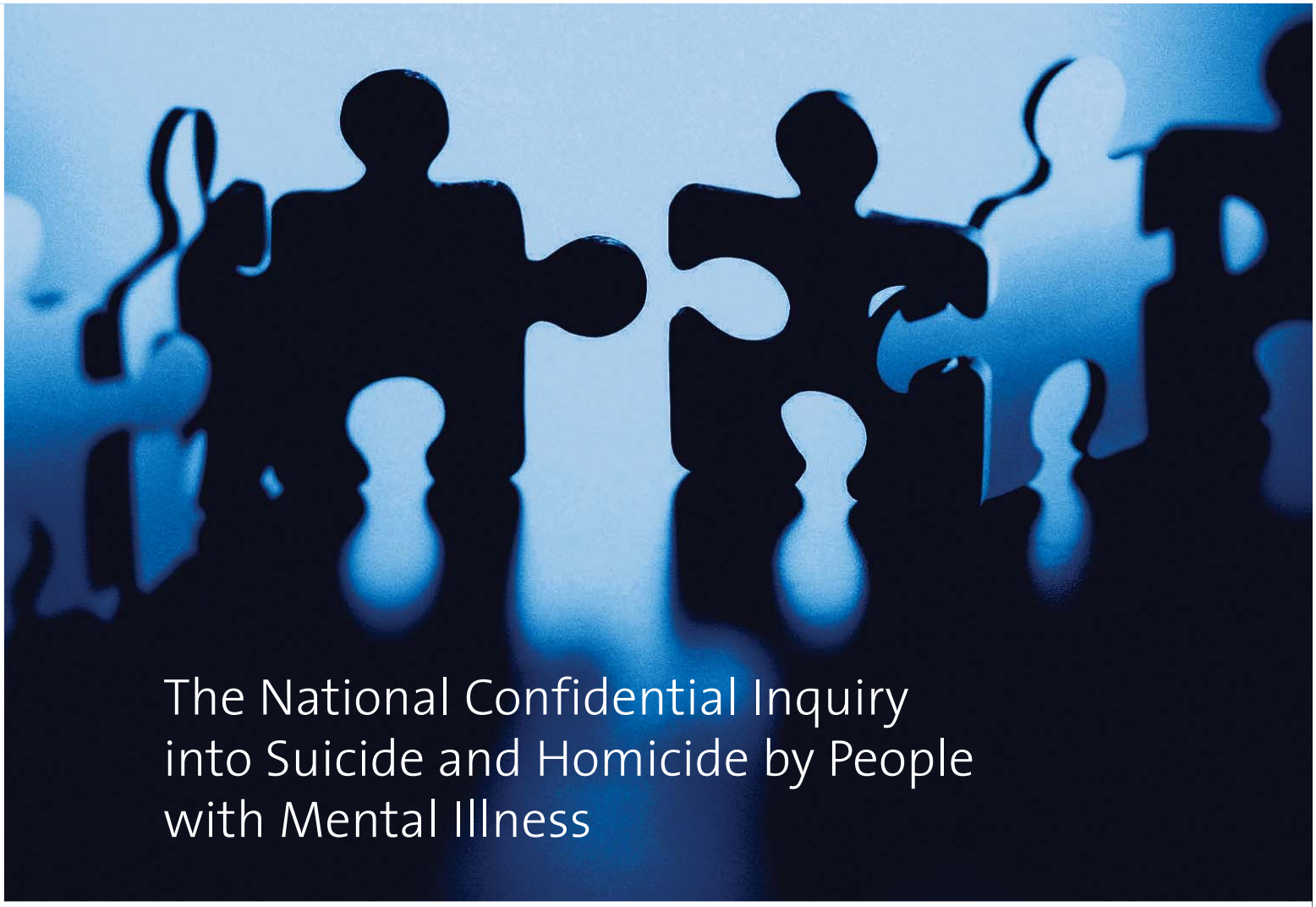

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness

Lessons for mental health care in Scotland

JUNE 2008

FOREWORD

Every death under mental health care is a tragedy, inevitably raising the question of whether more could have been done. This report by the National Confidential Inquiry examines the details of individual cases of suicide and homicide by people with mental illness, asking: How many cases are there? What are the common themes? Can we learn from them about risk and how to reduce it?

In the time covered by the report – six years for suicides, five years for homicides – there were around 5,000 suicides and around 500 homicides in Scotland. However, the Inquiry found that only 28% of the people who died by suicide and 12% of those who committed a homicide had recently been mental health patients. Their first recommendation is therefore that we should recognise that the potential for prevention by mental health services is limited to these cases – in other words, other agencies must also play their part.

Yet mental health services can strengthen their management of risk in a number of ways. The report does not present a long list of instructions to clinical staff. Instead, it highlights the key areas of clinical practice where improvement is needed and suggests what changes could be made. In the end however, it will be up to local clinicians and services to turn these findings into actions.

The report makes a number of recommendations. Of particular interest are the suggestions to strengthen training and services for the management of drug and alcohol misuse, including a focus on "dual diagnosis" patients; and to improve outreach services for patients at risk of losing contact with care.

The report tackles the sensitive issue of serious violence by mental health patients, aware that this topic can increase the fear and stigma that mentally ill people encounter. Two points are emphasised. One is the low risk to the general public from mental health patients; the other is that people who need mental health care are at times imprisoned by the courts. Further study of why mentally ill people are sent to prison is recommended.

There are several positive findings – progress on in-patient suicide, for example. But a fundamental message is that Scotland has high rates of both suicide and homicide, in the general population and in patients. The report recommends definitive studies of the reasons.

Scotland has a number of national policies that are intended to improve the mental health of the community and the safety of mental health services. We also have a new Mental Health Act and a national strategy to reduce suicide. The National Confidential Inquiry report is a call to do more. It reminds us that mental illness carries risks, that mental health services cannot be risk-free, and that safety must be at the heart of good care.

Dr Harry Burns
Chief Medical Officer

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STEERING GROUP

The Inquiry Steering Group is currently chaired by Professor Sheila Hollins of the Royal College of Psychiatrists and includes members of the College (including the Scottish Section) in general adult and forensic psychiatry, representatives from the devolved governments of Wales and Northern Ireland, service users, user support services and lay members of the public.

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Scottish Government

General Register Office for Scotland

Scottish Crown Office

Information Services Division, NHS National Services Scotland

Scottish Research Advisory Group

Justice Statistics Unit, Scotland

Inquiry contacts within Scottish Health Boards

Psychiatrists and other mental health professionals who have completed questionnaires

Royal College of Psychiatrists Scottish Division

State Hospital Carstairs

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KEY MESSAGES

1.1 Suicide rates

There has been a welcome recent fall in the general population suicide rate. Despite this, the most striking feature of rates in Scotland is how much higher they are than in England and Wales, almost twice as high. Although this is not a recent development, it remains unexplained. Possible explanations include:

- differences in how deaths are investigated and how cause of death is determined
- more widespread social adversity
- higher rates of key risk factors such as alcohol and drug misuse
- a combination of these and other factors.

Research should now examine the causes of high suicide and homicide rates.

The degree to which Scottish rates are higher varies with age, being greatest in teenagers. Age patterns like this raise the possibility of a "cohort effect," i.e. that young people who are currently at high risk will carry this risk with them as they get older, raising future suicide rates for the population as a whole.

The higher general population rate is also reflected in the number of patient suicides, which is proportionally higher than in England and Wales. For example, the number of suicides by patients with schizophrenia – around 35 per year – is higher than would be predicted from equivalent figures from England and Wales – around 200 per year – in a population around tenfold higher, assuming similar population rates of schizophrenia. However, it is not possible to draw conclusions about the overall safety of mental health services from these figures. It may be that the causes of the higher population rate affect all sub-groups, including people with severe mental illness.

One point about prevention by services is clear, however. Twenty-eight percent of suicides nationally are by current or recent patients. The potential for prevention by mental health services is limited to this group.

For others, action will be needed on public health, in primary care, by other agencies such as social care and probation and by society as a whole. Nevertheless, the figure of 28% translates into 233 patient suicides per year on average. The findings in this report refer primarily to these people and the measures that could reduce their number.

The difference between general population suicides rates in Scotland and in England and Wales is greatest in young people – in their teens and early twenties. This is also the age group with the lowest rate of contact with specialist mental health care. It seems likely that there is a problem in recognising the presence or seriousness of mental disorder in young people.

A major initiative is now needed to develop mental health services for young people, that can offer prompt access to care and early intervention.

1.2 Homicide rates

Similarly, the homicide rate in Scotland is substantially higher than in England and Wales. In contrast to suicide rates, national homicide rates are high because of particularly high rates in certain areas of the country – Greater Glasgow, and Clyde and Argyll.

In Scotland, as elsewhere, homicide is a crime committed by young men, with young men their likeliest victims. In the cases we studied, alcohol or drugs had often been taken, and the homicides were most often committed with what our data sources call "sharp instruments."

The policy response to these deaths should focus on alcohol and drug abuse in young people, and on the carrying of knives by young men. Drugs and knives are a dangerous mix.

As with suicide, the high population risk is reflected in the number of homicides by mental health patients. The number of patient homicides is proportionally greater in Scotland, mainly because of the number committed by patients with alcohol or drug dependence. The risk of a person with schizophrenia committing a homicide appears no higher than in England and Wales.

The rise in homicide in recent years is the result of an increase in killings by young people, mainly men under 25. Most, however, are not mentally ill. A public health approach to homicide would target alcohol and drug use before mental illness.

Our homicide findings also raise an important concern about the way that courts deal with cases in which the convicted person has a severe mental illness, and this needs further investigation.

Of the patients committing homicide, 88% were sent to prison. Although most had disorders such as alcohol and drug dependence, patients with mental illness were also imprisoned. And, of all those with schizophrenia (patients and non-patients), almost half (7 of 15) were given prison sentences. This seems inappropriate and inhumane.

1.3 Prevention by mental health services

The potential for mental health services to prevent suicides is a sensitive subject. Anyone who has been in clinical practice is aware of how difficult it can be to manage risk, to get the balance right between patient autonomy and intervention. Clinicians often feel that the public does not understand the complexities of clinical care or recognise the large number of cases that are managed successfully. They see a "culture of blame" in which the press, the public and the government, often examining a single tragic case with hindsight, blame the clinician rather than the true culprit, the illness itself. They are likely to point to the findings in this report showing that most patient suicides and homicides happen without obvious warning – they occur when risk seems low.

On the other hand, patients' families and the wider public see mental health professionals as over-defensive. They see aspects of care going wrong and a tragedy occurring and are perplexed when clinicians appear to dispute whether they could or should have acted differently, or claiming that managing the risk of patient violence is not their job. They are likely to point to the views of clinicians in most of the cases in this report – that the death could not have been prevented – as evidence that professionals are reluctant to accept their responsibility for patient and public safety.

This is an important debate, to which these findings can contribute. None of the tragedies in this report should be seen as inevitable, but many happened despite care which in crucial ways was satisfactory, e.g. when efforts were made to encourage compliance with treatment.

Prevention is difficult and prediction – identifying the highest risk patient from the many who are at risk to some degree – unreliable. But, the management of risk can always be improved.

Clinicians, if they are to persuade the public to be realistic about what can be achieved in caring for high-risk patients, need to show that they accept the need to strengthen clinical care. In any case, most of the measures that can be taken to reduce risk are about the quality of care more broadly – closer follow-up or contact with patients' families, for example.

The public, as well as advocates for patients and their families, need to accept that when tragedies happen, they are not necessarily someone's fault, even if care could have been different. Without this shared understanding of risk and its management, the kind of scrutiny of clinical care that is necessary to improve it will not take place. Attitudes to prevention can be a positive, practical influence on safety itself.

1.4 Alcohol and drugs

Alcohol and drug misuse runs through these findings. It appears to be a major contributor to risk in mental health care and in broader society. It is likely that alcohol and drugs lie behind Scotland's high rates of suicide and homicide.

Alcohol and drug misuse are already known to be risk factors for both suicide and violence. Even so, the frequency with which they occur as antecedents in the cases described here is striking.

Of the 1,373 patient suicides in this report, there was a history of alcohol misuse in 785, an average of 131 deaths per year and a history of drug misuse in 522, an average of 87 deaths per year. A quarter of patient suicides had "dual diagnosis" – a combination of severe mental illness and drug or alcohol dependence/misuse – 343 in total, an average of 57 deaths per year.

Of the 58 patient homicides in this report, 41 had a history of alcohol misuse and 45 a history of drug misuse. Thirteen, just under a quarter, had "dual diagnosis". Among all perpetrators, whether patients or not, drug dependence and alcohol dependence were the most common diagnoses. In both suicide and homicide, most were not under the care of addiction services.

Addictions are difficult to treat; mental health and addiction services cannot tackle on their own the serious problems posed by the widespread misuse of alcohol and drugs.

However, our findings support the view that alcohol and drugs are the most pressing mental health problems in Scotland and mental health services can play their part by:

- **ensuring that front-line clinical staff are skilled and confident in assessing and managing misuse**
- **developing dedicated services for dual diagnosis**
- **establishing close links with addiction teams covering joint care plans, information sharing, referral criteria and consultation.**

1.5 In-patient care

Suicides by in-patients appear to have fallen since our data collection began in 1998. The fall is most clearly seen in deaths by hanging but it is not confined to this method – the findings suggest an improvement in ward safety generally, affecting both numbers and rates.

Despite these positive changes, in-patient care remains a key area for improved risk management. Risk of suicide is one of the main reasons for hospital admission; in-patient wards provide the best opportunities for close supervision and regular assessment. As a result in-patient care has arguably the greatest potential for prevention – clinicians themselves saw these deaths as more often preventable.

Our findings draw attention to differences between deaths that occur on and off the ward and that therefore have different priorities for prevention. Thirty percent of in-patient deaths occurred on the ward itself. They were more likely to occur by hanging – especially from hooks, handles and pipes – and to occur in the first week of admission. The patients tended to have schizophrenia and co-morbid disorders including alcohol and drug misuse.

These findings suggest that prevention should focus on the care and supervision of acutely disturbed patients in the days after admission, and on removing ligature points.

Twenty-three percent of in-patient suicides occurred in patients who had left the ward without the agreement of staff. In fact, a third of this group were, or were intended to be, under special observation. Their clinical and social profile was different to that of the first group – they more often had affective disorder and lived alone.

Prevention should focus on absconding – special observation alone is not enough. This may be done by improving the patient's experience of the in-patient environment. A disturbed ward can be a frightening and isolating place. Without support and recreation, patients can feel frustrated and restless. Controlling entry and exit points should also make absconding more difficult.

Forty-five percent of in-patient suicides occurred in patients who were off the ward with the permission of staff. These deaths occurred later in the admission, when discharge was being planned, presumably a time of apparent clinical recovery. Their clinical profile too was characterised by affective disorder and living alone, as well as compliance with care.

Prevention should focus on careful assessment of risk during the period leading to discharge, including the patient's reaction to his/her return to the stresses that may have triggered the admission.

1.6 Community care

Two aspects of community care stand out in the report, and in both there are signs of improving risk management, as well as a need for more emphatic measures.

One in 5 of all patient suicide occurred in the first three months after discharge from hospital; one in 30 occurred in the first week. These patients are similar in clinical profile to the in-patients who die while discharge is being planned (see above).

Prevention should similarly focus on close supervision and careful assessment of risk in the period leading up to and after discharge, and on early follow-up.

Almost a quarter of these deaths occurred before the first follow-up appointment, though this figure appears to be improving. The number of post-discharge suicides may also be decreasing, though a clear trend cannot yet be confirmed.

Twenty-six patient homicides (47%) and 375 patient suicides (27%) were preceded by "missed contact," a sign in this study of disengagement from care. Despite an unexplained fall in suicide cases in 2005, "missed contact" was a far more frequent antecedent than non-compliance with drug treatment, which occurred in 13% of homicides and 13% of suicides. Loss of contact with services is a critical issue in these tragedies, whether or not it is causal. It is seen as a failure of community care, with the likely effect that public confidence in mental health services is damaged.

However, many of the "missed contact" cases in our sample, particularly in the case of homicide, had alcohol or drug dependence rather than severe mental illness and it cannot be assumed that more effective follow-up would have picked up warning signs, e.g. symptoms of relapse. Even so, there is a strong case for more intensive community support for patients at highest risk and greatest need, backing up the recent introduction of a community treatment order.

Based on these findings, community care linked to risk should be designed around: 1) follow-up after hospital discharge, working closely with in-patient teams, and 2) patients who drift out of services, particularly those with severe mental illness. This means highly specialised services at the heart of community mental health care, building on recent "outreach" developments.

1.7 Summary of actions based on this report

This report recommends:

- better training and services for the management of drug and alcohol misuse, including dedicated services for "dual diagnosis" patients
- specialist community mental health teams providing an outreach service for patients who are at risk of losing contact with care
- early follow-up following hospital discharge, requiring joint risk management by in-patient and community teams
- more intensive supervision of patients recently admitted to hospital
- removal of ligature points from in-patient wards
- prevention of absconding from wards through improvements in the ward environment and tighter control of exits
- careful assessment of risk during periods of leave leading up to hospital discharge
- improved mental health services for young people, providing better access and early intervention
- positive clinical attitudes to the management of risk as part of a more understanding dialogue with the public
- further study of the causes of higher suicide and homicide rates in Scotland
- examination of reasons for imprisonment of offenders with severe mental illness.

chapter two
ABOUT THIS REPORT

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (referred to in this report as "the Inquiry") was established at the University of Manchester in 1996, having previously been based in London. It was initially funded by the Department of Health in England and the Welsh Office. In 1997 additional funding was provided by the Scottish Office (now the Scottish Government) and the Department of Health, Social Services and Public Safety (formerly the Health and Social Services Executive) in Northern Ireland.

In Scotland, the work of the Inquiry focuses on suicide and homicide. Its main aim is to improve the prevention of suicide and homicide by people under the care of mental health services by:

- the collection of detailed clinical information on all deaths by suicide and undetermined intent and homicides committed by people using mental health services
- recommending changes to clinical practice
- identifying training needs
- acting as a resource for national data on outcomes for mental health patients.

2.1 MENTAL HEALTH POLICY AND STRATEGY IN SCOTLAND

2.1.1 Recent policy

Mental health and well-being is a priority for the National Health Service in Scotland (NHS-Scotland). The **National Programme For Improving Mental Health and Well-being**[1] is guided by four key aims:

- **Raising awareness** and promoting positive mental health and wellbeing
- **Eliminating stigma** and discrimination associated with mental ill health
- **Preventing suicide** and supporting people bereaved by suicide
- **Promoting and supporting recovery** from mental health problems.

The Scottish Government's **Delivering for Mental Health**[2] presents a delivery plan for the provision of mental health services. It recognises the different challenges faced by health and social care professionals in providing mental health services in large cities as distinct from remote rural areas. It includes specific commitments for action to support suicide prevention in Scotland.

2.1.2 Legislation

The Mental Health (Care and Treatment Scotland) Act[3] received Royal Assent in April 2003 and came into effect in October 2005. This Act supersedes the Mental Health (Scotland) Act 1984 and:

- reforms and modernises the legal framework for compulsory detention
- introduces community treatment orders
- provides new powers for the entry to premises for the removal to a place of safety, and if necessary, the detention of individuals considered to be at risk
- reforms the law relating to people with mental disorder who enter the criminal justice system.

The data presented in this report cover the period up to December 2005 and therefore reference to the Mental Health Act in the report refers almost entirely to care and treatment under the Mental Health (Scotland) Act 1984. It is not possible to comment on the impact of the new Act in this report.

2.2 SUICIDE

In 2002 the Scottish Government launched a national strategy and action plan for suicide prevention called "Choose Life."[4] The document reported that Scotland had one of the highest rates of suicide in Western Europe. One of the key targets was to reduce the rate of suicide in Scotland by 20% from 17.4 per 100,000 (age standardised three year average 2000-2002) by 2013.

Choose Life highlights a number of priority groups on whom actions and efforts should be focussed. These are:

- children (especially looked after children)
- young people (especially young men)
- people with mental health problems, particularly those in contact with mental health services and those with severe mental illness
- people who attempt suicide
- people affected by the aftermath of suicide or suicidal behaviour
- people who abuse substances
- people in prison
- people who are recently bereaved
- people who have recently lost employment or who have been unemployed for a period of time
- people living in isolated/rural communities
- people who are homeless.

The Inquiry collects data on people under mental health care but within this sample there are similarities with 'Choose Life' priority groups (e.g. young people, people who abuse alcohol and drugs).

2.2.1 How we investigate suicide

Aim

To collect detailed clinical information on patients of mental health services who die by suicide. We investigate:

- the number and proportion of individuals who die by suicide having been in contact with specialist mental health services in the previous 12 months
- the number of deaths by suicide in the Inquiry's "priority groups" (e.g. in-patients, patients recently discharged from hospital)
- suicide among important sub-groups in the population (e.g. Black and Minority Ethnic (BME) groups, homeless people)
- clinical circumstances and antecedents of suicide under mental health care
- rates of key clinical problems (e.g. non-compliance with treatment, loss of contact with services, substance misuse)
- changes in these statistics over time.

Method

We collect a national consecutive case series of patient suicides (April 1997 – present). There are three stages to data collection:

1. Information on all general population suicides (i.e. deaths by intentional self-harm and deaths from undetermined intent) by individuals aged 10 years or over is collected from the General Register Office for Scotland (GROS).

2. Details on each case are submitted to mental health services in each individual's district of residence, district of death and adjacent districts, to identify those with a history of mental health service contact in the 12 months before death. Individuals in contact become "Inquiry cases."

3. Information on Inquiry cases is obtained from clinical teams via a questionnaire sent to the consultant psychiatrist.

Deaths of undetermined intent are conventionally included in studies of suicide. In the Inquiry, these deaths are included unless it is clear that suicide was not considered by the Procurator Fiscal.

To ensure case ascertainment is as complete as possible, the Inquiry receives an annual list of all cases of suicide and death by undetermined intent from the GROS as some verdicts may be revised by the offices of the Procurator Fiscal. In addition, the Inquiry receives data annually from the Information Services Division (ISD) of cases of death by intentional self harm or undetermined intent within 30 days of discharge from psychiatric in-patient care to cross check that all cases of in-patient death and death following recent discharge are captured.

We also collect data on people who die in prison but only if those individuals have had contact with mental health services in the year before death.

The questionnaire issued to the consultant psychiatrist consists of sections covering: identification of priority groups (e.g. in-patients, post-discharge patients); demographic details; clinical history; details of the suicide; details of in-patient/community care received; details of final contact with services; events leading to the suicide; respondents' views on prevention and additional information.

Response rates for Inquiry suicide questionnaires are high overall at 99% since data collection began but varies from year to year (97%-100%). Due to delays inherent in the notification procedures, data are least complete for the most recent year reported here (97%). We therefore present projected numbers of Inquiry cases in the longitudinal trend analyses to take account of the different levels of data completeness across years. These were calculated as follows: (projected number of Inquiry cases) = 100 x [(number of Inquiry cases) / (% completeness)].

2.2.2 Numbers and rates of suicide reported

Differences in general population suicide numbers in this report and those published by the GROS

General population suicide numbers may differ from those published on the Scottish Public Health Observatory website[5] (based on GROS data). Our general population suicide deaths include a small number of deaths occurring in Scotland among non-Scottish residents notified to us by the GROS (187 deaths). We also include small numbers of deaths notified by ONS in England (including both Scottish residents who died in England (58 deaths) and non-Scottish residents who died in Scotland (2 deaths)).
We adopt this inclusive approach to identifying deaths since our primary aim is to investigate suicide deaths among psychiatric patients, and non-residents may still have received health care from Scottish mental health services.

Other reasons for the discrepancy in numbers include:

- The GROS numbers are based on date of registration of death, Inquiry numbers are based on date of death.
- The GROS database may have been revised subsequent to the point at which the data presented in this report were frozen and analysed.

Differences in general population suicide rates in this report and those published by the GROS

General population suicide rates may differ from those published on the Scottish Public Health Observatory website[5] and recently published research[6,7]. For example the Inquiry's general population rate for 2000-2005 is 18.7 compared to the age standardised GROS average figure for the same years of 16.4. The main reasons for the difference in rates are likely to be:

- The Inquiry collects data on deaths from age 10 years and over and rates are calculated based upon the number in the general population aged 10 years and over. The GROS calculates rates based on the whole population (including those aged under 10 years) which means the denominator is bigger and the resulting rates are lower.
* The recorded number of suicide deaths may differ (see above).
- The Inquiry calculates crude suicide rates whereas the GROS calculates its rates based on European age-standardised population data (to adjust for differences in age structure across countries).

We can illustrate some of these differences by examining rates of suicide per 100,000 per year for the period 2000-2005 calculated using different methods.

(i) If the Inquiry includes all persons in the denominator, rates are similar, e.g. Inquiry crude rate 2000-2005 = 16.6; age standardised GROS average rate for 2000-2005 = 16.4.

(ii) If the Inquiry includes all persons in the denominator and excludes ONS supplied data, rates are: 16.5, average GROS age standardised rate = 16.4.

(iii) If the Inquiry includes all persons in the denominator, excludes ONS supplied data and is compared with crude GRO rates (as opposed to age standardised GRO rates), the respective rates are 16.5 and 16.6.

2.3 HOMICIDE

2.3.1 How we investigate homicide

Aim

To collect detailed clinical information on people convicted of homicide. We investigate:

- the number and proportion of homicide perpetrators with a history of mental illness
- the number and proportion of perpetrators with symptoms of mental illness at the time of the offence
- the number and proportion of perpetrators with a history of contact with mental health services at any time and in the 12 months before the homicide
- the clinical circumstances and antecedents of homicides by those under mental health care
- the rate of key clinical problems (e.g. non-compliance with treatment, loss of contact with services, substance misuse)
- changes in these statistics over time.

Method

We collect a national consecutive case series of patient homicides occurring since April 1997. There are four stages to data collection:

1. Information on all homicides is collected from the Scottish Government Justice Directorate (formerly the Scottish Executive Justice Department). Additional information about perpetrators is obtained from the Scottish Crown Office which provides the Inquiry with a copy of the psychiatric report(s) prepared for the trial as well as any history of previous offences.

2. Details on each case are submitted to mental health services in each individual's district of residence and adjacent districts to identify those with a history of mental health service contact. These individuals become Inquiry cases and those cases with recent service contact (within 12 months of the offence) are analysed as the main sample.

3. Information on Inquiry cases is obtained from clinical teams via a questionnaire sent to the consultant psychiatrist.

Data are collected on methods of homicide and victim characteristics from the Scottish Government Justice Directorate for all convictions of homicide and culpable homicide (i.e. assault without the intention to kill or where mitigating factors are accepted such as extreme provocation or diminished mental responsibility).

Psychiatric reports

Psychiatric reports are written in homicide cases, pre-trial, to determine the mental state of the perpetrator at the time of the offence. We obtained one or more reports prepared for the court by a psychiatrist in 363 cases, 84% of the total sample; similar to the proportion of reports obtained in our previous report (86%). The following data are collected from the psychiatric reports provided by the Scottish Crown Office: 1) details of mental health, 2) drug and alcohol use at the time of the offence.

For Inquiry cases (i.e. those with previous contact with mental health services) the questionnaire consists of sections covering demographic details; clinical history; details of the homicide; details of in-patient/community care received; details of final contact with services; events leading to the homicide; respondents' views on prevention and any additional information.

Response rates for Inquiry homicide questionnaires is high overall at 97% since data collection began but varies from year to year (91%-100%). Due to delays inherent in the notification procedures, data for later years are least complete (91%). We present projected numbers of Inquiry cases in the longitudinal trend analyses to take account of the different levels of data completeness. Projected figures were calculated as for suicide, and analysis of trends was also carried out as described earlier.

Definitions of mental illness

The data on mental health come from a variety of sources. Data on hospital orders are available on all perpetrators from the Scottish Government Justice Directorate. Data on mental illness at the time of offence comes from psychiatric reports prepared for the courts. Data on the presence of mental illness and on diagnosis are obtained from reports and Inquiry questionnaires.

2.3.2 Number and rates of homicide reported

Differences in general population homicide numbers in this report and those published by the Scottish Government Justice Directorate

General population homicide numbers are different from those published in the Statistical Bulletin[8] for the following reasons:

- The Statistical Bulletin numbers are based on the year that the homicide was reported to the Scottish Government Justice Directorate by the police and not the year that the perpetrator was convicted of murder or culpable homicide which the Inquiry uses.
- The Statistical Bulletin reports homicide 'incidents' and is not based on individual perpetrators convicted of homicide.
- There are incidents where cases were not initially considered to be homicide, and therefore not reported by the police to the Scottish Government Justice Directorate. If a case was subsequently determined by the Procurator Fiscal to be prosecuted as homicide, these cases were not included in the Statistical Bulletin. However, the Inquiry were notified by the Scottish Crown Office of these cases and they are included in this sample.
- Cases no longer considered to be homicide, if overturned on appeal, were removed from the Inquiry sample. Suspects are not removed from the Scottish Government Justice Directorate database and are still reported as homicide incidents.

Differences in general population homicide rates in this report and those published by the Scottish Government Justice Directorate

The Inquiry's general population homicide rate may differ from those published in the Statistical Bulletin because:

- The recorded number of cases may differ (see explanation above).
- Rates are published by the Bulletin for major cities using city population as the denominator. However, the Inquiry's rates are based on Health Board District populations which incorporate outlying areas, which will be a larger population and will therefore produce different rates.

2.4 ABOUT THE FINDINGS

2.4.1 Case series data

This report presents the findings from the analysis of deaths by suicide for the period January 2000 to December 2005 and homicides occurring between January 2000 and December 2004. Findings from cases occurring between April 1997 and March 2000, were first presented in an earlier report, Safety First.[9]

Analyses based on case series data, in the absence of controls, are limited in that they cannot identify risk factors. However, detailed data on the circumstances in which suicides or homicides occur, and the large number of cases in our sample, make it possible to identify ways in which patient care could be strengthened with likely benefits to safety.

In the main body of the report, findings are presented separately for suicide (Chapter 3) and homicide (Chapter 4).

2.4.2 Trends over time

Where possible, data on trends are presented from 1998 (the first full year of Inquiry data collection) to 2005 (for suicide) or 2004 (for homicide).

To determine if evidence of a statistically significant time trend exists, trend tests were carried out using categorical data methods in Stata.[10] Suicide rates per 100,000 population were calculated using mid-year population estimates (age 10 and over). Hence, using either general population suicides or Inquiry cases as the outcome, a general linear model (GLM) was fitted with mid-year population as the offset. Year was then added as a linear predictor to assess trend.

2.4.3 Presentation of data

The report is intended for a broad readership, and the style of presentation aims to balance the requirements of a scientific publication with those of a public document. All abbreviations and technical terminology are listed in the glossary at the end of the report (Appendix 2). Many of the main figures are presented in tables of "key variables," which are consistent between sections. Ninety-five percent confidence intervals are included for all estimates in the key variable tables. These indicate the accuracy of each estimate by showing the range of values within which the true figure is likely to lie. For many of our estimates the sample is large and confidence intervals are correspondingly small. However, figures for smaller patient sub-groups may have wider confidence intervals.

When differences between groups are referred to in the text, these are statistically significant. In most analyses statistical significance has been set at 5%, i.e. there is a 5% probability that a reported difference between groups has arisen by chance. When percentages are quoted, these refer to "valid cases," i.e. those for whom the relevant information was available. In other words, if an item of information was not known about a person, he/she was excluded from the analysis of that item. As a result, the denominator may vary slightly between analyses.

Statistically significant differences between figures presented in this report and the figures for Scotland in our previous report, Safety First[9], are highlighted. Comparisons between the figures for Scotland and those recently reported for England and Wales published in Avoidable Deaths[11] are also provided.

Inquiry publications such as scientific papers, based on Inquiry findings, are listed in Appendix 3.

chapter three
SUICIDE INQUIRY

3.1 SUICIDES IN THE GENERAL POPULATION

3.1.1 Numbers and rates

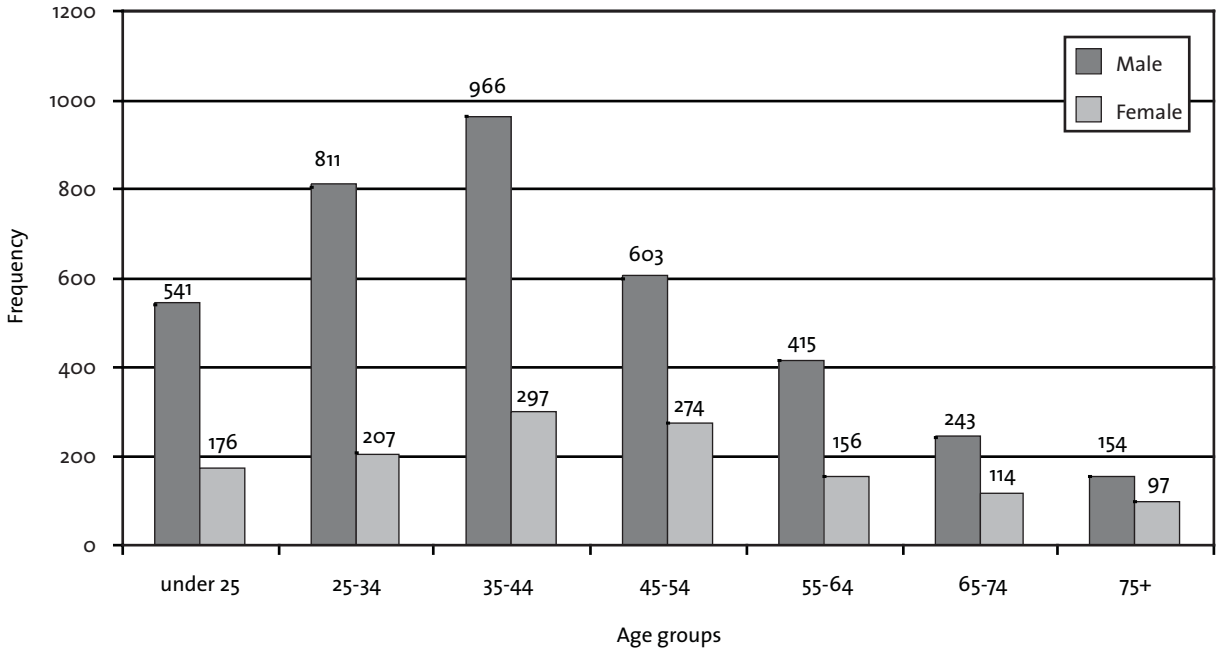
The Inquiry was notified of 5,054 suicides and probable suicides[1] occurring between January 2000 and December 2005. This included 3,576 cases in which the recorded cause of death was suicide and 1,478 open verdicts or deaths from undetermined intent. For the remainder of this section, these cases are referred to as suicides.

The corresponding average annual rate of suicide during 2000-2005 is 18.7 per 100,000 people. Seventy-four percent (3,733 cases) were male, giving a male to female ratio of 2.8:1. The ratio of males to females was highest in the 25-34 year olds in whom 80% were male and lowest in those 75 and over, in whom 61% were male **(Figure 1)**.

For the same time period, the Inquiry was notified of 140 suicides and probable suicides for children and adolescents aged under 18 years. This included 98 cases where the recorded cause of death was suicide and 42 cases where death was from an undetermined intent. The average annual rate of suicide among these young cases was 5.2 per 100,000 people. Sixty-three percent (88 cases) were male, giving a male to female ratio of 1.7:1.

[1] See Method section (2.2.1) for definition of suicide.

Figure 1: General population suicides notified to the Inquiry aged 10 and over: age and sex profile

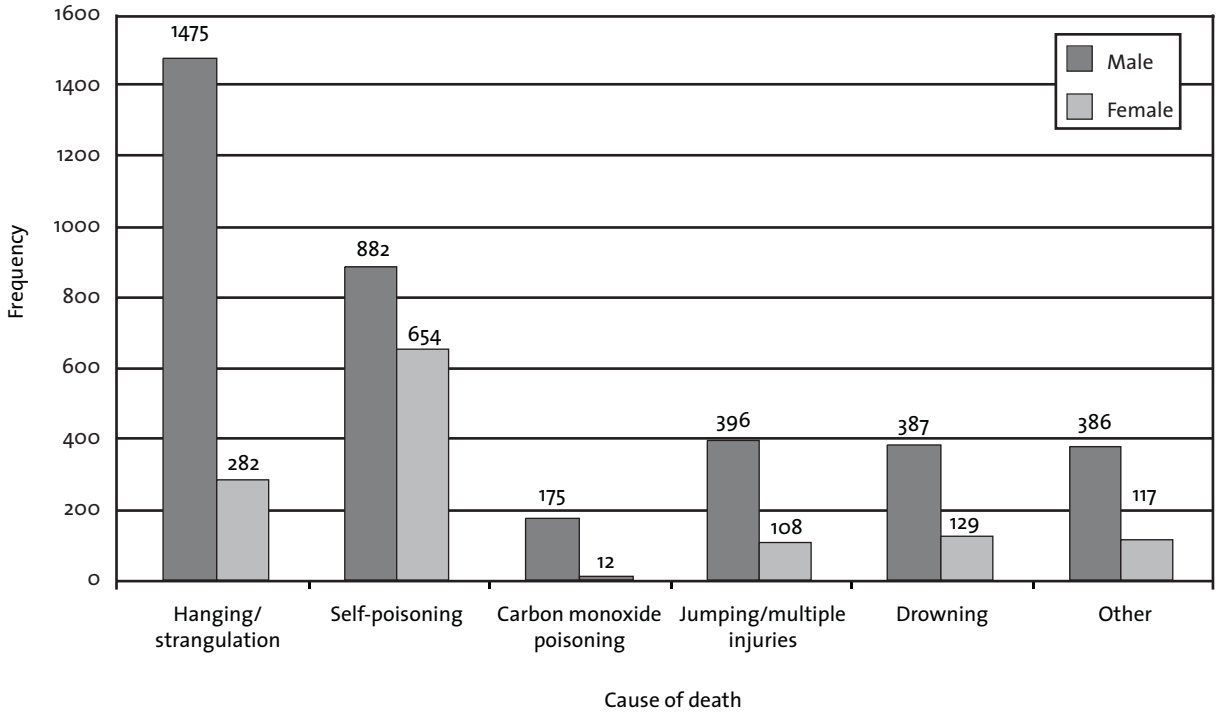


3.1.2 Methods

Two methods of suicide together accounted for 66% of suicides: hanging/strangulation (the most common method overall) and self-poisoning by overdose **(Figure 2)**. Drowning and jumping accounted for a further 20%. The frequency of methods differed between the sexes: in males the commonest methods were hanging/strangulation and self-poisoning by overdose; in females, overdose was by far the most common method, followed by hanging/strangulation. Violent or "active" methods, i.e. those involving physical injury including hanging/strangulation and jumping from a height or in front of a moving vehicle, were used in 45% of deaths overall: 51% of male deaths and 30% of female deaths.[2]

[2] The definition of violent methods has changed from the previous report (Safety First). In this report, violent methods include: hanging/strangulation and jumping from a height or in front of a moving vehicle only. In the previous report all methods except for self-poisoning and drowning were included as violent methods. The drop from 57% in the previous report to 45% in the current report is, therefore, mainly a reflection of this.

Figure 2: General population suicides notified to the Inquiry: cause of death by sex



OTHER	Male	Female
Burning	32	16
Cutting/stabbing	91	19
Suffocation	18	22
Firearms	68	1
Electrocution	12	1
Other	165	58
Unknown	32	19
TOTAL	418	136

There were age-related differences in method of suicide. The frequency of hanging/strangulation deaths decreased with increasing age. The highest proportion of deaths by hanging/strangulation occurred in those under 25 years of age (332 cases; 47%) and was lowest in those aged 65 and over (114 cases, 19%). Conversely, drowning was more common with increasing age, accounting for 54 (8%) cases in those under 25 years of age, and 121 (20%) cases in those aged 65 and over.

3.1.3 Longitudinal trends

The number and rate of suicides in the general population have decreased since 1998, the first year of complete data collection in the Inquiry **(Table 1 and Figure 3)**. The highest figures were recorded in 2002, the lowest in 2005.

Table 1: Number of general population and Inquiry suicide cases (1998-2005) aged 10 and over

Year	General population suicides†	Inquiry cases††	% of Inquiry cases	Inquiry rate per 100,000 population
1998	883	213	24	4.8
1999	889	219	25	4.9
2000	881	210	24	4.7
2001	873	237	27	5.3
2002	890	235	26	5.2
2003	794	248	31	5.5
2004	844	249	30	5.5
2005	772	214	28	4.7

† Significant downward trend

†† Annual response rates between 1998 and 2005 varied from 97% to 100%. In order to make Inquiry data comparable across the period, the number of deaths by suicide in each year was adjusted to take account of the different levels of data completeness in each year. Rounding differences sometimes occur.

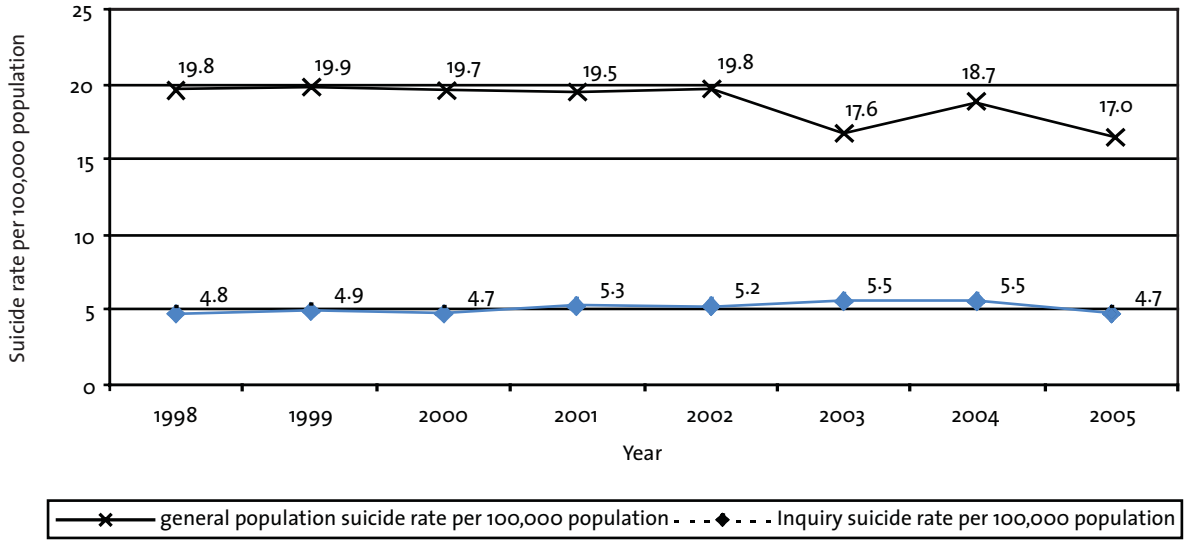
3.1.4 Commentary

- Hanging is the most common method in men, self-poisoning in women. Car exhaust asphyxiation is now less common than drowning and jumping from a height or into the path of a vehicle.

- The suicide rate in Scotland is comparatively high but the number and rate have fallen since 2002.

- The majority of suicides occur in young and middle-aged men. Male suicides outnumber females by almost 3 to 1.

Figure 3: Rates of general population and Inquiry suicide cases aged 10 and over (1998-2005†)



† Trend tests were carried out to determine if a statistically significant time trend existed. This resulted in a significantly improved model ($p<0.001$) for general population suicides indicating a significant but slight downward trend. The inclusion of year did not result in a significantly improved model for Inquiry cases indicating no significant trend.

3.2 INQUIRY PATIENT CHARACTERISTICS

3.2.1 Numbers and patient characteristics

Of the total sample of 5,054 people dying by suicide, 1,396 (28%) were known to be in contact with mental health services in Scotland in the year before death, i.e. 233 patient deaths per year. This figure appears to have risen slightly during the period of data collection, in that suicides in the general population have fallen while suicides under mental health care have not **(Table 1)**. The number of Inquiry cases has not changed significantly since 1998; the highest recorded in 2003 and 2004 and the lowest in 2000. Questionnaires were returned on 1,373 cases, a response rate of 98%.

Inquiry cases were predominantly male but the male to female ratio (1.9:1) was lower than in general population suicides (2.8:1). The proportion of males was higher in the younger age groups. Nine percent (123 cases) were over sixty-five. The age and sex profile of Inquiry cases is presented in **Figure 4** and the main social and clinical characteristics of Inquiry cases are presented in **Table 2**.

Figure 4: Inquiry suicide cases: age and sex profile

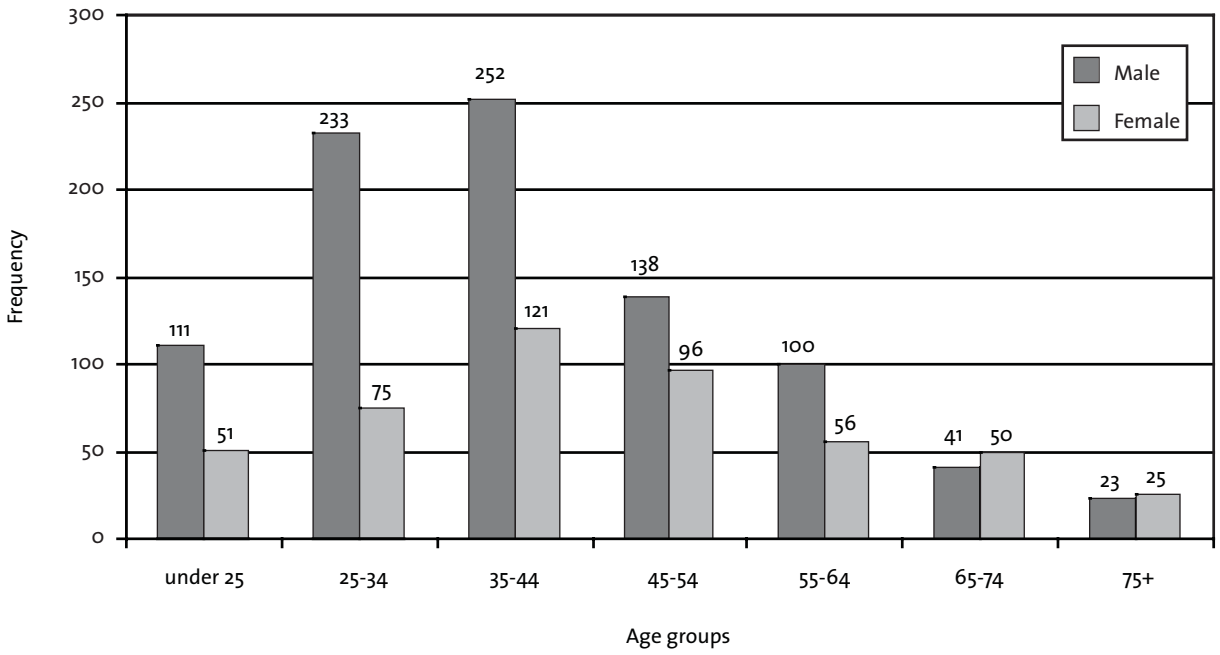


Table 2: Social and clinical characteristics of Inquiry suicide cases

	Number (1,373)	%	(95% CI)
Demographic features			
Age: median (range)	40 (16-89)	-	-
Male	899	65	(63-68)
Black and Minority Ethnic group	26	2	(1-3)
Not currently married	1010	76	(73-78)
Unemployed	586	46	(43-48)
Long-term sick	226	18	(16-20)
Living alone	610	48	(45-50)
Homeless	33	3	(2-4)
Priority groups			
In-patients	122	9	(7-11)
Post-discharge patients	280	22	(20-25)
Missed last contact	375	31	(28-33)
Non-compliance in last month	152	13	(11-15)

(continued overleaf)

Table 2: Social and clinical characteristics of Inquiry suicide cases (continued)

	Number (1,373)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	209	15	(14-17)
Affective disorder (bipolar disorder and depression)	432	32	(29-34)
Alcohol dependence	227	17	(15-19)
Drug dependence	118	9	(7-10)
Personality disorder	125	9	(8-11)
Any secondary diagnosis	698	52	(49-54)
Duration of history (under 12 months)	229	17	(15-19)
Over 5 previous admissions	227	17	(15-19)
Last admission was a re-admission	150	19	(16-22)

(continued overleaf)

Table 2: Social and clinical characteristics of Inquiry suicide cases (continued)

	Number (1,373)	%	(95% CI)
Behavioural features			
History of self-harm	934	69	(67-72)
History of violence	299	23	(21-25)
History of alcohol misuse	785	58	(55-61)
History of drug misuse	522	39	(36-42)
Contact with services			
Last contact within 7 days of death	518	38	(36-41)
Symptoms at last contact	829	62	(60-65)
Estimate of immediate risk: low or none	1172	91	(89-92)
Estimate of long-term risk: low or none	716	56	(54-59)
Suicide thought to be preventable	132	11	(9-13)

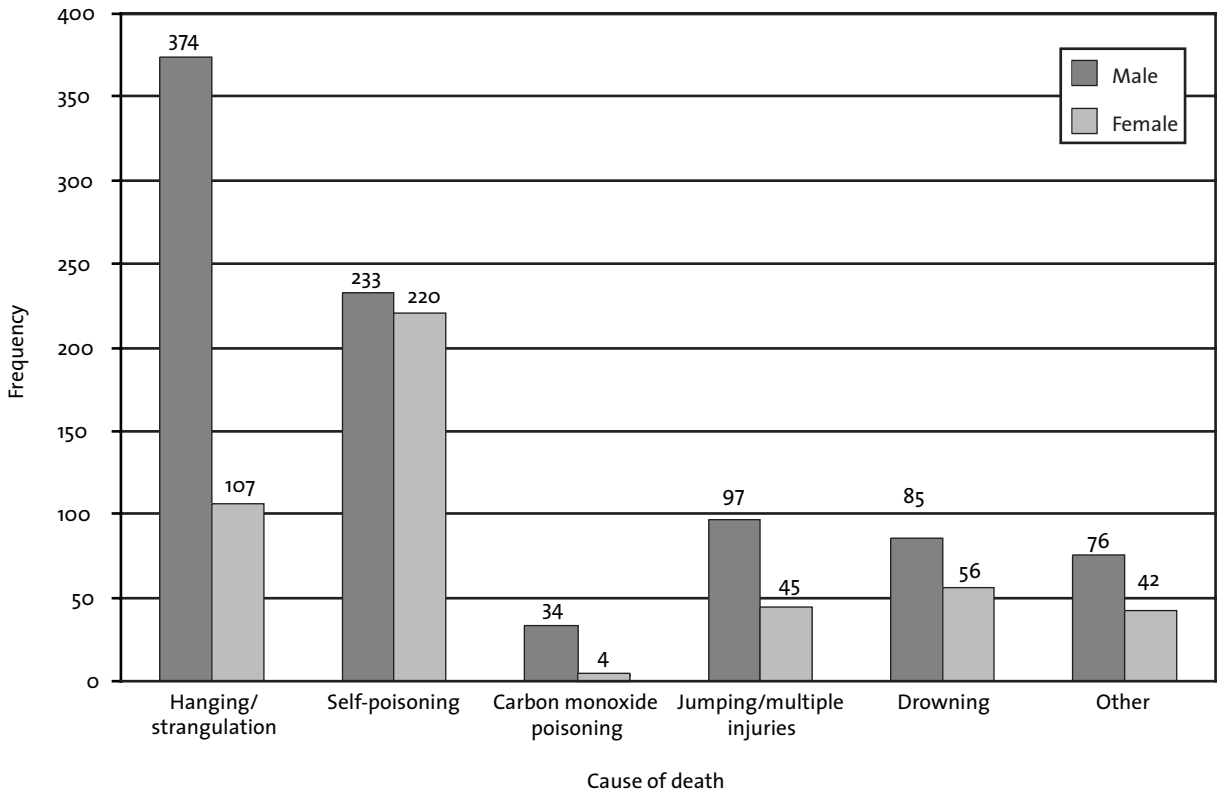
3.2.2 Method

The most common methods of suicide for Inquiry cases were hanging/strangulation and self-poisoning by overdose, accounting for 69% of deaths **(Figure 5)**. This was true of all age groups except those aged 65-74 in whom the most common methods were self-poisoning and drowning. The younger groups were proportionally more likely to die by hanging/strangulation and less likely to die by drowning. The oldest groups had the highest proportion of people who died by drowning.

Those who died by self-poisoning were more likely to use psychotropic drugs, analgesics or opiates. The main psychotropic drugs used were tricyclic antidepressants (18%). Three percent of all suicides and 11% of overdoses used paracetamol (42 cases) as the main cause of death.

Changes in the cause of death during 1998-2005 are presented in **Table 3**. No clear trends are discernible for most methods. However, in the most recent years, 2003-2005, overdose was a more common method than hanging/ strangulation, and the number of hangings/ strangulations in 2005 was the lowest figure during the data collection period. Carbon monoxide poisoning figures were also at their lowest in 2005 – this is now a less common method of suicide than cutting or stabbing.

Figure 5: Method of suicide used by Inquiry suicide cases by sex



SELF-POISONING	Male	Female
Psychotropic drug	68	80
Paracetamol	15	27
Opiate	65	33
Other analgesic	23	31
Other	14	15
Unknown	48	34
TOTAL	233	220

OTHER	Male	Female
Burning	8	5
Cutting/stabbing	29	8
Suffocation	6	8
Firearms	6	0
Other	13	14
Unknown	14	7`
TOTAL	76	42

Table 3: Change in methods of Inquiry suicide cases (1998-2005)†

Year	Hanging/ strangulation	Self-poisoning	Jumping/ multiple injuries	Carbon monoxide poisoning	Drowning	Other††
1998	69	69	11	10	27	24
1999	82	76	23	8	19	10
2000	79	60	19	5	26	12
2001	84	84	27	5	22	9
2002	92	71	19	10	26	14
2003	81	87	26	10	22	21
2004	87	89	27	6	20	18
2005	66	70	27	2	26	24
Total	**640**	**606**	**179**	**56**	**188**	**132**

† Note that overall annual figures may vary from those presented in Table 1 due to rounding.

†† Other methods of suicide included: cutting or stabbing, burning, suffocation, firearms and electrocution. In 24 cases the clinician did not indicate method.

3.2.3 Social characteristics

Social adversity and isolation were common among Inquiry suicide cases. Seventy-six percent were not currently married **(Figure 6)**. In those aged over 65, 54 (45%) were widowed. Two percent were from a Black and Minority Ethnic (BME) group.

A majority was out of work, either unemployed (586 cases, 46%) or on long-term sick leave (226 cases, 18%) **(Figure 7)**. The proportion of people unemployed was particularly high in the under 35s - 267 of 426 (63%).

Forty-eight percent lived alone **(Figure 8)**. Thirty-three (3%) were homeless or of no fixed abode. Sixteen (1%) were current prisoners. This group consisted of individuals dying by suicide in prison who had been under NHS mental health care in the previous year (and so does not include all prison suicide deaths).

Figure 6: Marital status: Inquiry suicide cases

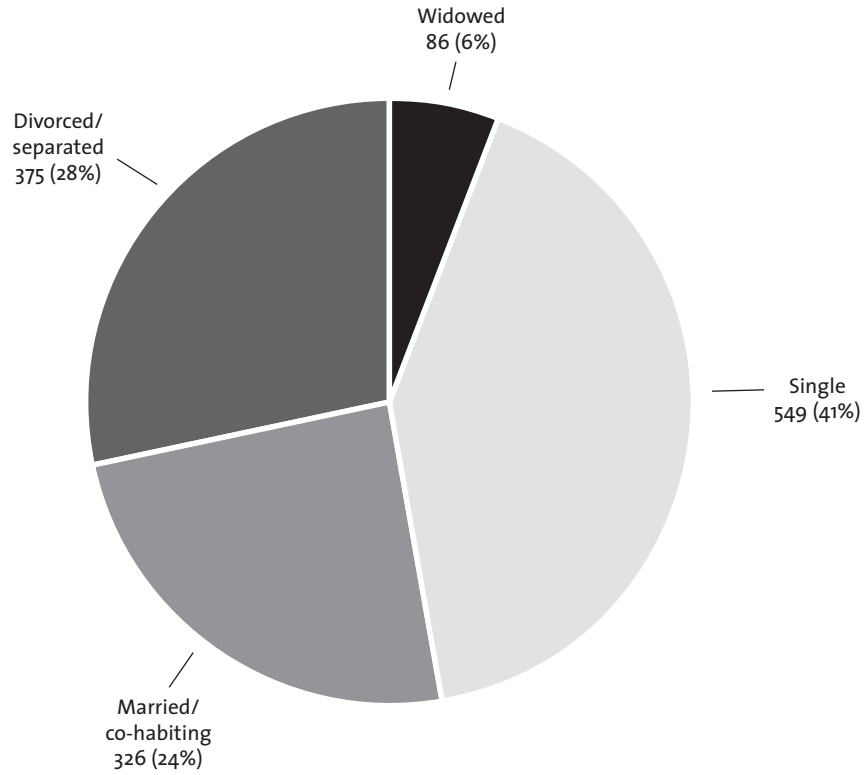


Figure 7: Employment status: Inquiry suicide cases

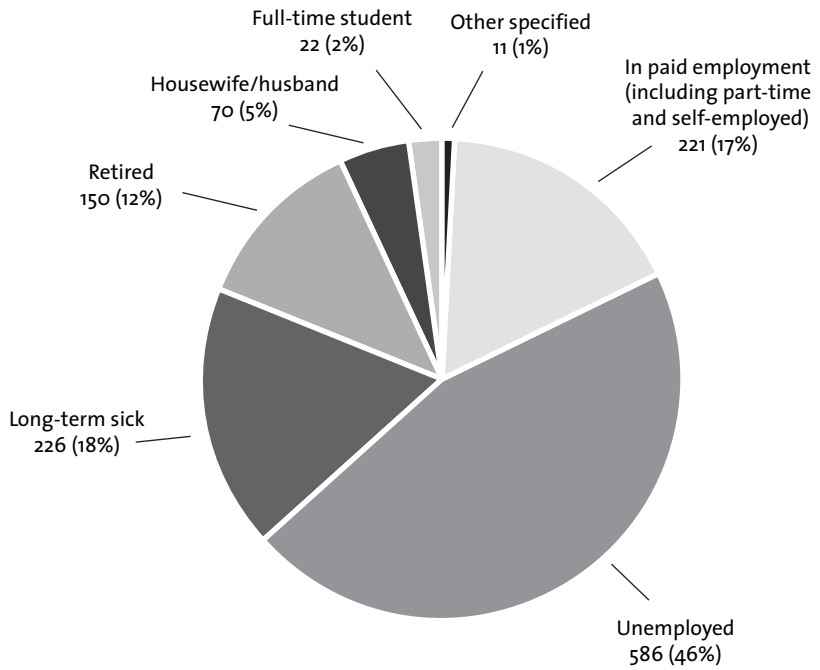
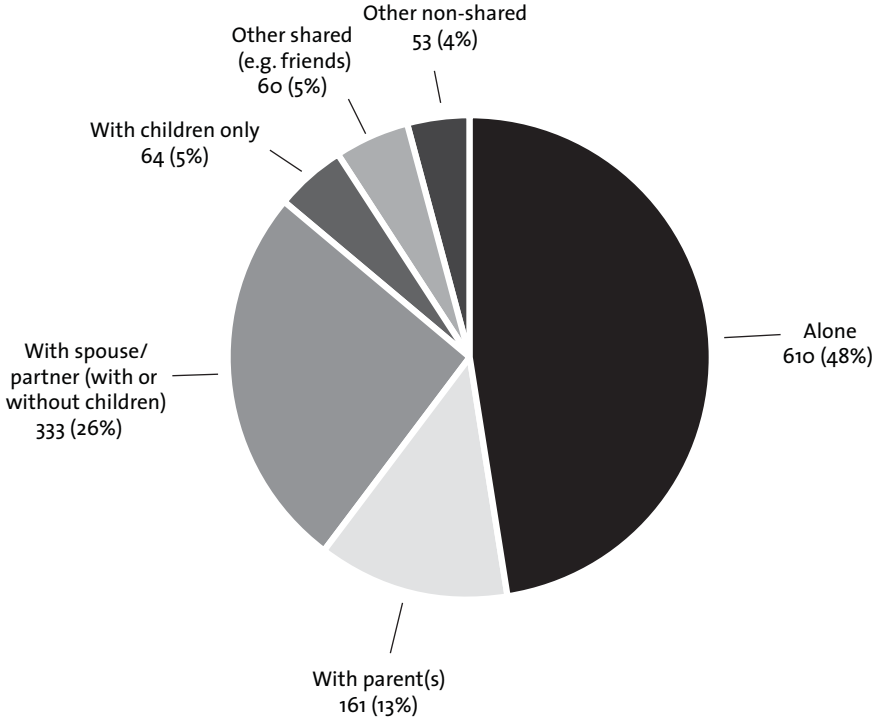


Figure 8: Living circumstances: Inquiry suicide cases



3.2.4 Clinical characteristics

Behavioural characteristics

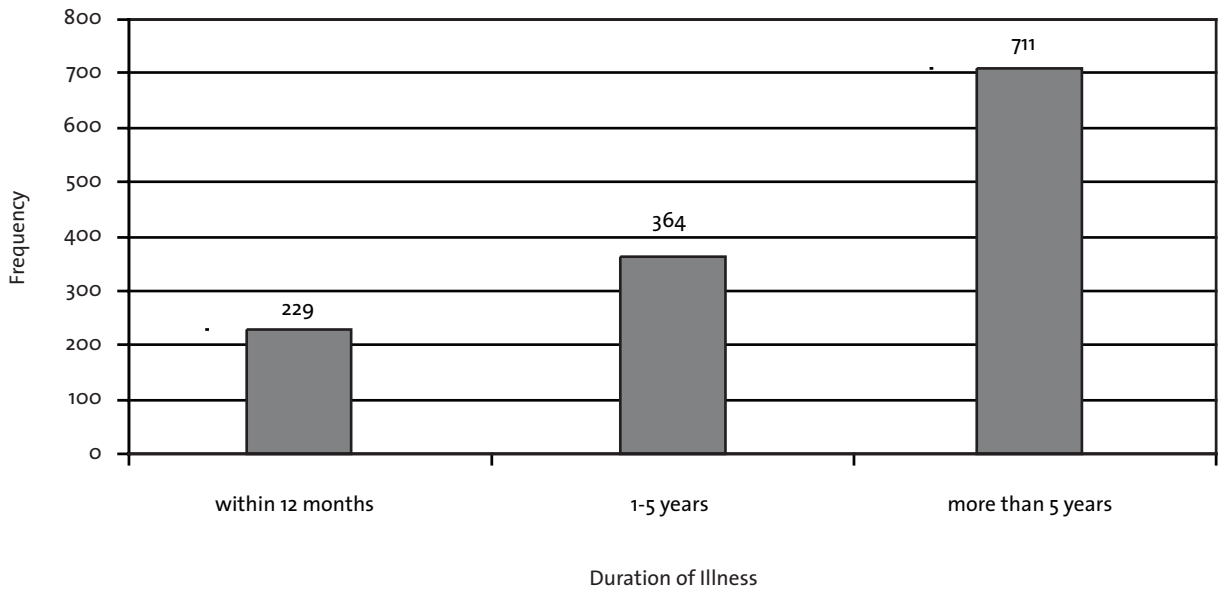
There were high levels of alcohol and drug misuse by Inquiry suicide cases **(Table 2)**. Fifty-eight percent had a history of alcohol misuse and 39% had a history of drug misuse. In 17% alcohol dependence was the primary diagnosis; in 9% this was drug dependence. Twenty-nine percent (384 cases) were misusing both alcohol and drugs. Sixty-nine percent had a history of self-harm, a rise of 7% from the previous report; 23% had a history of violence. Previous self-harm, violence, alcohol and drug misuse were proportionally higher in the younger age groups. See section 3.3.1 and section 3.7 for discussion of the clinical characteristics of cases in different diagnostic groups.

Duration of illness

Suicides were proportionally more common in the first year after the onset of illness. Seventeen percent occurred in this 1 year period, although the majority occurred after more than 5 years of illness **(Figure 9)**.

This "early mortality" group were more likely to be suffering from affective disorder (111 cases, 49%) – overall figure 32%. They were proportionally less likely to have a history of violence (26 cases, 12%), alcohol misuse (86 cases, 38%) and drug misuse (49 cases, 22%).

Figure 9: Duration of Illness: Inquiry suicide cases

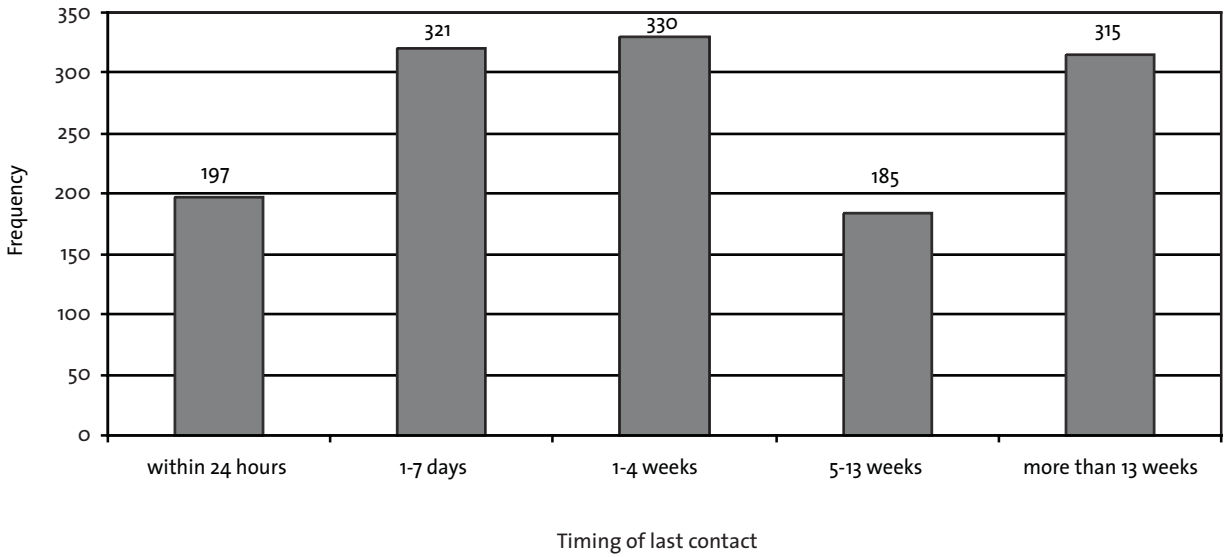


Multiple previous admissions

Thirty-three percent (453 cases) of Inquiry cases had never had an in-patient admission. Seventeen percent (227 cases) had had more than 5 previous admissions. People with multiple previous admissions showed features of more severe illness and more frequent indicators of risk. Compared to other Inquiry cases, they were more likely to have primary diagnoses of schizophrenia (77 cases, 34% v. 132 cases, 12%) and personality disorder (31 cases, 14% v. 94 cases, 8%). They were more likely to have a history of self-harm (185 cases, 83% v. 748 cases, 66%), violence (73 cases, 33% v. 225 cases, 21%) and alcohol misuse (144 cases, 64% v. 638 cases, 57%). They were more often female (100 cases, 44% v. 374 cases, 33%), living alone (129 cases, 58% v. 480 cases, 46%) and unemployed or on long-term sick leave (181 cases, 80% v. 628 cases, 59%). They were more likely to be in-patients when the suicide occurred (33 cases, 15% v. 89 cases, 8%).

Duration of history was strongly associated with the likelihood of admission. However, there were 170 cases (24%) who had been ill for more than 5 years without being admitted.

Figure 10: Timing of last contact with mental health services: Inquiry suicide cases



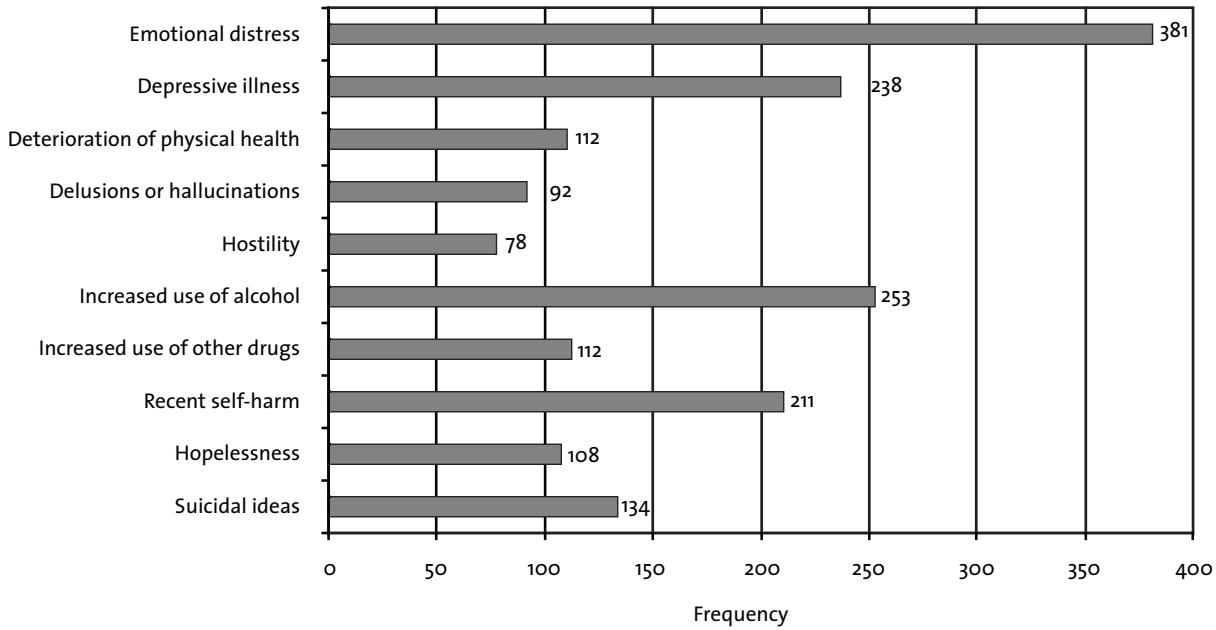
Nature of last contact

One hundred and ninety-seven cases (15%) were in contact with services in the 24 hours before death **(Figure 10)**. In 518 cases (38%), the last contact was in the week before death. In 977 cases (72%), the contact was routine rather than urgent – a similar figure was found even when the contact occurred within 24 hours of death (136 cases, 69%). In 93% (1,258 cases), this was a face-to-face contact, usually with a consultant (329 cases, 24%) or junior psychiatrist (246 cases, 18%), or a mental health nurse (234 cases, 17%). Fifty-five percent (732 cases) took place at a hospital and 18% (237 cases) took place in the patient's home.

Symptoms at last contact

Assessment at the final contact with services revealed abnormalities of mental state or recent behaviour in 62% (829 cases) **(Figure 11)**. Most commonly this was emotional distress (29%), increased use of alcohol (19%), depressive illness (18%) or recent self-harm (16%). Deterioration in physical health was associated with older age and was noted in 20 (17%) suicides in people aged over 65.

Figure 11: Symptoms at last contact with mental health services: Inquiry suicide cases



Contact with families

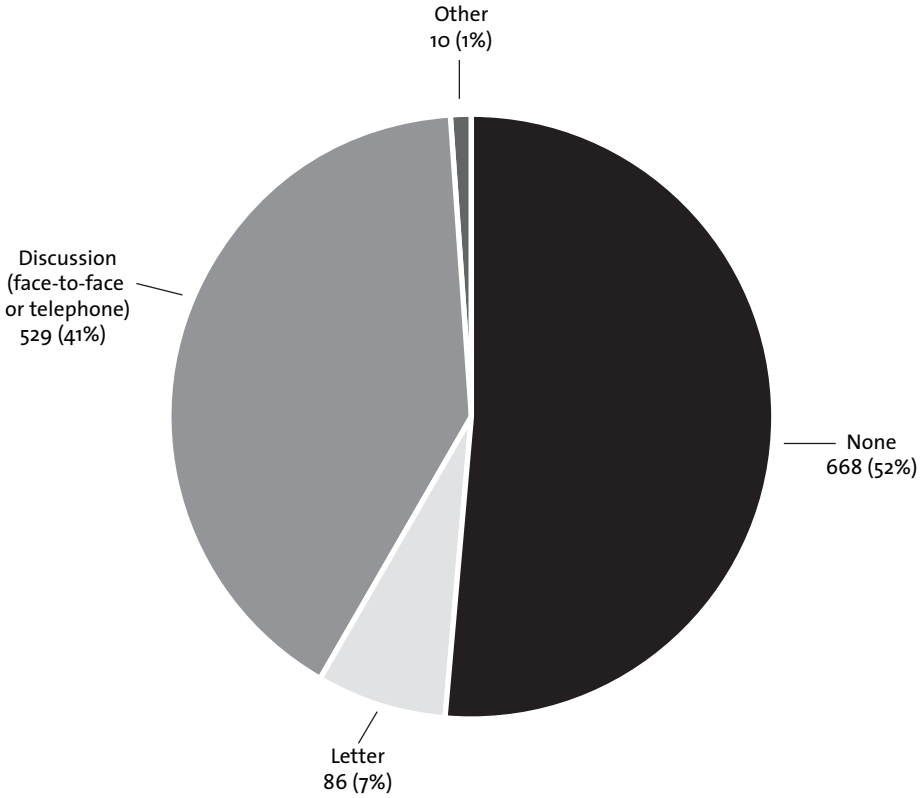
In 625 cases (48%), the mental health team had been in contact with the family of the deceased person following the death, usually face-to-face or by telephone **(Figure 12)**. In 708 cases (54%), a multidisciplinary review of the case was held. In 461 cases (36%), neither a review nor contact with the family took place.

Life events

Life events data were recorded for 1,107 cases. In 492 (44%) there was a history of one or more adverse life events in the 3 months leading up to suicide. Of these, problems in relationships were common, occurring in half (50%). Ten percent of suicides were preceded by bereavement. Other frequently reported life events were: accommodation problems (10%), legal problems (10%), health problems (9%) and workplace problems, including loss of job and unemployment (9%).

In the under 25s who had reported adverse life events (51 cases), the most frequently reported were family problems (25%), legal problems (24%), relationship break up (20%) and accommodation problems (14%). In the over 65s who had reported adverse life events (39 cases), the most frequently reported were a physical health problem in the patient (33%), bereavement or anniversary of bereavement (26%), family problems (13%) and accommodation problems (10%).

Figure 12: Mental health team contact with relatives after Inquiry suicide case



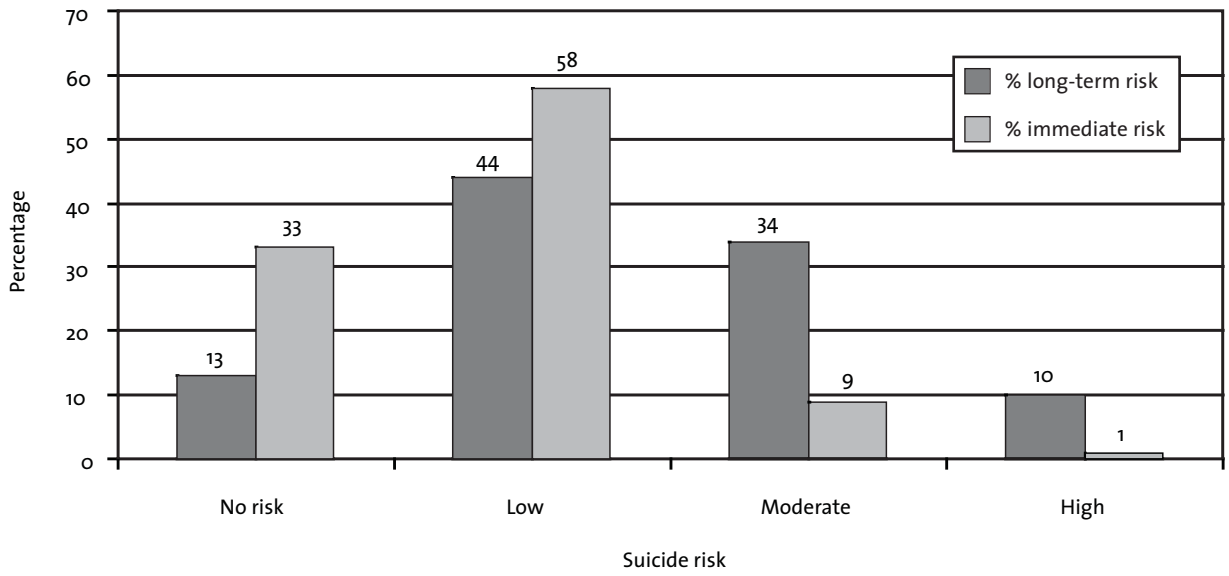
3.2.5 Risk

The questionnaire asks clinicians to indicate to what extent patients were thought to be at risk of suicide at the time of final service contact. High immediate risk was identified in 1% (12 cases) while high long-term risk was identified in 10% (121 cases) of patients. Immediate risk of suicide was estimated to be low or absent in 91% of cases while long-term risk was thought to be low or absent in 56% of cases **(Figure 13)**.

In patients seen by services in the week prior to death (518 cases), these estimates of risk were similar. Immediate risk was viewed as high in six (1%) cases and long-term risk was viewed as high in sixty-three (13%) cases.

Table 4 and **Table 5** list the factors associated with staff judgements that risk was high/moderate, or low/absent.

Figure 13: Mental health teams' estimation of suicide risk at last contact: Inquiry suicide cases



3.2.6 Comparisons between 2000-2005 and 1997-2000

There was a decrease in the average annual suicide rate in the general population compared to the rate for the period 1997-2000 (see Table 1). Of the total sample, 1,396 suicides (28%) were known to be in contact with mental health services in the year before death, an increase from 23% in the previous Inquiry report, Safety First[9].

Compared to the figures we reported for 1997-2000 there was a lower proportion of suicide by carbon monoxide poisoning (3% v. 5%). A greater proportion of cases were unmarried and living alone in the current report compared to the previous Inquiry report (76% v. 70% and 48% v. 41% respectively).

In the current Inquiry sample, a greater proportion had a history of alcohol misuse compared to the previous Inquiry report (58% v. 53%). There were proportionally more Inquiry cases who had been ill for more than 5 years without being admitted (24% v. 10%). There were proportionally fewer cases of older patients in whom deterioration in physical health occurred (17% v. 25%).

Table 4: Factors associated with estimation of risk as high or moderate: Inquiry suicide cases

Both immediate and long-term risk
Long-term sick leave
History of self-harm
Affective disorder
Personality disorder
Last contact within 7 days of death
Symptoms at last contact
Short-term risk only
Duration of illness less than 12 months
Long-term risk only
Younger
In-patients
Post-discharge patients
Missed last appointment
Duration of illness more than 12 months
Non-compliance in last month
Co-morbidity
Over 5 previous admissions
Last admission was a re-admission
History of violence
History of alcohol misuse

Table 5: Factors associated with estimation of risk as low/absent: Inquiry suicide cases

Short-term risk only
Alcohol dependence
Long-term risk only
Black and Minority Ethnic groups
Duration of illness less than 12 months
Drug dependence
Aged 65 and over

3.2.7 Commentary

- The number of patient suicides is not changing – as a proportion of all suicides, patient suicides are therefore rising. However, this cannot be taken as evidence of deteriorating clinical safety – it could equally be explained by earlier access or better follow-up for high-risk patients.

- In the last 3 years, 2003-2005, self-poisoning has overtaken hanging as the most frequent suicide method among patients. Car exhaust asphyxiation has become a minor method.

- These findings show the characteristics of the patients whose deaths will have to be prevented if patient suicides are to be reduced. They paint a picture of multiple clinical and social problems, and long, turbulent histories, suggesting the need for broad packages of care.

- A number of patients did not conform to this pattern. In contrast, 1 in 6 patient deaths occurred in people in the first year of illness, often suffering from affective disorder, with lower rates of additional clinical and social problems.

- Drug and alcohol misuse were frequent. Alcohol misuse may be becoming a more frequent feature of patient suicides.

- Recent contact with a skilled professional was common but risk was usually seen as low or absent.

- Stressful life events were often reported in the period leading to suicide. The nature of these events – and therefore the service support that might be needed – varied between age groups.

3.3 PATIENT SUB-GROUPS

3.3.1 Psychiatric diagnoses

The primary diagnoses for Inquiry cases as a whole are listed in **Table 2**. Fifteen percent of suicide cases had a primary diagnosis of schizophrenia and 32% had affective disorder. Inquiry cases with a primary diagnosis of alcohol and drug dependence are discussed separately in section 3.7.

Social and clinical characteristics varied according to primary diagnosis. Patients with a primary diagnosis of schizophrenia (209 cases) were more likely to be male (157 cases, 75% v. 728 cases, 64%), unmarried (193 cases, 92% v. 810 cases, 73%) and live alone (117 cases, 57% v. 492 cases, 46%) than all other diagnostic groups. They were also more likely to have a history of violence (59 cases, 29% v. 236 cases, 22%) and drug misuse (107 cases, 52% v. 407 cases, 36%). Only 10% of people with schizophrenia were in their first year of illness and they were more likely to be in-patients at the time of death (41 cases, 20% v. 81 cases, 7%). Reported non-compliance was higher (42 cases, 21% v. 110 cases, 12%) than for other diagnostic groups. For those who were in-patients, 34% had been detained under the Mental Health Act at admission compared to 15% of other diagnostic groups.

Patients with affective disorder (432 cases) were more likely to be female (181 cases, 42% v. 289 cases, 31%), married (156 cases, 36% v. 162 cases, 18%) and less likely to be unemployed (138 cases, 33% v. 441 cases, 52%) compared to other diagnostic groups. They were more likely to be in-patients (53 cases, 12% v. 69 cases, 7%) at the time of death. The suicide had more frequently taken place in the first year of illness (111 cases, 26% v. 116 cases, 13%). People with affective disorder were less likely to have a history of violence (54 cases, 13% v. 241 cases, 28%), alcohol misuse (166 cases, 39% v. 608 cases, 67%) and drug misuse (85 cases, 20% v. 429 cases, 48%). They were more likely to report emotional distress (141 cases, 33% v. 233 cases, 26%) and hopelessness (51 cases, 12% v. 57 cases, 6%) at last contact with services. They were less likely to have a secondary diagnosis (196 cases, 45% v. 502 cases, 54%); they were more likely to have been re-admitted within 3 months of a previous discharge (61 cases, 24% v. 87 cases, 17%). Respondents were more likely to view suicides in those with affective disorder as preventable (54 cases, 14% v. 75 cases, 10%).

Compared to the rest of the Inquiry, people with a primary diagnosis of personality disorder (125 cases) had the highest proportions of self-harm (112 cases, 90% v. 811 cases, 67%), previous violence (41 cases, 35% v. 254 cases, 22%) and drug misuse (62 cases, 51% v. 452 cases, 38%). Approximately half were female (49%). The proportion of patients who were unemployed was high (55%). They were more likely to have had over 5 previous admissions (31 cases, 25% v. 196 cases, 16%). Seventy-two percent (90 cases) of people with personality disorder had a secondary diagnosis. They were more likely to have discharged themselves from their final admission (31 cases, 36% v. 140 cases, 20%). Patients with personality disorder were considered to be at higher short-term (22 cases, 19% v. 100 cases, 9%) and long-term risk (85 cases, 72% v. 465 cases, 41%) but their deaths were not seen as more or less preventable (8 cases, 7% v. 121 cases, 11%).

Method of suicide differed by diagnostic group. A high proportion of suicides in schizophrenia patients were by jumping/multiple injuries (35 cases, 17% v. 106 cases, 9% of other diagnostic groups) and drowning (31 cases, 15% v. 107 cases, 9%). Deaths by hanging/strangulation were proportionally more common in patients with affective disorder (162 cases, 38%). Patients with alcohol dependence or drug dependence were more likely to die by self-poisoning (89 cases, 40% and 58 cases, 49% respectively).

Fifty-two percent (698 cases) of Inquiry cases had at least one secondary diagnosis. The most frequent secondary diagnoses were depressive illness and personality disorder. Co-morbidity was most common in the younger age groups.

3.3.2 Suicides after Local Authority Care (under 25 year olds only)

The Inquiry identified 13 suicides by young people (under 25 years) who had previously been under Local Authority Care (11% of those aged under 25; 1% of the total sample). Personality disorder was the primary diagnosis in 4 cases (33%) while 3 (25%) had schizophrenia and 3 (25%) had alcohol dependence. Twelve cases (92%) had a history of self-harm, 9 (69%) had a history of alcohol misuse and 7 (58%) had a history of drug misuse. Respondents viewed these deaths as preventable in 36% of cases.

3.3.3 Lone carers of children

Sixty-four cases (5% of the total sample) were the lone carers of children (**Figure 8**), 8 (15%) of whom were caring for children under the age of 5. This group was predominantly female (72%). The characteristics of males and females were similar except that females were more likely than males to have had multiple previous admissions (24% v. no cases). Forty-four percent of lone carers were suffering from affective disorder and 8% had schizophrenia; 17% had had more than 5 previous admissions to an in-patient psychiatric unit. In the 34 patients (59%) who experienced adverse life events in the 3 months before suicide, family-related events (separation, divorce or family problems) were the most common (76%).

3.3.4 Providing care for children under 5 years

Sixty-eight cases (6% of the total sample) were providing care for children under the age of 5, whether alone or with another parent/carer. The most common diagnoses in this group were affective disorder (17 cases, 26%), schizophrenia (10 cases, 16%) and drug dependence (10 cases, 16%). They were more likely to have a primary diagnosis of drug dependence compared to all other cases (10 cases, 16% v. 77 cases, 8%). Fifty-three percent also had a secondary diagnosis, most often personality disorder (18%), alcohol (18%) or drug dependence (18%). Clinical characteristics included a short duration of illness (20 cases, 31% v. 169 cases, 17%) and fewer previous admissions (5 cases, 7% v. 190 cases, 19%). Compared to all other cases, this group more often had a history of violence (24 cases, 36% v. 215 cases, 22%) and drug misuse (34 cases, 52% v. 367 cases, 37%), but not self-harm or alcohol misuse. Adverse life events in the 3 months prior to death were higher than for the total sample (30 cases, 58% v. 356 cases, 42%), most often involving relationship difficulties (60%).

3.3.5 People with a history of self-harm

Nine hundred and thirty-four cases (69% of the total sample) had a history of self-harm. In 263 cases (19%) an episode of self-harm had taken place within 3 months of death. Their diagnostic profile was similar to those without a history of self-harm but they were more likely to have personality disorder (112 cases, 12% v. 12 cases, 3%) and a co-morbid psychiatric condition (525 cases, 57% v. 170 cases, 41%). This group had proportionally more previous violence (226 cases, 25% v. 68 cases, 17%), alcohol misuse (586 cases, 64% v. 188 cases, 46%) and drug misuse (379 cases, 42% v. 136 cases, 33%). More had multiple previous admissions (185 cases, 20% v. 37 cases, 9%) and more had missed their last appointment with services (266 cases, 33% v. 102 cases, 26%). At last contact, those with a history of self-harm were more likely to have shown symptoms of mental illness (589 cases, 65% v. 231 cases, 57%) including suicidal thoughts (103 cases, 11% v. 31 cases, 8%), hostility (61 cases, 7% v. 16 cases, 4%) and increased use of alcohol (193 cases, 21% v. 57 cases, 14%). They were considered to be at higher short-term (103 cases, 12% v. 20 cases, 5%) and long-term risk (460 cases, 53% v. 90 cases, 23%) but their deaths were not seen as more or less preventable.

3.3.6 People aged under 25

There were 162 patient suicides among people under 25 years, 12% of the total sample (**Figure 4**). People in this age group who died by suicide were less likely to have been in recent contact with mental health services, 24% compared to 28% overall. The method of suicide was more likely to be hanging/strangulation compared to those aged 25 and over (82 cases, 51% v. 399 cases, 33%) and less likely to die by drowning (7 cases, 4% v. 134 cases, 11%). Fewer were living alone (50 cases, 34% v. 560 cases, 49%) and they were more likely to be unemployed (93 cases, 64% v. 493 cases, 43%) and homeless (8 cases, 5% v. 25 cases, 2%). Their diagnostic profile was different from older cases in that drug dependence (25 cases, 16% v. 93 cases, 8%) and personality disorder (23 cases, 15% v. 102 cases, 9%) were more common and affective disorder less common (24 cases, 15% v. 408 cases, 34%). Overall, the most common diagnosis was schizophrenia (30 cases, 19%). Sixty percent (94 cases) had a co-morbid psychiatric condition compared to 50% (604 cases) of older suicides.

Previous violence in this group was more common (57 cases, 37% v. 242 cases, 21%), as was drug misuse (108 cases, 70% v. 414 cases, 35%). Fewer had multiple previous admissions (14 cases, 9% v. 213 cases, 18%). Of the 51 cases (42%) who reported adverse life events in the 3 months before death, the most common were relationship problems (55%), family problems (25%) and legal problems (24%). Respondents viewed only 13% of these deaths as preventable, similar to the figure for older people (11%).

3.3.7 People aged under 18

There were 9 suicides among people aged under 18, 1% of the total sample. Six cases (67%) were female and 2 cases (22%) were from a Black and Minority Ethnic group. Three cases (33%) had a primary diagnosis of affective disorder, 1 case (11%) had alcohol dependence, 2 cases (22%) had personality disorder and 3 cases (33%) had no mental disorder. All 9 cases had a history of self-harm, 5 cases (63%) had previous alcohol misuse and 4 cases (50%) had previous drug misuse.

3.3.8 People aged over 65

There were 123 suicides among people aged over 65, 9% of the total sample. Key characteristics of cases aged over 65 are presented in **Table 6**.

A higher proportion of cases aged over 65 were female compared to those aged 65 and under (65 cases, 53% v. 409 cases, 33%). The most common methods of suicide were self-poisoning (34 cases, 28%), drowning (28 cases, 23%) and hanging/strangulation (27 cases, 22%). The most common diagnoses were affective disorder (63 cases, 52%) and dementia (13 cases, 11%). Compared to younger suicides, they were less likely to have schizophrenia, alcohol dependence or drug dependence. They had lower rates of previous self-harm (61 cases, 50% v. 873 cases, 71%), violence (4 cases, 3% v. 295 cases, 25%), alcohol misuse (32 cases, 27% v. 753 cases, 61%) and drug misuse (4 cases, 3% v. 518 cases, 43%). Twenty-eight percent had been ill for less than a year and fewer had a co-morbid psychiatric condition (42 cases, 34%) compared to younger suicides (656 cases, 53%).

Fewer older patients had missed their last appointment (13 cases, 12% v. 362 cases, 32%) and they were more likely to have had contact with services in the week prior to suicide (67 cases, 54% v. 451 cases, 37%). Of the 39 cases (36%) who reported adverse life events in the 3 months before death, the most common were physical health problems (33%), bereavement (26%) and relationship problems (23%). At last contact, older patients were more likely to show deterioration in physical health (20 cases, 17% v. 92 cases, 8%) but they were less likely to express emotional distress (21 cases, 17% v. 360 cases, 30%) or suicidal ideation (4 cases, 3% v. 130 cases, 11%).

Further analysis demonstrated that the characteristics of those aged 66-74 (75 cases) were most similar to those of the 75 and over age group (48 cases), except that they were more likely to have been re-admitted within 3 months of discharge (11 cases, 26% v. no cases), to have a history of self-harm (45 cases, 61% v. 16 cases, 34%) and a history of alcohol misuse (26 cases, 35% v. 6 cases, 13%).

Table 6: Social and clinical characteristics of Inquiry suicide cases aged over 65

	Number (123)	%	(95% CI)
Demographic features			
Male	58	47	(38-56)
Black and Minority Ethnic group	1	1	(0-5)
Not currently married	83	69	(60-77)
Living alone	65	54	(44-63)
Priority groups			
In-patients	14	11	(6-18)
Post-discharge patients	25	23	(15-32)
Missed contact	13	12	(7-20)
Non-compliance in last month	11	10	(5-17)

(continued overleaf)

Table 6: Social and clinical characteristics of Inquiry suicide cases aged over 65 (continued)

	Number (123)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	9	7	(3-14)
Affective disorder (bipolar disorder and depression)	63	52	(42-61)
Alcohol dependence	6	5	(2-10)
Drug dependence	0	-	-
Personality disorder	6	5	(2-10)
Any secondary diagnosis	42	34	(26-44)
Duration of history (under 12 months)	33	28	(20-36)
Over 5 previous admissions	16	13	(8-20)
Last admission was a re-admission	11	18	(9-30)

(continued overleaf)

Table 6: Social and clinical characteristics of Inquiry suicide cases aged over 65 (continued)

	Number (123)	%	(95% CI)
Behavioural features			
History of self-harm	61	50	(41-60)
History of violence	4	3	(1-8)
History of alcohol misuse	32	27	(19-36)
History of drug misuse	4	3	(1-8)
Contact with services			
Last contact within 7 days of death	67	54	(45-63)
Symptoms at last contact	65	54	(45-63)
Estimate of immediate risk: low or none	108	92	(86-96)
Estimate of long-term risk: low or none	83	71	(62-79)
Suicide thought to be preventable	8	7	(3-14)

3.3.9 Black and Minority Ethnic groups

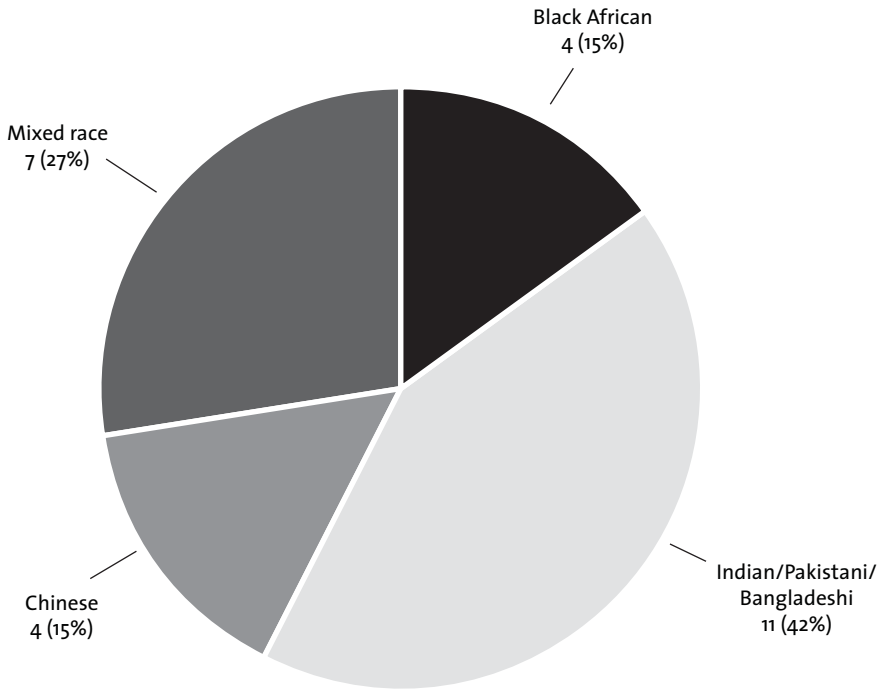
The sample included 26 individuals (2%) from a Black and Minority Ethnic (BME) group or community **(Table 2)**. BME groups constitute 2% of the general population in Scotland, so overall these groups were not under- or over-represented in our sample **(Figure 14)**.

BME cases were mainly young (median age 33; range 16 to 70), unmarried (23 cases, 88%), unemployed (14 cases, 56%) and male (18 cases, 69%). The most common primary diagnoses were schizophrenia (7 cases, 27%) and affective disorder (7 cases, 27%). There were no BME cases with a diagnosis of personality disorder.

Two cases (8%) were in-patients at the time of death and 5 cases (21%) died within 3 months of hospital discharge. A history of alcohol or drug misuse was common (14 cases, 54% and 12 cases, 46% respectively).

The most common methods of suicide were hanging/strangulation (8 cases, 31%), self-poisoning (8 cases, 31%) and jumping/multiple injuries (4 cases, 15%); 2 patients drowned (8%), 1 patient died by cutting, 1 by burning, and in 2 patients the method was unspecified.

Figure 14: Ethnic origin (not including white): Inquiry suicide cases

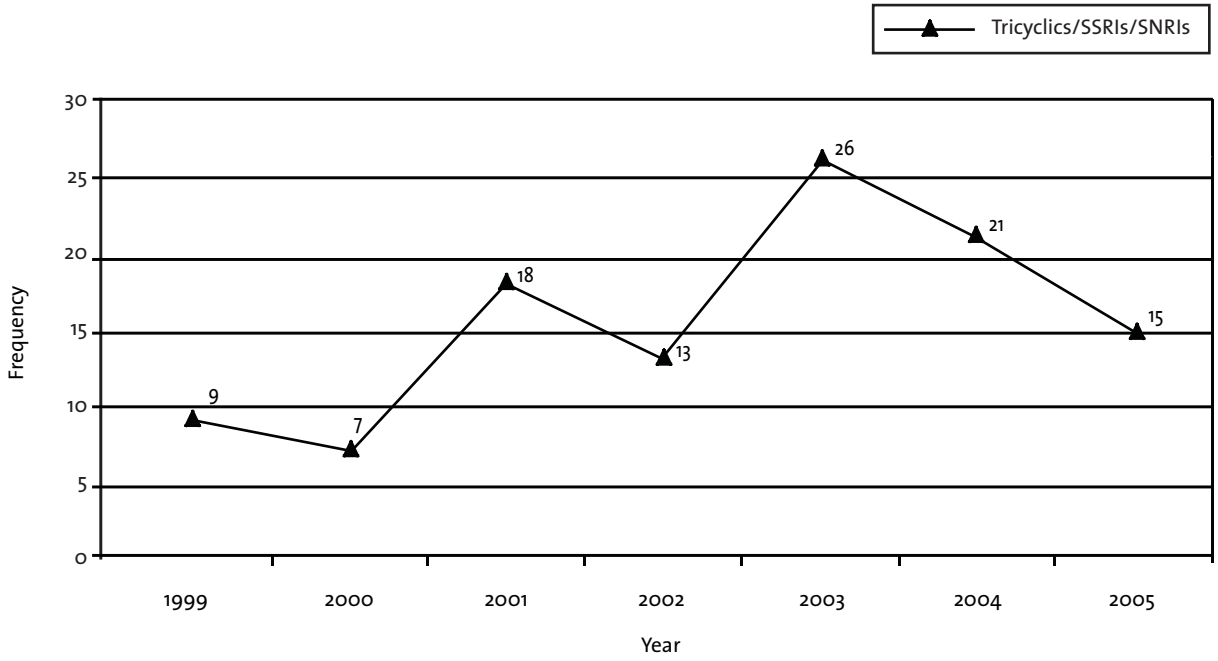


There were no significant differences between BME patients and white patients except that more BME cases were judged to be at moderate or high long-term risk (19 cases, 76% v. 686 cases, 56%).

3.3.10 Homelessness

There were 33 suicides among homeless people, 3% of the Inquiry sample. The most common method of suicide was hanging/strangulation (16 cases, 48%), followed by self-poisoning (9 cases, 27%). These homeless patients were mainly young (median age 30; range 19 to 56), unmarried (32 cases, 97%), unemployed (25 cases, 76%) and male (25 cases, 76%). They had a different diagnostic profile from Inquiry cases as a whole, the most common primary diagnoses being alcohol dependence (13 cases, 39%), drug dependence (10 cases, 30%) and schizophrenia (5 cases, 15%). They were less likely to have affective disorder (2 cases, 6% v. 424 cases, 34%). Compared to other Inquiry cases, they had high rates of co-morbidity (70%), alcohol misuse (82%), drug misuse (81%) and previous violence (42%).

Figure 15: Number of fatal antidepressant overdoses (1999-2005)



Fifteen percent (5 cases) were in-patients at the time of death and 33% (9 cases) died within 3 months of hospital discharge. At last contact, homeless patients were more likely to show evidence of increased use of alcohol (12 cases, 39% v. 224 cases, 18%) or drugs (8 cases, 26% v. 94 cases, 8%) and a deterioration in physical health (6 cases, 19% v. 101 cases, 8%).

3.3.11 The changing use of antidepressants and suicide

Prescribing

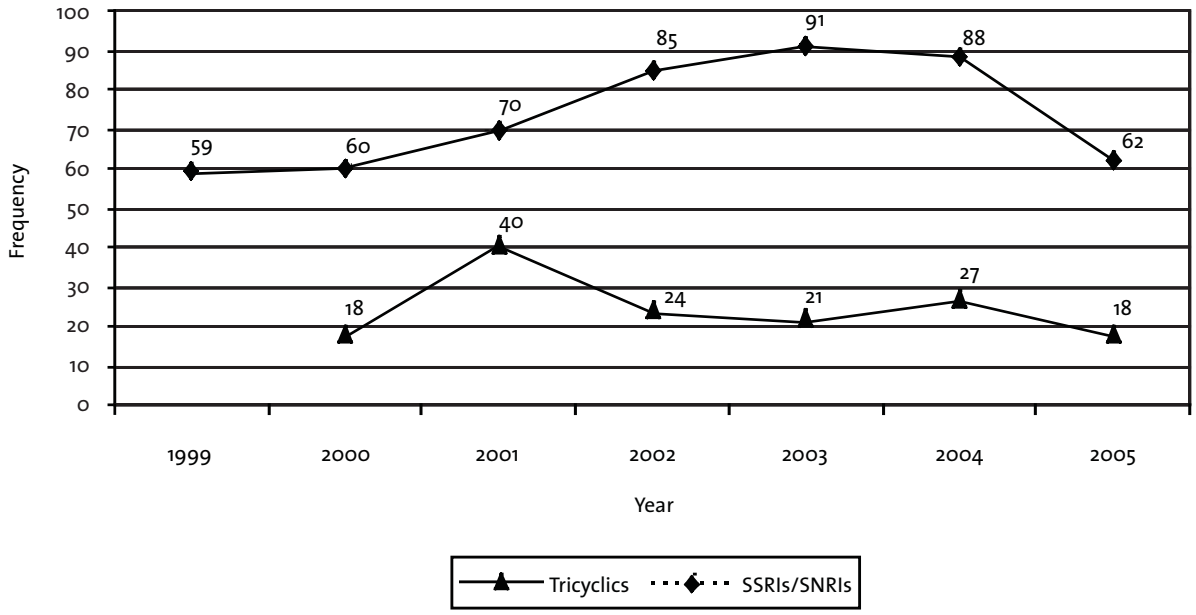
The Inquiry has collected data on drug prescribing prior to suicide since 1999 in the case of tricyclics and since 2000 in the case of SSRIs/SNRIs. Community prescribing of SSRI's increased during the period covered by this report.

Overdoses

Although the number of fatal antidepressant overdoses by Inquiry cases rose from 9 in 1999 to 15 in 2005, (with a peak in 2003), the trend was not statistically significant. **(Figure 15)**.

Figure 16 shows the number of suicides by patients prescribed antidepressants regardless of suicide method. There appears to have been no overall fall in suicides by patients taking antidepressants, although the figure for 2005 is the lowest for 5 years.

Figure 16: Changes over time in the number of Inquiry suicides (regardless of method) prescribed antidepressant drugs (1999-2005)



This is mirrored in the number of suicide deaths in those with a primary diagnosis of depression in our sample, which show no clear fall, although the figures for 2005 are again the lowest for 5 years **(Figure 17)**.

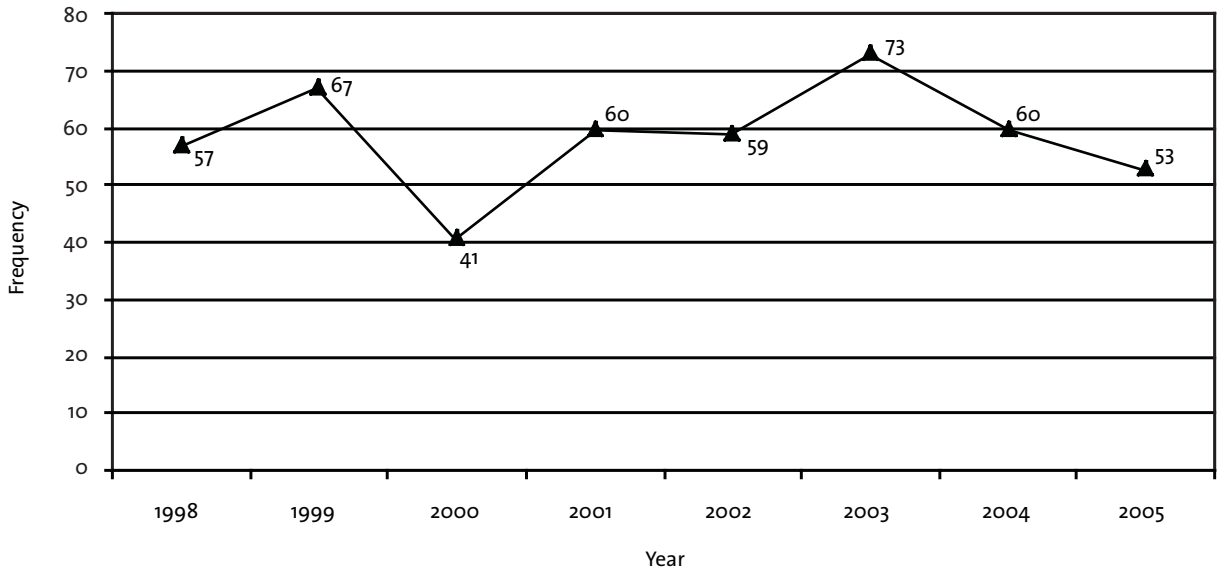
3.3.12 Commentary

- The features of patient suicide vary according to diagnosis; some of these differences reflect different patterns of illness in all patients rather than risk factors for suicide. However, they show that measures targeting non-compliance, substance misuse, self-poisoning or follow-up after self-harm would affect diagnostic groups differentially.

- Similarly, the characteristics of patient suicide vary with age, with implications for prevention. Older patients are less likely to benefit from measures targeting co-morbidities. Changes in current mental state are found less frequently and are less common than problems of physical health.

- There are no recent changes in deaths from antidepressant overdose, or in deaths in depressed patients. The majority of suicides in people with depression are not by overdose.

Figure 17: Changes over time in the number of Inquiry suicides with a primary diagnosis of depression (1998-2005)



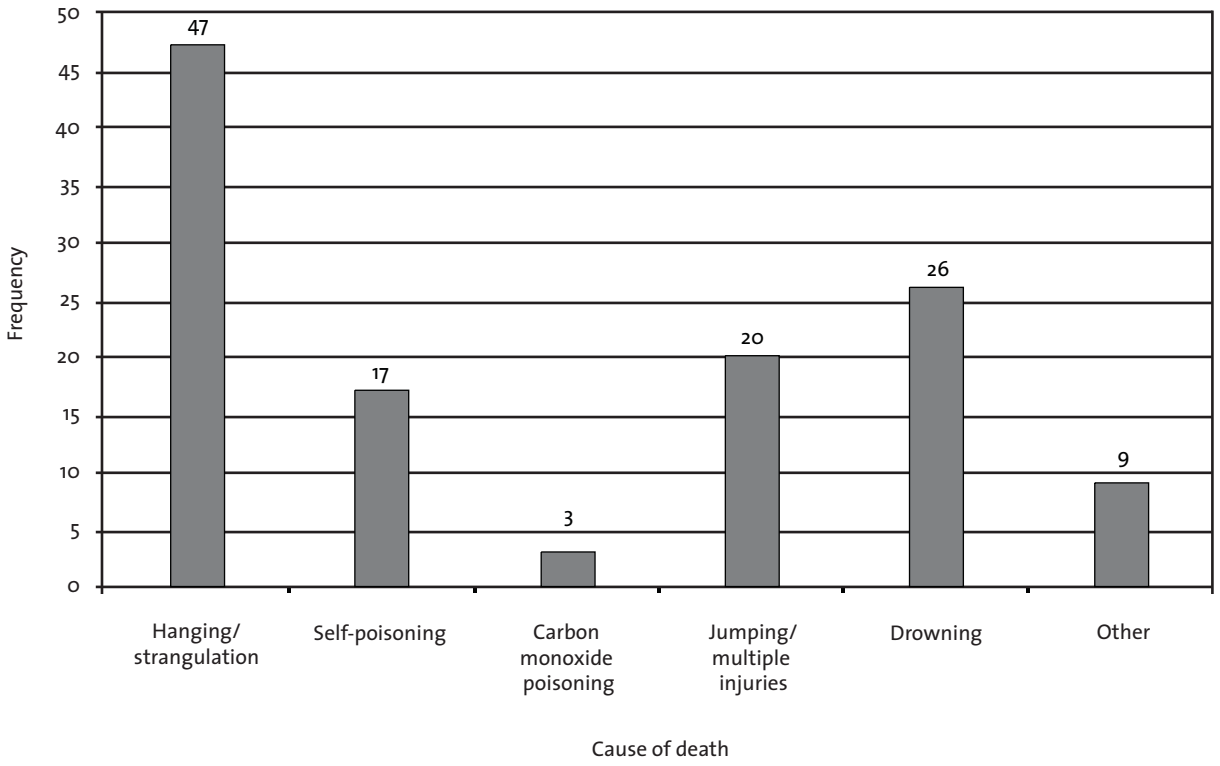
3.4 IN-PATIENTS

There were 122 in-patient deaths by suicide reported during the study period, 9% of Inquiry cases, an average of 20 deaths per year. The number of notifications of in-patient deaths by suicide expressed as a proportion of all Inquiry cases, has varied between 5% and 14% since 1998. The key characteristics of the 122 cases are given in **(Table 7)**.

3.4.1 Social and clinical characteristics

The socio-demographic features of in-patients in the Inquiry sample were similar to those of the sample as a whole. They showed evidence of more severe mental illness – 43% had affective disorder, 34% had schizophrenia, 55% had a co-morbid diagnosis and 27% had had more than 5 previous admissions. However, they also showed certain behavioural factors less frequently, i.e. a history of violence (16 cases, 13% v. 283 cases, 24%), alcohol misuse (46 cases, 38% v. 739 cases, 60%) and drug misuse (33 cases, 27% v. 489 cases, 40%).

Figure 18: In-patient suicides: method used



SELF-POISONING	
Psychotropic drug	7
Paracetamol	2
Opiate	5
Other analgesic	3
TOTAL	17

OTHER	
Burning	2
Cutting/stabbing	5
Suffocation	1
Firearms	0
Other/unknown	1
TOTAL	9

Table 7: Characteristics of Inquiry in-patient suicide cases

	Number (122)	%	(95% CI)
Demographic features			
Age: median (range)	41 (18-77)		-
Male	75	61	(53-70)
Black and Minority Ethnic group	2	2	(0-6)
Not currently married	95	78	(69-85)
Unemployed	46	38	(29-47)
Long-term sick	28	23	(16-31)
Living alone	57	47	(38-56)
Homeless	5	4	(1-9)
Priority groups			
Non-compliance in last month	16	13	(8-21)

(continued overleaf)

Table 7: Characteristics of Inquiry in-patient suicide cases (continued)

	Number (122)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	41	34	(25-43)
Affective disorder (bipolar disorder and depression)	53	43	(34-53)
Alcohol dependence	4	3	(1-8)
Drug dependence	3	2	(1-7)
Personality disorder	11	9	(5-16)
Any secondary diagnosis	67	55	(46-64)
Duration of history (under 12 months)	30	25	(17-33)
Over 5 previous admissions	33	27	(19-36)
Behavioural features			
History of self-harm	93	76	(68-83)
History of violence	16	13	(8-20)
History of alcohol misuse	46	38	(29-47)
History of drug misuse	33	27	(19-36)

(continued overleaf)

Table 7: Characteristics of Inquiry in-patient suicide cases (continued)

	Number (122)	%	(95% CI)
Contact with services			
Symptoms at last contact	73	60	(51-69)
Estimate of immediate risk: low or none	104	86	(78-92)
Estimate of long-term risk: low or none	47	40	(31-50)
Suicide thought to be preventable	24	20	(13-29)
Admission features			
Died within first week of admission	12	13	(6-20)
Died whilst under the care of a local in-patient unit	70	80	(71-88)
Died on the ward	37	30	(22-39)
Suicide during period of planning discharge	41	34	(26-43)
Detained under MHA	26	21	(14-29)
Observation problems with ward design	13	11	(5-17)
Observation problems with other patients	6	5	(1-9)
High/medium level observation	15	19	(10-28)

3.4.2 Causes of death

The suicide methods used by in-patients were different from those of the Inquiry sample as a whole **(Figure 18)**. By far the most common method was hanging/strangulation (39%), followed by drowning (21%). Self-poisoning was less frequent (14%); the type of substance taken was most commonly a psychotropic drug (7 cases, 41%). Jumping from a height or in front of a vehicle generally took place outside hospital grounds, usually distant from the hospital. Of deaths that occurred on the ward itself (37 cases, 30%), 73% were by hanging/strangulation (hanging: 26 cases, 70%; strangulation: 1 case, 3%) while 16% (6 cases) were by self-poisoning and 5% (2 cases) were by drowning.

Of the 27 hanging/strangulation cases that took place on the ward itself **(Table 8)**, the most commonly used ligature was a belt (8 cases, 30%) and the most commonly used ligature point was a hook or handle (7 cases, 27%).

Table 8: In-patient suicides: ligatures and ligature points for cases of hanging/strangulation on the ward

	Number (27)	%
Ligature type		
Belt	8	30
Sheet, towel, etc	4	15
Shoelaces	3	11
Clothing (tie, scarf, tights, etc)	6	22
Item brought in specifically (e.g. rope)	2	7
Other specified (e.g. cable, cord, curtains)	4	15
Ligature point		
Hook or handle	7	27
Door	3	12
Window	3	12
Bed head	1	4
Other rail (e.g. toilet rail, wardrobe rail)	1	4
Pipes	4	15
Shower fixtures (e.g. shower head, tap)	3	12
Other specified (e.g. light fixture, radiator)	4	15

3.4.3 Timing, location and care

Twelve (13%) in-patient suicides occurred in the first week after admission **(Table 7)**. A third (41 cases, 34%) occurred during the period when discharge was being planned. Timing, location, care and method were related **(Table 9)**. Deaths on the ward were more likely to occur in the first week after admission, were more likely to be detained under the Mental Health Act and usually occurred by hanging/strangulation. Patients who died while off the ward without permission had the highest rate of recent non-compliance. A third were under special observation. Their most frequent method of suicide was drowning.

There was no characteristic time of the day when in-patient deaths by suicide occurred and overall there was no evidence of clustering "out of hours." However, cases of suicide that occurred on the ward itself followed a different pattern from those that occurred elsewhere, being more common in the evening and night (49%). Of those who died in the first week after admission, 9 cases (75%) died on the ward.

Thirty-seven (30%) cases of suicide occurred on the ward itself, 64 cases (52%) took place at a distance from the hospital, while 20 cases (16%) occurred in or around the hospital (the remaining 2% occurred at an unspecified or unknown location). In cases that occurred off the ward, 66% of patients were on agreed leave or had left with staff agreement, but 34% (28 cases) had left without staff agreement.

Four cases (3%) died on a psychiatric intensive care ward, while 10 cases (8%) died on a rehabilitation unit. Six cases (5%) died on other wards (e.g. older people's open ward).

The majority of in-patients were under routine care at the time of the suicide, being voluntary patients (96 cases), on an open ward (101 cases) and under routine observation (63 cases). However, 26 (21%) were detained under the Mental Health Act and 1 case was on a locked ward. Nineteen percent of patients (15 cases) were under special (i.e. non-routine) observation. Of those who died on the ward, 19% (7 cases) were under special observation. In this report sample, 2 cases (3%) were under one-to-one observation.

Thirteen (11%) respondents reported problems observing patients because of ward design. Six (5%) reported problems observing the patients because of the needs of other disturbed patients. In general, these problems were more frequent (5 cases, 33%) in suicides occurring during special observation.

Of the 15 patients who died by suicide while under special or constant observation, 7 (47%) died on the ward itself. Eight (53%) had left the ward at the time of suicide, including 1 patient (13%) who had left with staff agreement. In 3 cases (20%) there were problems observing patients on the ward because of ward design and in 4 cases (29%) because of the needs of other disturbed patients.

Suicides occurring under special observation were more often seen as preventable than in-patient suicides in general (7 cases, 50% v. 11 cases, 18%) and 64% of respondents thought risk of death would have been reduced by closer supervision. When these suicides occurred on the ward, they were usually by hanging/strangulation (4 cases, 57%), while 1 case was by self-poisoning, 1 case by jumping from a height and 1 case by drowning.

3.4.4 Risk and preventability

Only a minority of in-patient suicides were seen as preventable (24 cases, 20%), although this was more than in the sample as a whole (11%). However, 74 (62%) respondents were able to specify a factor that would have made a suicide less likely. Most often they suggested closer supervision (38%), while better patient compliance was mentioned by 9%, less often than for suicides outside hospital (19%). Staff factors were also mentioned frequently: better staff training (9%), increased staff numbers (8%) and better staff communication (8%). Closer contact with the patient's family was mentioned by 11% of respondents.

As in the sample as a whole, the majority of patients (104 cases, 86%) were thought to be at low or no immediate risk at last contact. Long-term risk was viewed as moderate or high in 60% of cases.

Table 9: In-patient suicides: comparison of characteristics between absconders, in-patients who die on the ward and all other in-patients

	On ward		Off ward without permission		Off ward with permission (including leave)	
	Number (37)	%	Number (28)	%	Number (55)	%
Demographic features						
Age: median (range)	37 (18-76)	-	44 (28-73)	-	43 (18-77)	-
Male	22	59	16	57	35	64
Black and Minority Ethnic group	1	3	0	-	1	2
Not currently married	30	81	23	82	40	73
Unemployed	16	43	10	36	19	35
Long-term sick	10	27	4	14	13	24
Living alone	11	30	17	61	28	52
Homeless	3	8	0	-	2	4
Clinical features						
Non-compliance in last month	6	17	6	22	3	6
Primary diagnosis:						
Schizophrenia and other delusional disorders	17	46	10	36	12	22
Affective disorder (bipolar disorder and depression)	14	38	14	50	25	45
Alcohol dependence	1	3	1	4	2	4
Drug dependence	2	5	0	-	1	2
Personality disorder	2	5	2	7	7	13
Any secondary diagnosis	24	65	14	50	27	49

(continued overleaf)

Table 9: In-patient suicides: comparison of characteristics between absconders, in-patients who die on the ward and all other in-patients (continued)

	On ward		Off ward without permission		Off ward with permission (including leave)	
	Number (37)	%	Number (28)	%	Number (55)	%
Behavioural features						
History of self-harm	29	78	21	75	42	76
History of violence	4	11	3	11	8	15
History of alcohol misuse	18	50	10	36	17	31
History of drug misuse	13	35	5	18	13	24
Method						
Hanging/strangulation	27	73	4	14	16	29
Self-poisoning	6	16	3	11	8	15
Carbon monoxide poisoning	0	-	0	-	3	5
Jumping/multiple injuries	1	3	5	18	12	22
Drowning	2	5	12	43	12	22
Other	1	3	4	14	4	7

(continued overleaf)

Table 9: In-patient suicides: comparison of characteristics between absconders, in-patients who die on the ward and all other in-patients (continued)

	On ward		Off ward without permission		Off ward with permission (including leave)	
	Number (37)	%	Number (28)	%	Number (55)	%
Risk						
Symptoms at last contact	26	70	20	71	25	46
Estimate of immediate risk: low or none	31	86	20	71	51	93
Estimate of long-term risk: low or none	15	43	14	52	17	32
Suicide thought to be preventable	10	29	6	21	8	15
Contact with services						
Duration of history (under 12 months)	8	22	9	32	13	24
Over 5 previous admissions	12	32	4	14	15	27
Observation level: high or medium	7	19	7	33	1	5
Suicide during period of planning discharge	7	19	4	15	29	53
Died within first week of admission	9	31	2	10	1	2
Died within local in-patient unit	26	90	16	80	28	72
Detained under MHA	12	32	6	21	6	11
Observation problems with ward design	7	19	4	15	2	4
Observation problems with other patients	4	11	1	4	1	2

3.4.5 Trends over time

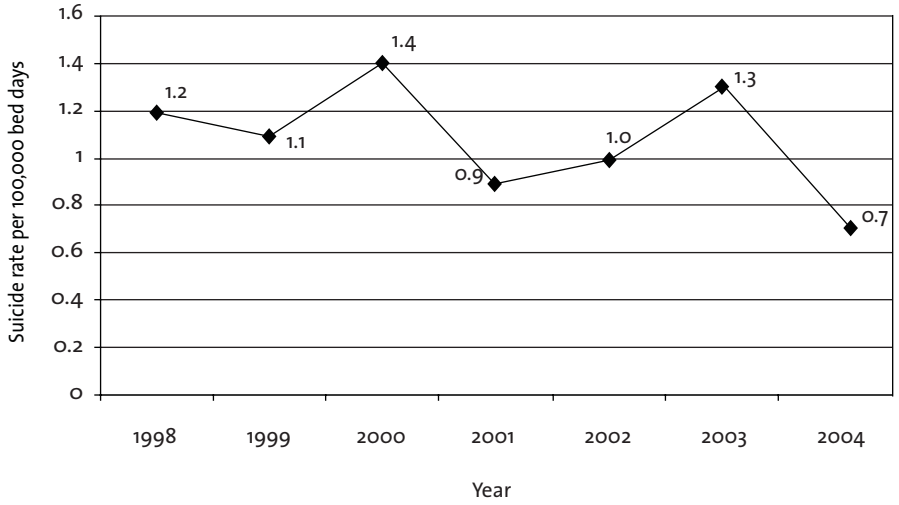
From 1998-2005 the number of in-patient suicides fell **(Table 10)**. In 2005 there were 7 fewer in-patient suicides than in 1998, a fall of 23%. As a proportion of all patient suicides, in-patient suicides fell from 14% in 1998 to 11% in 2005. **Figure 19** shows the rate of in-patient deaths by suicide per 100,000 bed days. No denominator data were available for 2005. Although the rate fell from 1.2 to 0.72 per 100,000 bed days, there was no linear trend (p=0.29). The rate of in-patient suicide was higher in males than females and in those aged 15-44. Rates were lowest in those aged 65 and over. There were no significant changes in rates over the study period by gender, age or method of suicide.

Suicides by all methods have either stayed at similar levels or have fallen. Hanging/strangulation was the most common method used and has become less frequent since a peak in 1999 **(Figure 20)**. Deaths by hanging/strangulation on the ward itself have fallen from 6 in 1999 and 2002 to 3 in 2005, although these numbers are too small to allow firm conclusions.

Table 10: Inquiry in-patient suicide cases: trends over time (1998-2005)

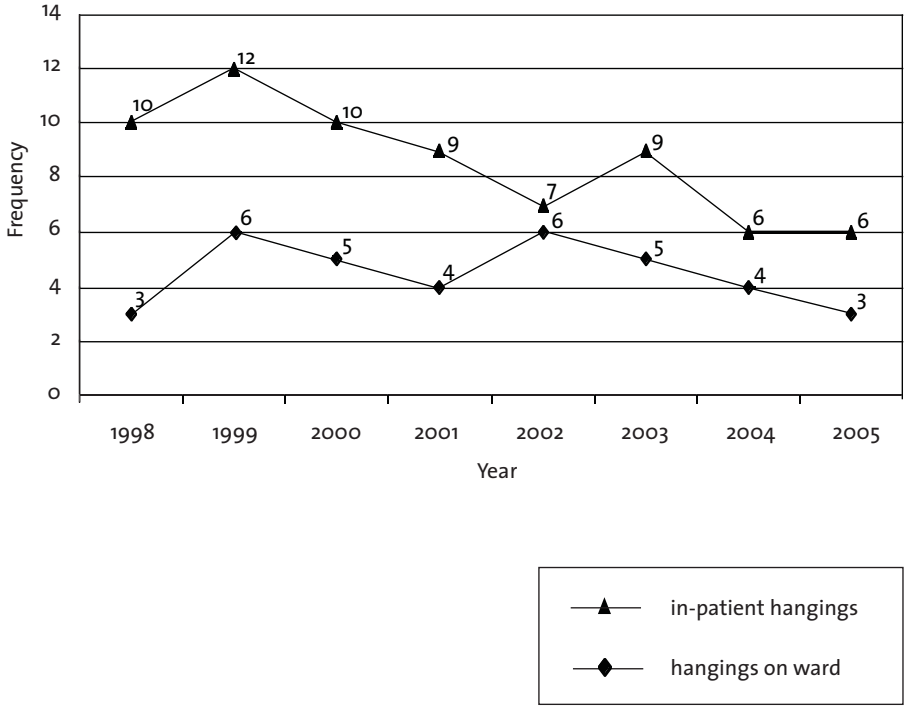
Year	Total number of patient suicides	In-patients Number (%)	In-patient rate per 100,000 bed days
1998	213	30 (14 %)	1.2
1999	219	25 (11 %)	1.1
2000	210	30 (14 %)	1.4
2001	237	19 (8 %)	0.9
2002	235	18 (8 %)	1.0
2003	248	22 (9 %)	1.3
2004	249	11 (4 %)	0.7
2005	214	23 (11 %)	-
Total	**1825**	**178 (10%)**	

Figure 19: Rate of in-patient suicide per 100,000 bed days[†] (1998-2004)[††]



[†]Bed days: a bed occupied for a day
[††] Source: ISD Scotland [12]

Figure 20: Inquiry in-patient hangings, including strangulation (1998-2005)



3.4.6 Comparisons between 2000-2005 and 1997-2000

The proportion of in-patient deaths is lower than in our previous report (9% v. 12%).
A greater proportion of in-patient cases in the current report were living alone (47% v. 27%). Significantly more had a secondary diagnosis (55% v. 36%). A greater proportion had a history of self-harm (76% v. 60%). Fewer took place in the first week after admission, although this was not statistically significant (13% v. 24%). Nineteen percent of patients (15 cases) were under special (i.e. non-routine) observation, similar to the 20% in the previous report. Thirteen (11%) respondents reported problems observing patients because of ward design, a decrease from the 22% in the previous report.

3.4.7 Commentary

- The number and rate of in-patient suicide appears to have fallen in recent years, but numbers per year are small and fluctuations make it difficult to confirm a trend.

- Deaths on the ward were more likely to occur by hanging, in patients who were in their first week of admission, and who had an acute severe mental illness.

- Patients who died while off the ward without permission had different characteristics, such as affective disorder, living alone, non-compliance with treatment or being under special observation. They were more likely to die by drowning. These differences have different implications for prevention.

- Only 20% of in-patient suicides were seen by clinicians as preventable. This is a surprisingly low figure and an important reflection on clinical attitudes to suicide prevention. Patients admitted to hospital are often there because of suicide risk and many ward suicides occur in circumstances in which prevention should often be possible, even if difficult. For example, a third of suicides occur on the ward itself, while others have left the ward despite special observations – these two characteristics alone cover 37% of in-patient suicides.

3.5 COMMUNITY PATIENTS, RECENTLY DISCHARGED FROM HOSPITAL

There were 280 suicides within 3 months of discharge from in-patient care, representing 20% of the Inquiry sample and 22% of suicides by community patients.

3.5.1 Clinical and demographic characteristics

The key characteristics for this group are given in **Table 11**. Compared to the Inquiry sample as a whole, they were more likely to be living alone (149 cases, 55% v. 404 cases, 45%) and to have a history of previous violence (78 cases, 28% v. 205 cases, 23%). They were more likely to be diagnosed with affective disorder (112 cases, 40% v. 267 cases, 28%) and schizophrenia (51 cases, 18% v. 117 cases, 12%) but less likely to have been drug dependent (10 cases, 4% v. 105 cases, 11%). They were more likely to have been in contact with services in the week prior to death (157 cases, 57% v. 240 cases, 25%) and were more often viewed as moderate or high long-term risk (153 cases, 57% v. 329 cases, 37%). Fewer had shown symptoms of mental illness at last contact with services (157 cases, 57% v. 598 cases, 64%).

Table 11: Social and clinical characteristics of Inquiry suicide cases within 3 months of in-patient discharge

	Number (280)	%	(95% CI)
Demographic features			
Age: median (range)	41 (18-81)	-	
Male	171	61	(55-67)
Black and Minority Ethnic group	5	2	(1-4)
Not currently married	214	77	(72-82)
Unemployed	118	44	(38-50)
Long-term sick	54	20	(15-25)
Living alone	149	55	(49-61)
Homeless	9	3	(2-6)
Priority groups			
Missed last contact	71	26	(21-32)
Non-compliance in last month	42	16	(12-21)

(continued overleaf)

Table 11: Social and clinical characteristics of Inquiry suicide cases within 3 months of in-patient discharge (continued)

	Number (280)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	51	18	(14-23)
Affective disorder (bipolar disorder and depression)	112	40	(34-46)
Alcohol dependence	41	15	(11-19)
Drug dependence	10	4	(2-6)
Personality disorder	24	9	(6-13)
Any secondary diagnosis	161	58	(52-64)
Duration of history (under 12 months)	47	17	(13-22)
Over 5 previous admissions	82	29	(24-35)
Last admission was a re-admission	84	30	(25-36)

(continued overleaf)

Table 11: Social and clinical characteristics of Inquiry suicide cases within 3 months of in-patient discharge (continued)

	Number (280)	%	(95% CI)
Behavioural features			
History of self-harm	200	72	(67-78)
History of violence	78	28	(23-34)
History of alcohol misuse	165	59	(53-65)
History of drug misuse	117	42	(36-48)
Contact with services			
Last contact within 7 days of death	157	57	(51-63)
Symptoms at last contact	157	57	(51-63)
Estimate of immediate risk: low or none	237	88	(84-92)
Estimate of long-term risk: low or none	115	43	(37-49)
Suicide thought to be preventable	32	12	(9-17)

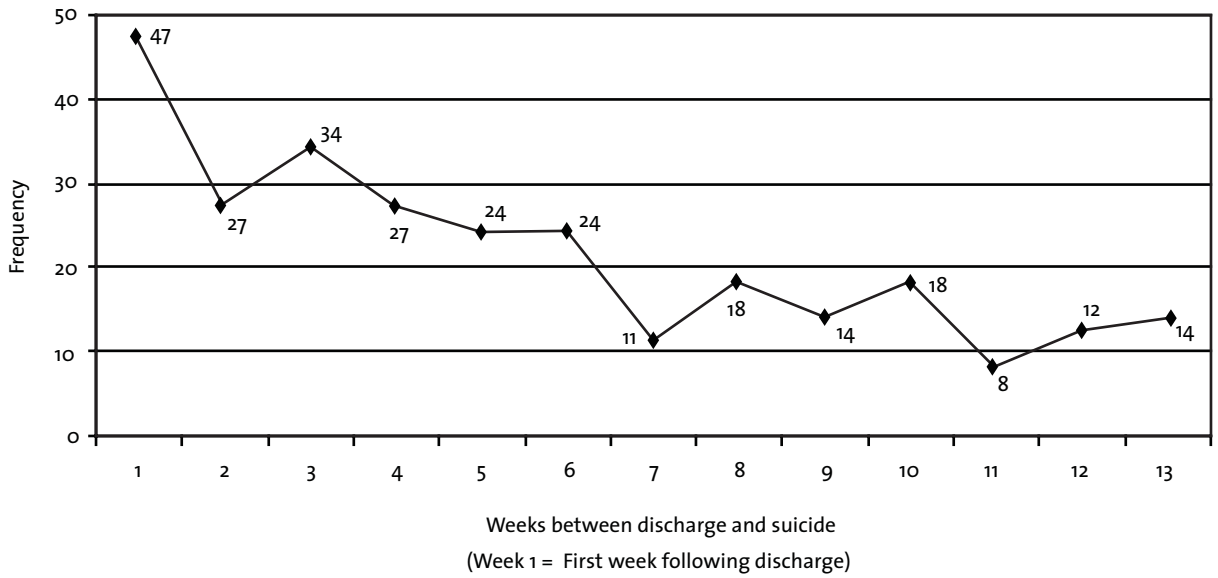
3.5.2 Final admissions

In 232 (83%) cases the final admission had been voluntary. In 87 cases (31%) this admission lasted less than 7 days. In 84 cases (30%) final admissions were re-admissions within 3 months of a previous discharge. Re-admissions and self-discharge were more common in post-discharge suicides than in community suicides overall.

Discharge from final admission was planned in 189 cases (68%) and patient-initiated **(see Glossary, Appendix 2)** in 83 (30%). Of the 83 patient-initiated discharges, 37 patients had requested the discharge, 34 had discharged themselves (including 2 who did so following a Mental Health Review Tribunal) and 12 had been discharged following a breach of ward rules.

Most (94%) had a follow-up appointment arranged on discharge but in 59 cases (23%) the suicide took place before first follow-up. The post-discharge suicides were more likely than other community suicides to have been in contact with services in the week before death (157 cases, 57% v. 240 cases, 25%). Estimates of long-term risk at final contact were more likely to be viewed as moderate or high (153 cases, 57% v. 329 cases, 37%). A similar proportion to the rest of the sample as a whole, were seen as preventable.

Figure 21: Number of Inquiry suicide cases per week following discharge



3.5.3 Timing

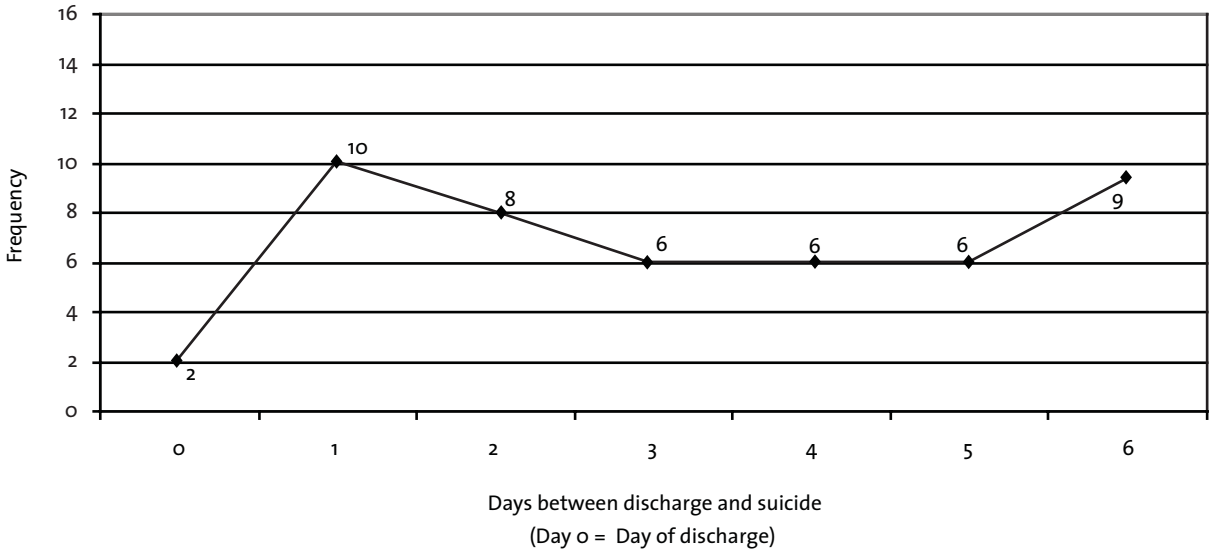
Post-discharge suicides were most frequent in the week after leaving hospital when 47 deaths occurred **(Figure 21)**, 3% of all patient suicides and 17% of the total post-discharge sample. They were similar demographically and clinically to the post-discharge sample as a whole, except they had higher rates of personality disorder (9 cases, 19% v. 15 cases, 6%), were more likely to have died before follow-up (27 cases, 66% v. 32 cases, 15%) and estimates of short-term risk at final contact were more likely to be viewed as moderate or high (10 cases, 23% v. 21 cases, 9%).

When deaths in the first post-discharge week were broken down by day, the highest number were found to occur on the day after discharge **(Figure 22)**. Removing patient-initiated discharges from the sample did not affect this timing pattern.

3.5.4 Trends

Overall, from 1998 to 2005 the numbers of post-discharge suicides have not shown a sustained pattern of increase or decrease **(Figure 23)**.

Figure 22: Number of Inquiry suicide cases per day following discharge



However, since 2002 (when the highest number was observed, 64 cases) there has been a steady decline to 36 cases in 2005. The corresponding fall in the rate of post-discharge suicide was from 22.5 per 10,000 discharges in 2002 to 17.6 per 10,000 discharges in 2004 (no denominator data were available for 2005).

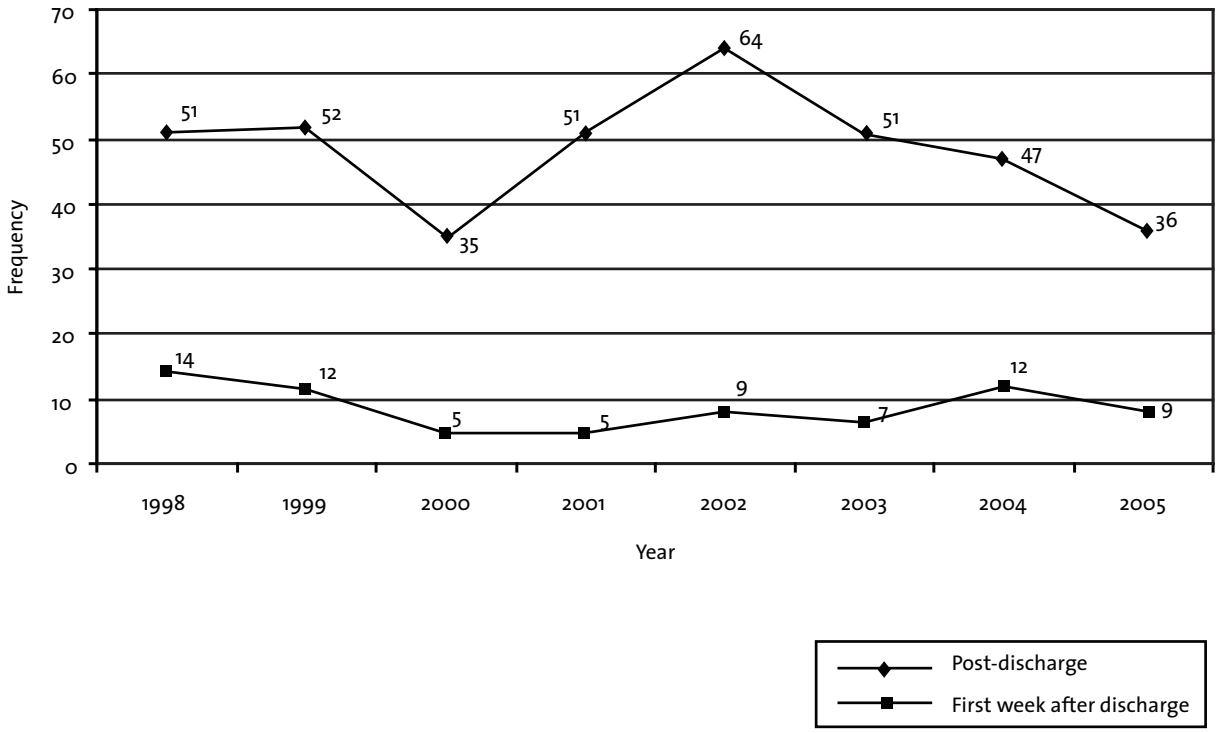
3.5.5 Comparisons between 2000-2005 and 1997-2000

Twenty-three percent of deaths occurred before follow-up, a decrease from the 35% in the previous report.

3.5.6 Commentary

- The number and rate of suicides following discharge from hospital appears to be falling, although numbers are small and fluctuations make trends difficult to confirm.
- The highest number of deaths occurs in the first weeks after discharge, suggesting that prevention measures should focus on this period. Almost one in five patients in this group died within a week of leaving hospital.
- Almost a third of post-discharge suicides occurred following a discharge initiated by the patient. This rejection of what a service is offering may indicate a particularly high-risk group, or may add to risk by making it more difficult to plan appropriate care.

Figure 23: Number of post-discharge suicides (1998-2005)



3.6 NON-COMPLIANCE AND LOSS OF CONTACT

3.6.1 Non-compliance

There were 152 cases in which the patient was known to be non-compliant with drug treatment in the month before suicide, 13% of the total sample **(Table 12)**.

The non-compliant cases were similar to the total sample on social variables, though they were more likely to be younger. They were also similar on many clinical variables, but had a higher proportion of schizophrenia (42 cases, 28% v. 161 cases, 16%) and drug misuse (75 cases, 50% v. 346 cases, 35%). Non-compliant cases were more likely to have at least one secondary diagnosis (98 cases, 64% v. 488 cases, 49%) and to have had recent (within 1 week) contact with a member of the mental health team (77 cases, 51% v. 419 cases, 42%). They were also more likely to have missed their last appointment with services (58 cases, 43% v. 235 cases, 26%).

Thirteen percent of the sample were alcohol dependent and 9% were drug dependent. Fifty-nine percent of the sample had a history of alcohol misuse. Thirty-two (21%) of the non-compliant group were people with schizophrenia who were also misusing alcohol or drugs.
The most common reason for non-compliance was thought by staff to be patients' lack of insight into their mental ill health and need for medication (39 cases, 36%). Thirteen cases (9%) of non-compliant patients were reported to have distressing side-effects of medication. In 23 cases (21%) the reason for non-compliance was dependence (e.g. persistent benzodiazepine use against medical advice). In those patients whose non-compliance was attributed to side-effects of medication (13 cases, 12%), the most common type of medication implicated was SSRI/SNRI antidepressants (54%).

Estimate of long-term suicide risk was viewed as moderate or high in 59% of cases.

Service response to non-compliance

A face-to-face attempt to encourage compliance with medication in the month before death took place in 59% of cases.

Preventability

Respondents viewed non-compliant suicides as preventable in 13% of cases. Better compliance (76 cases, 52%) and closer supervision (19 cases, 13%) were thought to be the main ways in which suicide risk could have been reduced. In 15 cases (10%), respondents thought that better liaison between different services would have made suicide less likely.

Table 12: Social and clinical characteristics of Inquiry suicide cases who were non-compliant with medication

	Number (152)	%	(95% CI)
Demographic features			
Age: median (range)	37 (17-86)	-	-
Male	103	68	(60-75)
Black and Minority Ethnic group	4	3	(1-7)
Not currently married	123	81	(74-87)
Unemployed	71	49	(40-57)
Long-term sick	27	18	(13-26)
Living alone	73	50	(42-58)
Homeless	5	3	(1-8)
Priority groups			
In-patients	16	11	(6-17)
Post-discharge patients	42	31	(23-39)
Missed last contact	58	43	(34-52)

(continued overleaf)

Table 12: Social and clinical characteristics of Inquiry suicide cases who were non-compliant with medication (continued)

	Number (152)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	42	28	(21-35)
Affective disorder (bipolar disorder and depression)	54	36	(28-44)
Alcohol dependence	19	13	(8-19)
Drug dependence	13	9	(5-14)
Personality disorder	11	7	(4-13)
Any secondary diagnosis	98	64	(56-72)
Duration of history (under 12 months)	20	13	(8-20)
Over 5 previous admissions	27	18	(12-25)
Last admission was a re-admission	27	27	(19-37)

(continued overleaf)

Table 12: Social and clinical characteristics of Inquiry suicide cases who were non-compliant with medication (continued)

	Number (152)	%	(95% CI)
Behavioural features			
History of self-harm	111	73	(65-80)
History of violence	39	26	(19-34)
History of alcohol misuse	89	59	(51-67)
History of drug misuse	75	50	(42-59)
Contact with services			
Last contact within 7 days of death	77	51	(43-59)
Symptoms at last contact	104	69	(61-76)
Estimate of immediate risk: low or none	129	87	(81-92)
Estimate of long-term risk: low or none	60	41	(33-49)
Suicide thought to be preventable	19	13	(8-20)

Trends in suicides among non-compliant patients

There is no overall trend in the number of suicides non-compliant with their medication **(Figure 24)**. Peaks were seen in 1999 and 2003; the fewest suicides were seen in 1998, 2001 and 2005. The number of suicides with a primary diagnosis of schizophrenia who were non-compliant with medication showed a similar pattern and has fallen from 14 cases in 1999 to 3 cases in 2005.

3.6.2 Missed last appointment with services

There were 375 suicides by people who missed their final service contact, 27% of the total sample **(Table 13)**. These cases were younger compared to other cases of suicide and were more likely to be unmarried (284 cases, 80% v. 610 cases, 73%), unemployed (182 cases, 54% v. 342 cases, 42%) and living alone (173 cases, 52% v. 368 cases, 45%). Their clinical histories were similar but they were more likely to have a primary diagnosis of alcohol dependence (82 cases, 22% v. 137 cases, 16%) and drug dependence (49 cases, 13% v. 62 cases, 7%). Affective disorder, alcohol dependence, drug dependence and schizophrenia were the most common diagnoses. They were also more likely to have a co-morbid psychiatric condition (219 cases, 60% v. 397 cases, 47%) and to have been ill for longer than 12 months (319 cases, 87% v. 677 cases, 82%).

Figure 24: Number of Inquiry suicide cases non-compliant with medication (1998-2005)

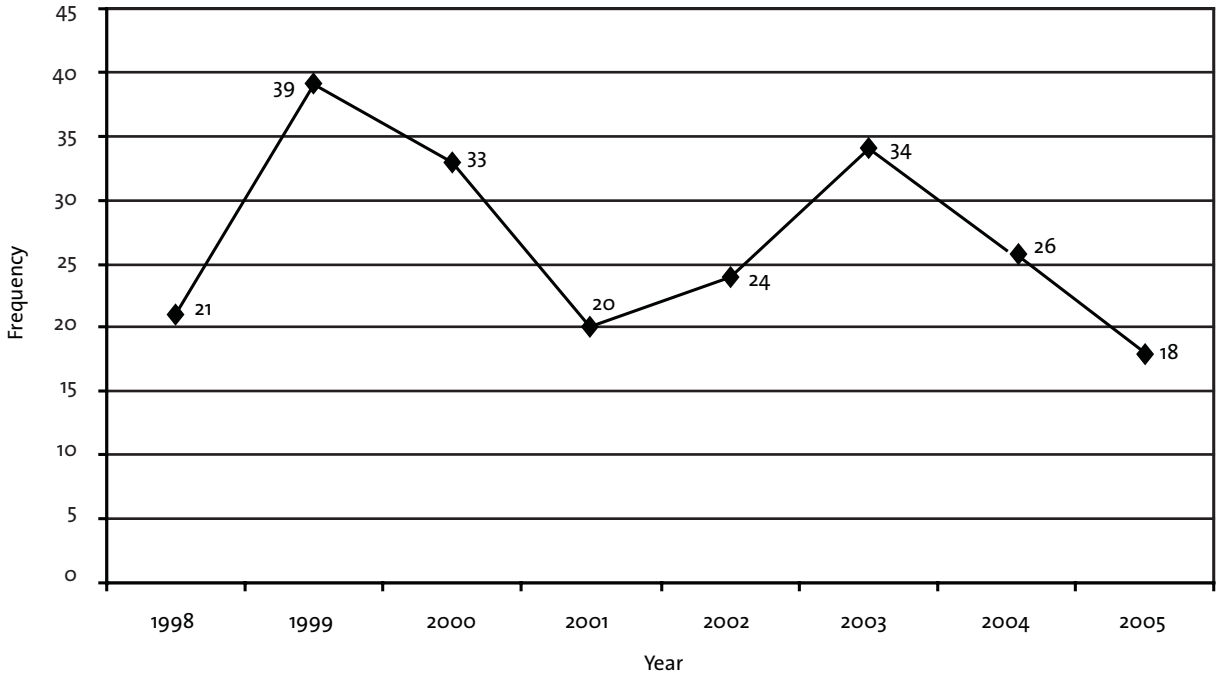


Table 13: Social and clinical characteristics of Inquiry suicide cases who had missed their last appointment with services

	Number (375)	%	(95% CI)
Demographic features			
Age: median (range)	37 (17-86)	-	
Male	260	69	(64-74)
Black and Minority Ethnic group	9	2	(1-5)
Not currently married	284	80	(75-84)
Unemployed	182	54	(49-60)
Long-term sick	54	16	(12-21)
Living alone	173	52	(47-58)
Homeless	11	3	(2-6)
Priority groups			
Post-discharge patients	71	19	(15-23)
Non-compliance in last month	58	20	(15-25)

(continued overleaf)

Table 13: Social and clinical characteristics of Inquiry suicide cases who had missed their last appointment with services

	Number (375)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia & other delusional disorders	41	11	(8-15)
Affective disorder (bipolar disorder and depression)	100	27	(23-32)
Alcohol dependence	82	22	(18-27)
Drug dependence	49	13	(10-17)
Personality disorder	35	10	(7-13)
Any secondary diagnosis	219	60	(54-65)
Duration of history (under 12 months)	46	13	(9-16)
Over 5 previous admissions	52	14	(11-18)
Last admission was a re-admission	48	20	(15-26)

(continued overleaf)

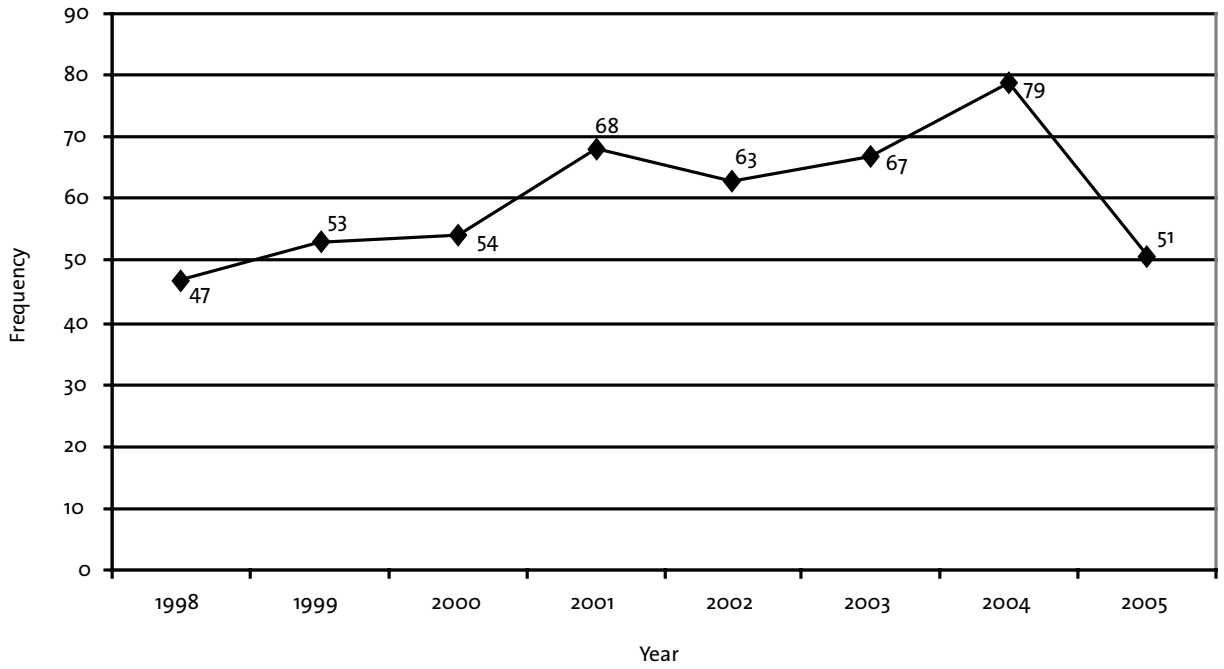
People who had missed their last appointment had higher proportions of both alcohol misuse (244 cases, 67% v. 473 cases, 56%) and drug misuse (178 cases, 50% v. 297 cases, 36%) and self-harm (266 cases, 72% v. 552 cases, 66%). Long-term risk was more often viewed as moderate or high (161 cases, 47% v. 314 cases, 40%).

Overall, services had made a recent assertive attempt to re-engage the patient in 248 (84%) cases. Eleven percent (35 cases) of the suicides in the missed contact group were thought to have been preventable by services. The factors that, according to respondents, could have reduced risk were most commonly better patient compliance (116 cases, 34%) and closer supervision (44 cases, 13%).

Trends in patients who missed their last appointment

Since 1998 a total of 482 patients who died by suicide missed their last appointment. The number rose from 1998 to 2004 but fell sharply in 2005 **(Figure 25)**.

Figure 25: Number of Inquiry suicide cases who had missed their last appointment (1998-2005)



3.6.3 Comparisons between 2000-2005 and 1997-2000

Proportionally fewer cases were non-compliant with drug treatment prior to suicide in the current Inquiry report (13% v. 17%). A higher proportion of these individuals had a history of self-harm (73% v. 59%) or co-morbidity (64% v. 48%) in the most recent reporting period. Estimate of long-term suicide risk was more often viewed as moderate or high (59% v. 32%). A face-to-face attempt to encourage compliance with medication in the month before death took place in 59%, an increase from the previous Inquiry report (44%).

3.6.4 Commentary

- Non-compliance and missed contact are related, and the patient groups described here are overlapping. Missed contact is much more common as an antecedent of suicide, suggesting that measures directed at loss of contact have greater preventative potential.

- Trends over time are inconsistent. However, the number of patients who missed their final contact rose fairly steadily from 1998 to 2004.

- This makes the substantial fall in 2005 more striking. At the moment it is unexplained. It is not the result of the Mental Health Act powers introduced in 2005, which include a community treatment order, although we cannot rule out a change in clinical practice to tackle loss of contact in anticipation of new legislation.

3.7 ALCOHOL AND DRUG DEPENDENCE AND MISUSE

Alcohol and drug misuse were common in the Inquiry sample overall and in the sub-groups described here. For example, 58% of patients who died were known to misuse alcohol, 39% drugs and 29% both. In this section, patients with a primary diagnosis of alcohol or drug dependence (not misuse), and those with "dual diagnosis," are described in more detail.

3.7.1 Alcohol and drug dependence

The primary diagnoses for Inquiry cases as a whole are listed in **Table 2**. Seventeen percent (227 cases) and 9% (118 cases) had a primary diagnosis of alcohol dependence and drug dependence, respectively. The characteristics of cases with a primary diagnosis of alcohol dependence and drug dependence are shown separately in **Table 14** and **Table 15**, respectively.

The majority of individuals with a primary diagnosis of alcohol dependence or drug dependence were not in contact with specialist addiction services **(Figure 26 and Figure 27)**. Most were unemployed. They were more likely to be homeless compared to cases with other diagnoses. They were less likely to have a short history of illness or to have had recent contact with services. Rates of previous violence were higher and proportionally more had missed their final appointment.

Patients with drug dependence were more likely to have discharged themselves from their final admission compared to other suicide cases (22 cases, 50% v. 149 cases, 21%). Fewer patients with alcohol or drug dependence had a follow-up appointment with services (102 cases, 81% and 33 cases, 80% respectively, compared to 91% of the total sample). Respondents were less likely to view suicides by alcohol dependent patients as preventable (10 cases, 5% v. 119 cases, 12%).

Those with a primary diagnosis of alcohol or drug dependence were most likely to use self-poisoning (89 cases, 40% and 58 cases, 49% respectively) as a method of suicide.

Of the 162 cases of suicide aged under 25, 25 cases (16%) were diagnosed with drug dependence.

Of the 698 Inquiry cases with at least one secondary diagnosis, 126 (18%) had a secondary diagnosis of alcohol dependence and 83 (12%) drug dependence.

Table 14: Social and clinical characteristics of Inquiry suicide cases with a primary diagnosis of alcohol dependence

	Number (227)	%	(95% CI)
Demographic features			
Age: median (range)	41 (17-72)	-	
Male	161	71	(65-77)
Black and Minority Ethnic group	3	1	(0-4)
Not currently married	168	77	(71-83)
Unemployed	122	61	(54-67)
Long-term sick	20	10	(6-15)
Living alone	100	51	(44-58)
Homeless	13	6	(3-11)
Priority groups			
In-patients	4	2	(0-4)
Post-discharge patients	41	18	(14-24)
Missed last contact	82	37	(31-44)
Non-compliance in last month	19	12	(7-18)
Clinical features			
Any secondary diagnosis	121	53	(47-60)
Duration of history (under 12 months)	9	4	(2-8)
Over 5 previous admissions	29	13	(9-18)
Last admission was a re-admission	20	15	(9-22)

(continued overleaf)

Table 14: Social and clinical characteristics of Inquiry suicide cases with a primary diagnosis of alcohol dependence (continued)

	Number (227)	%	(95% CI)
Behavioural features			
History of self-harm	153	69	(63-75)
History of violence	60	29	(23-36)
History of drug misuse	84	39	(32-46)
Contact with services			
Last contact within 7 days of death	46	21	(16-27)
Symptoms at last contact	145	67	(60-73)
Estimate of immediate risk: low or none	194	95	(91-97)
Estimate of long-term risk: low or none	122	62	(55-69)
Suicide thought to be preventable	10	5	(3-10)

Table 15: Social and clinical characteristics of Inquiry suicide cases with a primary diagnosis of drug dependence

	Number (118)	%	(95% CI)
Demographic features			
Age: median (range)	30 (20-60)	-	
Male	95	81	(73-88)
Black and Minority Ethnic group	2	2	(0-6)
Not currently married	82	77	(67-84)
Unemployed	84	82	(73-89)
Long-term sick	13	13	(7-21)
Living alone	48	49	(39-59)
Homeless	10	10	(5-17)
Priority groups			
In-patients	3	3	(1-7)
Post-discharge patients	10	9	(4-15)
Missed last contact	49	44	(35-54)
Non-compliance in last month	13	15	(8-24)
Clinical features			
Any secondary diagnosis	63	53	(44-63)
Duration of history (under 12 months)	3	3	(1-7)
Over 5 previous admissions	2	2	(0-6)
Last admission was a re-admission	6	14	(5-27)

(continued overleaf)

Table 15: Social and clinical characteristics of Inquiry suicide cases with a primary diagnosis of drug dependence (continued)

	Number (118)	%	(95% CI)
Behavioural features			
History of self-harm	76	66	(56-74)
History of violence	37	35	(26-45)
History of alcohol misuse	67	59	(50-68)
Contact with services			
Last contact within 7 days of death	27	24	(17-33)
Symptoms at last contact	73	64	(55-73)
Estimate of immediate risk: low or none	98	94	(88-98)
Estimate of long-term risk: low or none	70	68	(58-77)
Suicide thought to be preventable	10	11	(6-20)

3.7.2 Dual diagnosis

There were 343 suicides by people with severe mental illness (schizophrenia or affective disorder) and alcohol or drug dependence/misuse, 25% of the Inquiry sample **(Table 16)**. These "dual diagnosis" patients were mainly young, single and male. The most common methods of suicide were hanging/strangulation (118 cases, 35%) and self-poisoning (111 cases, 33%), but they were proportionally more likely than other suicides to die by drowning (46 cases, 14% v. 92 cases, 9%). Compared to all Inquiry cases, patients with dual diagnosis had high rates of previous violence (96 cases, 28% v. 199 cases, 21%) and self-harm (258 cases, 76% v. 664 cases, 67%). Twenty-eight percent had more than 5 previous admissions compared to 13% of other cases. Dual diagnosis suicides were more likely to be in-patients at the time of death (43 cases, 13% v. 79 cases, 8%), to be non-compliant with medication (64 cases, 20% v. 87 cases, 11%) and to have had recent (within 7 days) contact with services (170 cases, 50% v. 347 cases, 35%). They were more likely to have been detained at last admission (51 cases, 17% v. 73 cases, 8%) and less likely to have been admitted for under a week (47 cases, 20% v. 175 cases, 32%). Respondents were more likely to view dual diagnosis suicides as moderate or high long-term risk (172 cases, 53% v. 378 cases, 41%).

Figure 26: Patients with a primary diagnosis of alcohol dependence and contact with alcohol treatment services

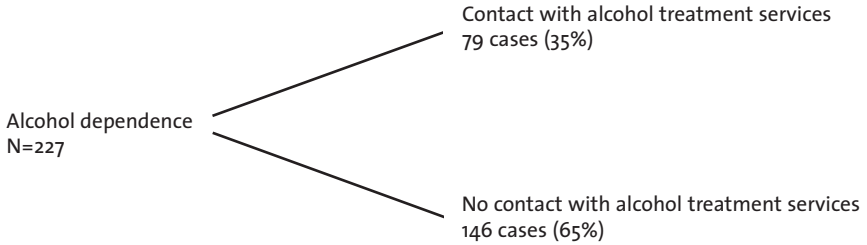


Figure 27: Patients with a primary diagnosis of drug dependence and contact with drug treatment services

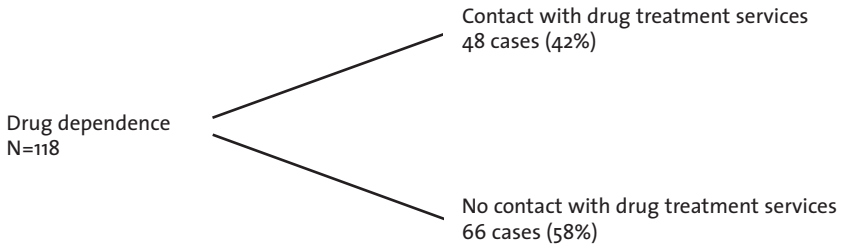


Table 16: Social and clinical characteristics of Inquiry suicide cases with dual diagnosis (severe mental illness & alcohol or drug dependence/misuse)

	Number (343)	%	(95% CI)
Demographic features			
Age: median (range)	39 (16-82)	-	-
Male	257	75	(70-80)
Black and Minority Ethnic group	11	3	(2-6)
Not currently married	283	83	(79-87)
Unemployed	162	48	(43-54)
Long-term sick	86	26	(21-31)
Living alone	174	52	(46-57)
Homeless	7	2	(1-4)
Priority groups			
In-patient	43	13	(9-17)
Post-discharge patients	93	31	(26-37)
Missed last contact	88	30	(25-36)
Non-compliance in last month	64	20	(16-25)

(continued overleaf)

Table 16: Social and clinical characteristics of Inquiry suicide cases with dual diagnosis (severe mental illness & alcohol or drug dependence/misuse) (continued)

	Number (343)	%	(95% CI)
Clinical features			
Primary diagnosis:			
Schizophrenia and other delusional disorders	145	42	(37-48)
Affective disorders (bipolar disorder and depression)	198	58	(52-63)
Duration of history under 12 months	53	16	(12-20)
Over 5 previous admissions	96	28	(23-33)
Last admission was a re-admission	58	24	(19-30)
Behavioural features			
History of self-harm	258	76	(71-81)
History of violence	96	28	(24-33)
History of alcohol misuse	286	84	(80-88)
History of drug misuse	192	56	(51-62)

(continued overleaf)

Table 16: Social and clinical characteristics of Inquiry suicide cases with dual diagnosis (severe mental illness & alcohol or drug dependence/misuse) (continued)

	Number (343)	%	(95% CI)
Contact with services			
Last contact with services within 7 days of death	170	50	(45-55)
Symptoms at last contact	220	66	(61-71)
Estimate of immediate risk: low or none	295	90	(86-93)
Estimate of long-term risk: low or none	151	47	(41-52)
Suicide thought to be preventable	43	14	(10-18)
Detained under MHA at last admission	51	17	(13-22)
Duration of last admission less than 7 days	47	20	(15-26)
Patient-initiated discharge	49	21	(16-27)
Care co-ordinator allocated	83	44	(37-52)
Follow-up arranged	223	98	(96-100)

3.7.3 Comparisons between 2000-2005 and 1997-2000

There were proportionally higher levels of alcohol misuse among the total Inquiry sample compared to 1997-2000 (58% v. 53%), and a similar rise in drug misuse (39% v. 36%), although this result was not significant. There were slightly more dual diagnosis cases proportionally in 2000-2005 (25% v. 22%).

3.7.4 Commentary

- Alcohol and drug misuse were common in the Inquiry sample as a whole and in all sub-groups.

- Patients with alcohol or drug dependence had multiple clinical and social risk factors. Alcohol and drugs, it can be inferred, contributed to a pattern of substantial risk, interacting with other factors such as mental illness, social adversity, and stressful life events.

- Suicides by patients with alcohol dependence were viewed as less preventable by clinicians. This may or may not have been true – either way, it reflects the problems clinicians face in providing clinical care for this patient group.

- These findings are about people under mental health care rather than treatment for drug or alcohol misuse. In fact, only a minority were also receiving addiction care.

3.8 HOW HAVE NUMBERS OF SUICIDES IN INQUIRY PRIORITY GROUPS CHANGED?

3.8.1 Number of cases in Inquiry priority groups

The Inquiry specifies four "priority groups" for data collection and suicide prevention in Scotland **(Table 17)**. Patterns of change are complex but there is no consistent change over time in any of these groups. The number and rate of in-patient deaths appear to have fallen. The number of post-discharge and non-compliant cases has fallen in the last 2-3 years but it is too soon to see this as a sustained trend. The number of "lost contact" cases has risen until the most recent years, when it has fallen substantially.

Many Inquiry cases fall into more than one priority group. The proportion of suicides in patients in one or more priority groups each year is shown in **Table 18**. The figure fell for those in at least one priority group but rose for those in no priority group.

Table 17: Number of Inquiry suicide cases by priority group (1998-2005)

Year	In-patient	Post-discharge	Missed last contact	Non-compliance in last month
1998	30	51	47	21
1999	25	52	53	39
2000	30	35	54	33
2001	19	51	68	20
2002	18	64	63	24
2003	22	51	67	34
2004	11	47	79	26
2005	23	36	51	18
Total	**178**	**387**	**482**	**215**

3.8.2 Commentary

- One possible explanation for these results is that clinicians have focussed on high risk groups, with the effect that suicides in these groups have fallen. However, at the same time, patients at ostensibly lower risk have received less intensive care and follow-up.

- Alternatively, there may have been an increase in the number of people under mental health care. This increase would have been greatest in people not in any priority group, and a small increase in suicides would be expected.

Table 18: Number of Inquiry suicide cases according to number of priority groups (1998-2005)

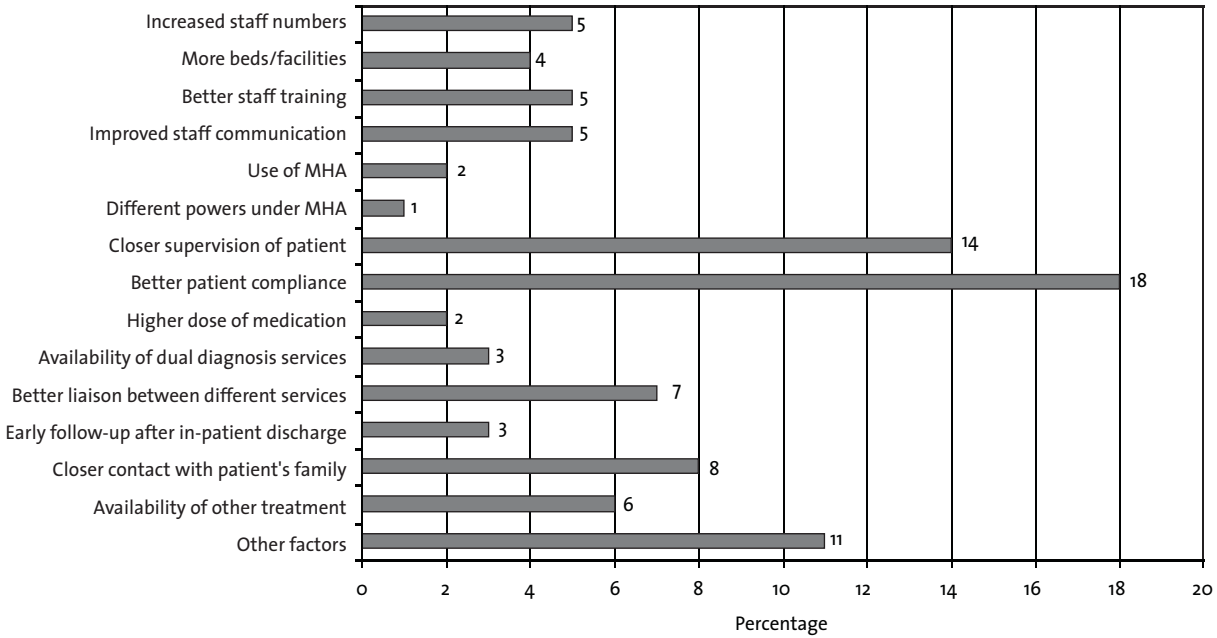
Year	Number of priority groups					
	0	1	2	3	Missing	Total
1998	61 (29%)	107 (50%)	19 (9%)	1 (0%)	24 (11%)	212
1999	63 (29%)	105 (48%)	27 (12%)	3 (1%)	21 (10%)	219
2000	66 (31%)	95 (45%)	24 (11%)	3 (1%)	22 (10%)	210
2001	83 (35%)	103 (43%)	26 (11%)	1 (0%)	24 (10%)	237
2002	76 (32%)	114 (49%)	24 (10%)	2 (1%)	19 (8%)	235
2003	81 (33%)	107 (43%)	31 (12%)	2 (1%)	28 (11%)	249
2004	98 (40%)	106 (43%)	20 (8%)	5 (2%)	19 (8%)	248
2005	92 (43%)	87 (40%)	15 (7%)	3 (1%)	18 (8%)	215
Total	**620 (34%)**	**824 (45%)**	**186 (10%)**	**20 (1%)**	**175 (10%)**	**1,825**

3.9 HOW MANY SUICIDES COULD BE PREVENTED?

3.9.1 Clinicians' views

In 132 cases (11%), the respondent believed that the suicide could have been prevented. For priority groups the figures were: in-patients, 24 cases (20%); post-discharge, 32 cases (12%); missed last contact, 35 cases (11%) and non-compliance in last month, 19 cases (13%). Overall, suicides perceived as preventable were more likely to be suffering from affective disorder (54 cases, 42% v. 341 cases, 32% of those not viewed as preventable), to have been ill for less than a year (40 cases, 31% v. 167 cases, 16%) and to have had contact with services within a week prior to death (68 cases, 52% v. 431 cases, 41%). They were more likely to have been in-patients at the time of death (24 cases, 18% v. 94 cases, 9%). Irrespective of whether they were in hospital or in the community, they were more likely to have detectable symptoms at final contact (101 cases, 77% v. 622 cases, 60%) and more often thought to be at moderate or high risk at final contact (20 cases, 16% v. 92 cases, 9%). Cases of suicide by patients with severe mental illness (641 cases) were seen as more preventable (82 cases, 64%); suicides by people with alcohol dependence (227 cases) as the least preventable (10 cases, 8%).

Figure 28: Mental health teams' views on factors that could have reduced likelihood of suicide



In 43% of cases (576 cases) respondents suggested factors that may have made the suicide less likely (**Figure 28**). The most frequent suggestions were better patient compliance with treatment (18%), closer patient supervision (14%), closer contact with the patient's family (8%) and improved liaison between services (7%).

3.9.2 Preventable suicides

The most preventable deaths among the Inquiry sample are likely to be those who died in close proximity to services, especially those whose risk was evident but who did not receive care that was commensurate with their risk. We can therefore estimate the size of a group in whom suicides might have been most preventable, based on patients who were in-patients or were in the post-discharge period.

Among in-patients:

Patients who died by suicide while under close observation (15 cases).

Patients detained under the Mental Health Act who died by suicide within 7 days of admission (3 cases).

High risk informal patients who died by suicide within 7 days of admission – high risk here means severe mental illness or recent (within 3 months) self-harm (7 cases).

High risk patients who were living alone and died by suicide later in their admission after being given home leave (15 cases).

Patients who died by suicide within 7 days of admission who had absconded from the ward (2 cases).

In total, because these groups overlap, 36 cases, 30% of in-patient suicides, were in the "most preventable" group.

Among the post-discharge patients:

Patients who died by suicide before their first follow-up (59 cases, 23% of post-discharge suicides).

Putting both groups together gives 95 "most preventable" cases, 16 per year, 7% of all patient suicides.

3.9.3 Commentary

- It is difficult for clinicians to say whether the suicide of an individual patient could have been prevented. They are bound to be influenced by feelings of distress, regret and – justifiably or not – guilt. These first findings here are not, therefore, an objective analysis of whether prevention was possible. They are a reflection of clinicians' attitudes to prevention – their view of whether a death could reasonably have been avoided.
- In this report, it was unusual for clinicians to say that the death could have been prevented. This finding is discussed in the Key Messages section of the report.
- Clinicians appeared more positive about prevention when they were asked about ways of reducing risk. They were most likely to point to the importance of supervision and treatment.
- The "most preventable" cases are not intended as the only cases in which risk management could have been strengthened. They represent the cases in which specific problems of care were evident, and which could therefore be a priority for future prevention.

3.10 COMPARISON WITH ENGLAND AND WALES (2000-2004)

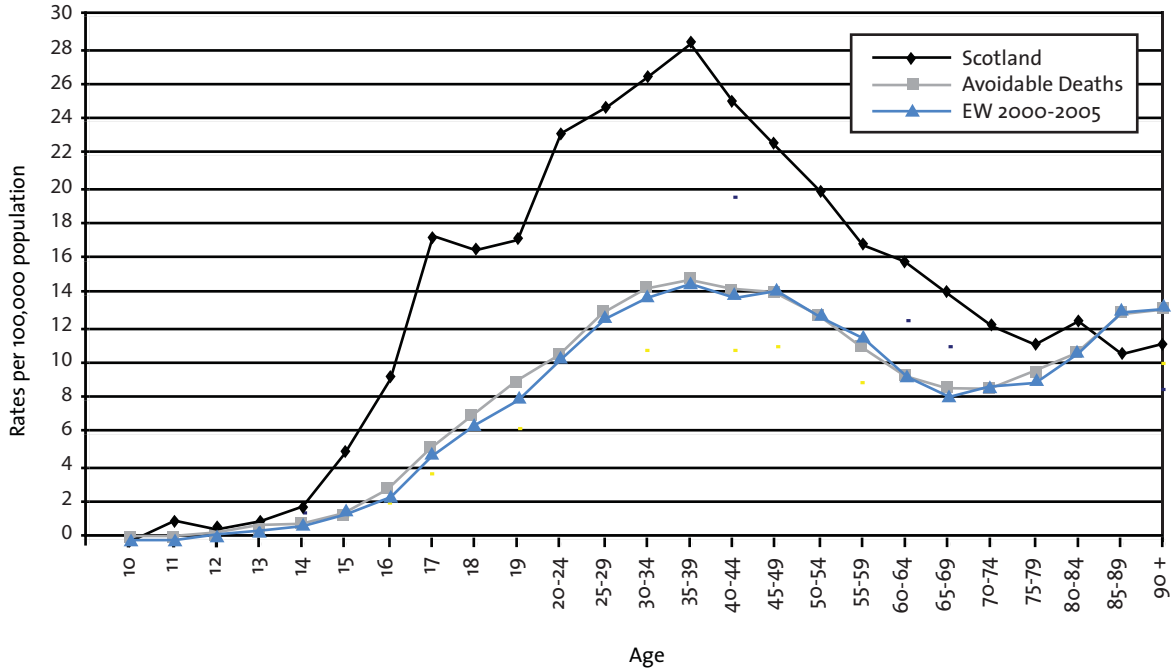
Comparisons between general population and Inquiry cases in Scotland and in England and Wales are described below.

3.10.1 General population suicide cases

The crude average annual suicide rate in Scotland is significantly higher than in England and Wales (18.7 per 100,000 population v. 10.2 per 100,000 population) using our definitions based on notifications through ONS and GROS (see section 2.2.2).

People dying by suicide in the general population were more likely to be aged under 25 (717 cases, 14% v. 2,434 cases in England and Wales, 10%) and less likely to be aged 65 and over (608 cases, 12% v. 3,790 cases, 16%), while the age structure of the general population in Scotland is similar to that in England and Wales (Sources: General Register Office; Office for National Statistics) and adjusting for age structure (age-standardisation) had no effect.[11]

Figure 29: Suicide age profile for Scotland compared to England and Wales 2000-2005 and Avoidable Deaths Report (England and Wales, April 2000-December 2004)



The rate of suicide among children and adolescents under 18 years in Scotland is significantly higher than in England and Wales (5.17 per 100,000 population; 95% CI = 4.35-6.10 v. 1.38 per 100,000 population; 95% CI = 1.24-1.53). The rate of suicide in these young cases is higher even when the same time period (i.e. 2000-2005) is compared (5.17 per 100,000 population; 95% CI = 4.35-6.10 v. England and Wales: 1.32 per 100,000 population; 95% CI = 1.20-1.45) **(Figure 29)**.

In Scotland, deaths were more likely to occur by self-poisoning (1,536 cases, 31% v. 6,088 cases, 26%) and drowning (516 cases, 10% v. 1,264 cases, 5%) and less likely to occur by hanging/strangulation (1,757 cases, 35% v. 9,059 cases, 39%), carbon monoxide poisoning (187 cases, 4% v. 1,520 cases, 6%) or firearms (69 cases, 1% v. 542 cases, 2%).

3.10.2 Inquiry suicide cases

People dying by suicide in Scotland were more likely to have been under mental health care in the previous year (28% v. 23%). As in the general population, Inquiry cases in Scotland were more likely to be aged under 25 (162 cases, 12% v. 467 cases, 8%) and less likely to be aged over 65 (123 cases, 9% v. 740 cases, 12%).

They were more likely to die by self-poisoning (453 cases, 34% v. 1,720 cases, 28%) and drowning (141 cases, 10% v. 402 cases, 6%) and less likely to die by carbon monoxide poisoning (38 cases, 3% v. 281 cases, 5%) or jumping (142 cases, 11% v. 901 cases, 15%).

A higher proportion in Scotland were unmarried (76% v. 69%), living alone (48% v. 44%) or unemployed (46% v. 40%). More cases aged over 65 were widowed (45% v. 34%).

A greater proportion of Inquiry cases in Scotland had neverhad an in-patient admission (33% v. 27%). Fewer cases were in contact with services in the 24 hours prior to death (15% v. 19%) and in the week prior to death (38% v. 49%).

Immediate risk of suicide was estimated to be low or absent in more cases than in England and Wales (91% v. 86%). In 11%, the respondent believed that the suicide could have been prevented, a lower proportion than in England and Wales (19%).

3.10.3 Patient sub-groups

Inquiry cases were less likely to have schizophrenia (15% v. 19%) or affective disorder (32% v. 46%). In those aged under 25, fewer were suffering from schizophrenia (19% v. 29%).

The proportion of cases that were lone carers of children (5% v. 4%) and providing care for children under the age of 5 (6% v. 6%) was similar to England and Wales.

A smaller proportion of cases in Scotland were aged over 65 (9% v. 12%). These patients were less likely to have a primary diagnosis of affective disorder (52% v. 68%) but more likely to have personality disorder (5% v. 2%) and to have a history of alcohol misuse (27% v. 15%).

3.10.4 In-patients

The proportion of suicides that occurred in in-patients was lower in Scotland (9% v. 14%) and appeared to be falling in both Scotland and England and Wales. In-patient deaths in Scotland were more likely to occur by drowning (21% v. 9%) and less likely to occur by jumping/multiple injuries (16% v. 25%). Fewer cases in Scotland were under medium or high levels of observation (19% v. 34%). Thirteen (11%) respondents reported problems observing patients because of ward design, fewer than in England and Wales (16%). Proportions of in-patients who died on the ward or who had absconded were similar. There was no difference between Scotland and England and Wales in the number who died within the first week of admission.

3.10.5 Post-discharge

The proportion of Inquiry cases who had died within 3 months of discharge from in-patient care was similar to the figure for England and Wales (20% v. 24%). However, a higher proportion in Scotland died by self-poisoning (33% v. 26%). They were more often alcohol dependent (15% v. 9%) and more likely to have a history of alcohol misuse (59% v. 47%) or drug misuse (42% v. 31%). The proportion who had been re-admitted within 3 months of a previous discharge was also higher than in England and Wales (30% v. 23%) and long-term risk was more often estimated as moderate or high (57% v. 51%). Fewer cases were viewed as preventable (12% v. 18%).

3.10.6 Non-compliance and missed last contact

Non-compliance

A similar proportion of Inquiry cases was known to be non-compliant with drug treatment in Scotland as in England and Wales (13% v. 14%). However, in England and Wales, this figure had fallen over several years – in Scotland, there has been no consistent downward trend, although the figure was already lower.

These patients were more likely to be alcohol (13%) or drug (9%) dependent compared to non-compliant cases in England and Wales (6% and 3% respectively) and to have a history of alcohol misuse (59% v. 49%).

A face-to-face attempt to encourage compliance with medication in the month before death took place in 59% of cases compared to 73% in England and Wales.

Missed contact

Patients who died following missed contact with services were a similar group to those in England and Wales but they were less likely to have severe mental illness (38% v. 55%) and more likely to have alcohol dependence (22% v. 14%) or drug dependence (13% v. 6%). Long-term risk was more often viewed as moderate or high (47% v. 40%) and these deaths were less likely to be viewed as preventable (11% v. 20%).

3.10.7 Alcohol and drug dependence

The proportion of Inquiry cases in Scotland with a primary diagnosis of alcohol or drug dependence was high compared to England and Wales, 17% v. 8% for alcohol dependence and 9% v. 3% for drug dependence. Similarly, the proportion of cases in Scotland with alcohol misuse was higher (58% v. 44%), as was the proportion with drug misuse (39% v. 30%). More patients were misusing both alcohol and drugs (29% v. 21%). All the patient sub-groups showed a similar pattern.

However, the proportion of people with severe mental illness (schizophrenia or affective disorder) and alcohol or drug dependence/misuse was similar in Scotland to that in England and Wales (25% v. 27%). Patients with dual diagnosis in Scotland were less likely to be in-patients (13% v. 18%) and more likely to die within 3 months of discharge (31% v. 24%). Long-term risk was more often viewed as moderate or high (53% v. 43%) and they were less likely to be viewed as preventable (14% v. 19%).

chapter four
HOMICIDE INQUIRY

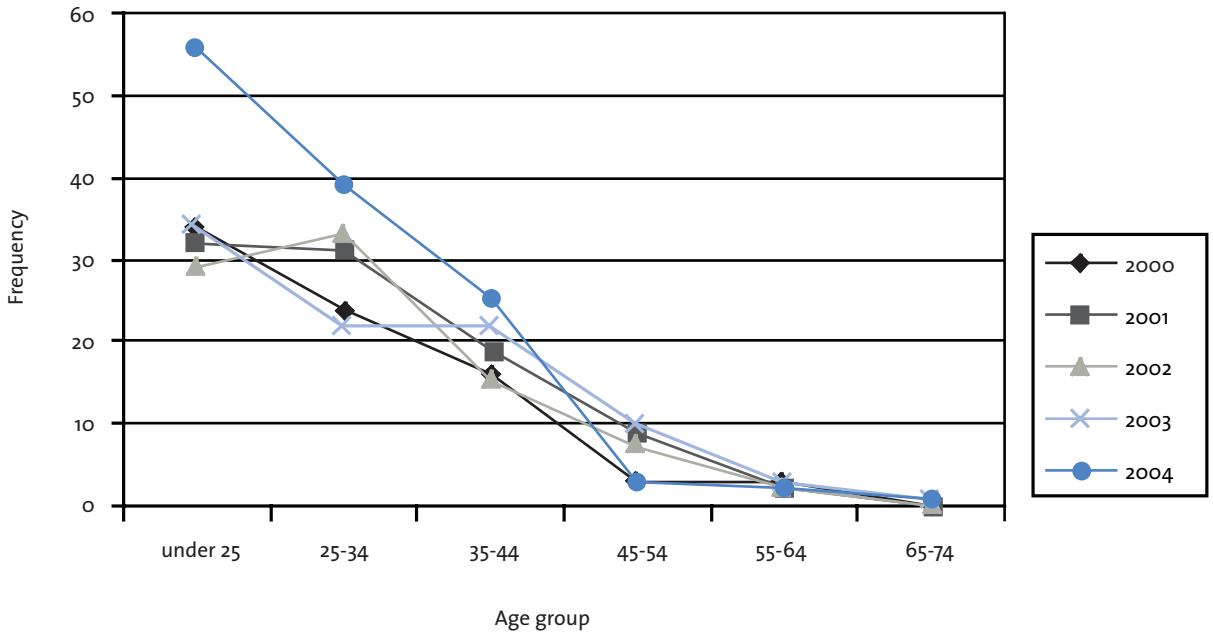
4.1 HOMICIDE IN THE GENERAL POPULATION

The Inquiry was notified of 477 homicide convictions occurring between January 2000 and December 2004, which included 252 cases of murder, 213 culpable homicides and 12 convictions in which the precise verdict was unspecified in the Scottish Crown Office records. The rate of homicide conviction was 2.12 per 100,000 general population. The rate has increased significantly since 1998 (1.6 per 100,000). Homicide rates per 100,000 population were calculated using mid-year population estimates (aged 10 and over).

4.1.1 Characteristics of perpetrators

Four hundred and forty-two (93%) perpetrators were male, giving a male to female ratio of 13:1. Most perpetrators were young, with a median age of 28 years, their age ranging from 14-73 years. Nine perpetrators were over the age of 60; 6 of whom killed their spouse. Overall, the median age of victims was 35 years. The age of perpetrators by year is presented in **Figure 30**. Most were unmarried (296 cases, 72%), and unemployed or long-term sick (290 cases, 70%).

Figure 30: General population homicides: age of perpetrator by year of conviction



Young people convicted of homicide

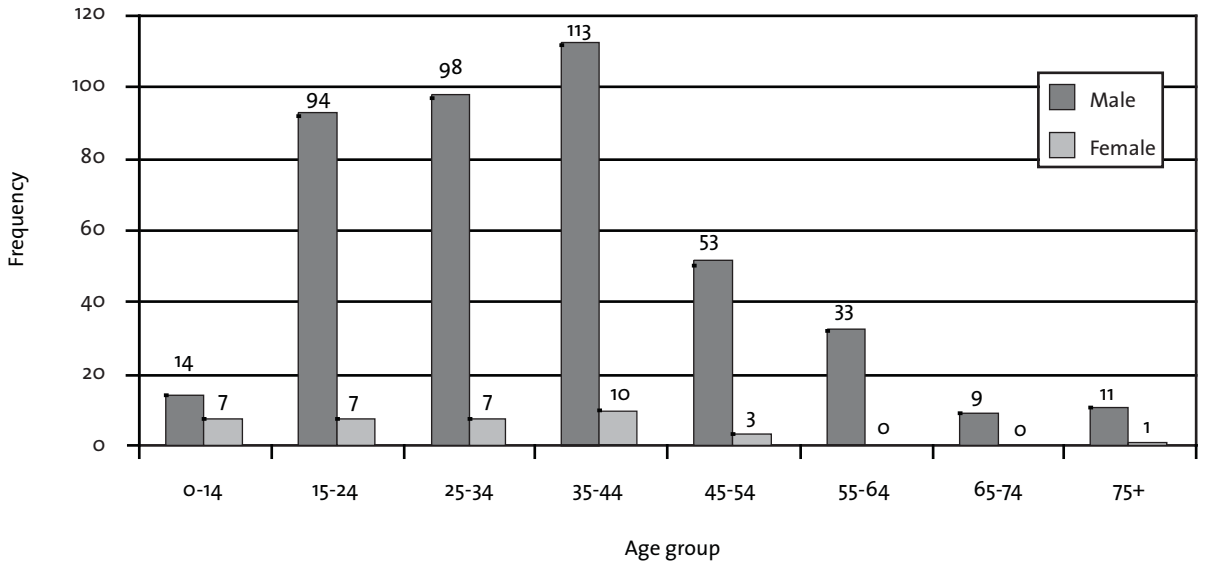
There were 31 people aged 16 and under who were convicted of homicide, 7% of the total sample. Twenty-nine (94%) were male and the median age of the victims was 31 years. The age breakdown in these 31 cases was: 4 were 14 years, 12 were 15 years, 15 were 16 years. Young perpetrators were more likely to kill victims unknown to them (16 cases, 52%). Seventeen (63%) used a sharp instrument to kill their victims. None of these perpetrators were mentally ill at the time of the offence.

4.1.2 Victims

Figure 31 shows the age of victims by sex of perpetrators. The majority of victims were male (378 cases, 82%), of whom 187 (49%) were aged under 35 years. In 71 cases (17%), a male perpetrator killed a female. In only 11 homicides (2%) both perpetrator and victim were female.

In 88 cases (20%) the perpetrator killed a family member or a current or former spouse/partner. In 257 cases (58%) the victim was an acquaintance and in 98 cases (22%) a stranger.

Figure 31: General population homicides: age of victim by sex of perpetrator

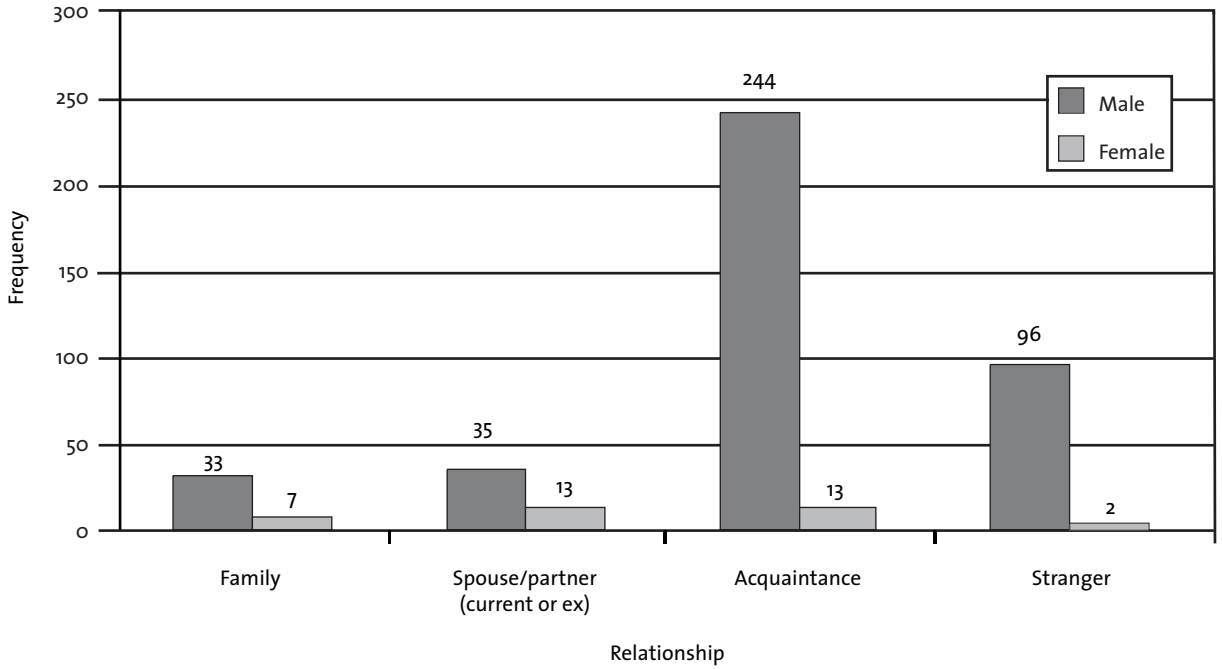


When women were the perpetrators, the victim was more likely to be their own child (6 cases, 17% v. 10 cases, 2%) or their current or former spouse/partner (13 cases, 37% v. 35 cases, 9%). Men were more likely to kill a stranger (96 cases 24% v. 2 cases, 6%). Seven victims (2%) were aged under one year, of whom 2 (29%) were killed by a female. The relationship between the perpetrator and victim is shown in **Figure 32.**

4.1.3 Homicide between acquaintances

Two hundred and fifty-seven perpetrators killed an acquaintance **(Figure 32)**. Of these, 244 (95%) perpetrators were male, 228 (93%) of whom killed a male acquaintance. Perpetrators who killed an acquaintance were more likely to use a blunt instrument (35 cases, 14% v. 8 cases, 4%), and less likely to strangle their victim (6 cases, 2% v. 24 cases, 13%). Nearly half (107 cases, 42%) had a lifetime history of mental illness. In total, 168 (82%) perpetrators had a history of alcohol or drug misuse. Perpetrators who killed an acquaintance were less likely to be mentally ill at the time of the offence (5 cases, 2% v. 19 cases, 13%).

Figure 32: General population homicides: relationship of victim to perpetrator by sex of perpetrator



4.1.4 Stranger homicides

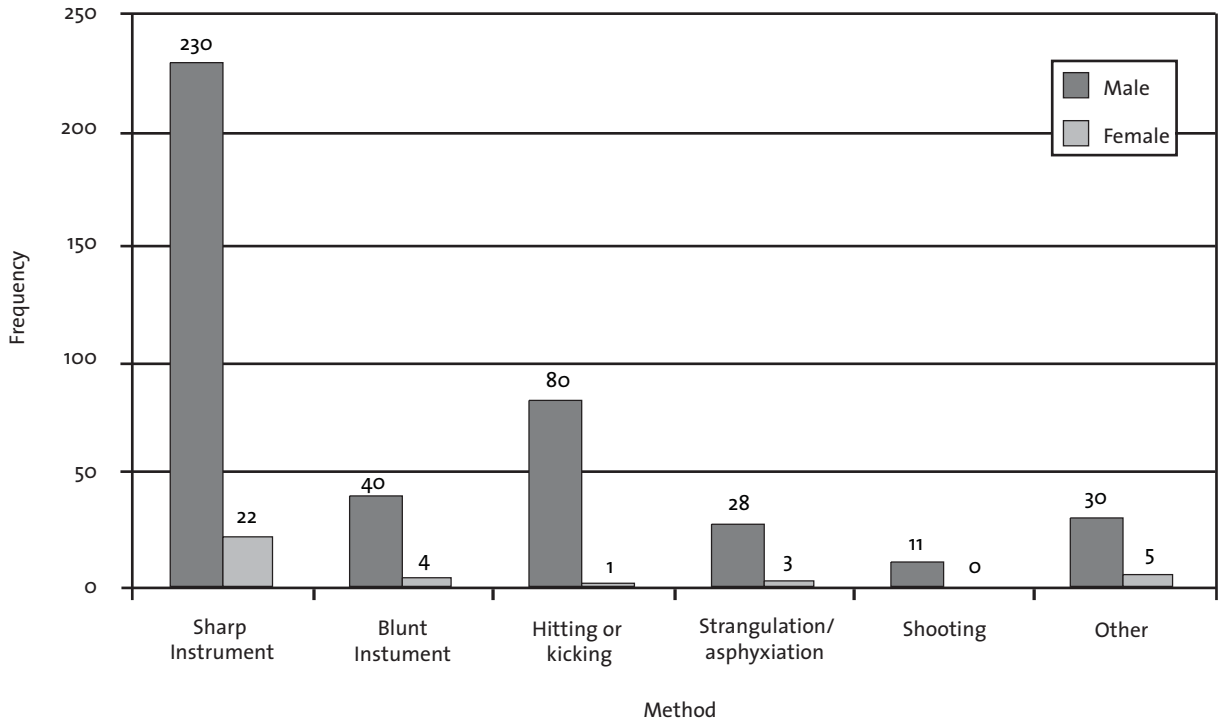
The victim was unknown to the perpetrator in 98 homicides (22% of the total sample) **(Figure 32)**. The most common method of homicide in these cases was stabbing (55 cases, 60%). Perpetrators of stranger homicide were less likely to have a lifetime history of mental disorder (32 cases, 33% v. 152 cases, 44%) and were younger than other perpetrators (median age 22 years v. 28 years). Stranger homicides by women were rare (2 cases, 6%).

Forty-seven (77%) perpetrators of stranger homicide had a history of drug misuse and 22 (38%) had a history of alcohol misuse.

4.1.5 Method of homicide

The most common method of homicide in both males and females was the use of a sharp instrument (252 cases, 56%), **(Figure 33)**. The proportion of these involving knives is unknown. Shooting was rare (11 cases, 2%).

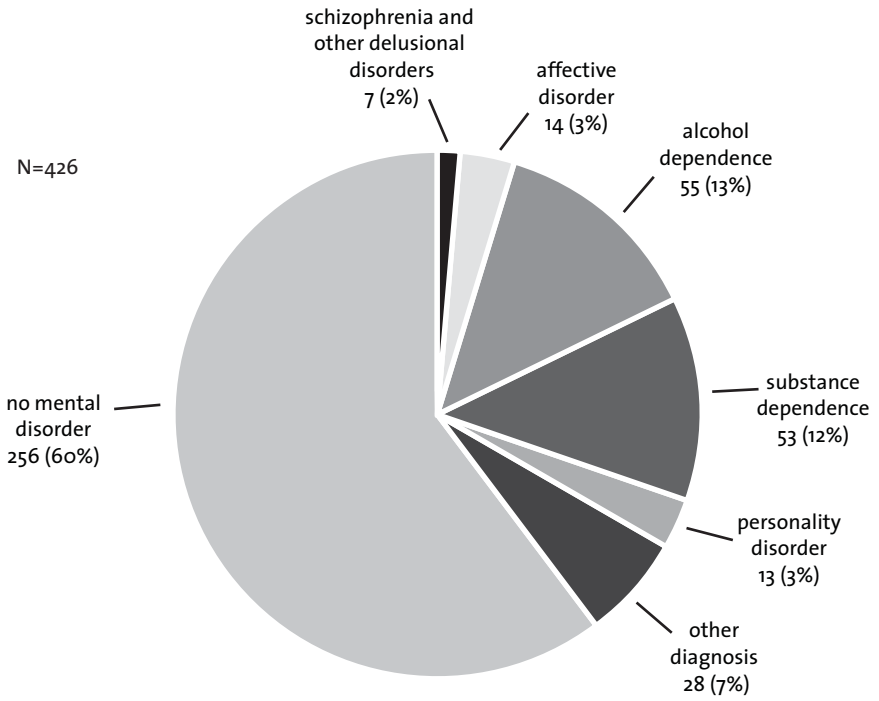
Figure 33: General population homicides: method of homicide by sex of perpetrator



4.1.6 Outcome in court

Four hundred and twenty six (92%) perpetrators received a prison sentence. Thirteen (3%) were committed to psychiatric hospital and 26 (6%) received a non-custodial sentence. Women were less likely to receive a prison sentence (28 cases, 80% v. 398 cases, 93%) and more likely to receive a non-custodial sentence (5 cases, 14% v. 21 cases, 5%). A prison disposal was less likely for perpetrators over the age of 60 compared to other age groups (6 cases, 67% v. 420 cases, 92%), and they were also more likely to receive a hospital order (2 cases, 22% v. 11 cases, 2%). Children under 17 years were more likely to receive a non-custodial sentence (5 cases, 19% v. 26 cases, 5%). Of the 426 receiving a prison disposal, 170 (40%) had a lifetime history of mental illness. The diagnostic breakdown (from psychiatric reports and services) of those receiving a prison sentence is given in **Figure 34**.

Figure 34: Diagnoses from psychiatric reports and mental health services of those receiving a prison disposal



4.1.7 Previous convictions

We obtained details of previous convictions (antecedents) in 405 cases (93%). Two hundred and twenty-four (55%) had a history of violence against the person. Additionally, 2 (1%) had previous convictions for threatening behaviour, 38 (9%) for possession of an offensive weapon, 12 (3%) for sexual offences and 46 (11%) for criminal damage. Previous convictions for violence against the person were more common in men (218 cases, 58% v. 6 cases, 21%).

4.1.8 Geographical pattern of homicide (by Health Board)

Perpetrators were assigned a Health Board based on their district of residence, which was known in 410 cases **(Table 19)**. In 67 cases the perpetrator's address was unknown or recorded as "no fixed abode." No homicides were recorded in Orkney or the Western Isles. The rate of homicide per 100,000 population was highest in Greater Glasgow (3.8), followed by Argyll and Clyde (3.4).

Table 19: Homicide perpetrators by Health Board

Health Board	Number (410)	%	Rate per 100,000 population per year
Argyll and Clyde	63	15	3.4
Ayrshire and Arran	21	5	1.3
Borders	7	2	1.5
Dumfries and Galloway	6	1	0.9
Fife	9	2	0.6
Forth Valley	12	3	1.0
Grampian	32	8	1.4
Greater Glasgow	148	36	3.8
Highland	7	2	0.8
Lanarkshire	32	8	1.3
Lothian	44	11	1.3
Orkney	0	0	0
Shetland	1	0.2	1.0
Tayside	28	7	1.6
Western Isles	0	0	0

A history of mental illness at any time in the person's lifetime was found in 174 cases (42%). Compared to all other districts, lifetime mental illness was proportionally more common in Forth Valley (9 cases, 75%, v. 165 cases, 41%), Ayrshire and Arran (12 cases, 57%, v. 162 cases, 42%) and Lanarkshire (17 cases, 53% v. 157 cases, 42%). Lifetime mental illness was not more frequent in Greater Glasgow compared to other districts (61 cases, 41% v. 113 cases, 43%) nor Argyll and Clyde (23 cases, 37% v. 151 cases, 44%). None of the perpetrators in Argyll and Clyde were diagnosed with severe mental illness, 6 cases (5%) had severe mental illness in Greater Glasgow. The proportion of perpetrators in contact with services within 12 months of the offence was highest in Ayrshire and Arran (7 cases, 33%), and in Tayside (8 cases, 29%).

Method of homicide by health board

Compared to all other districts, sharp instruments were more likely to be used in homicides in Greater Glasgow (90 cases, 63% v. 130 cases, 52%) and firearms were most likely to be used in Argyll and Clyde, though numbers were small (4 cases, 7% v. 2 cases, 1%).

4.1.9 Commentary

- Homicide is an offence committed mainly by young men on other young men. Perpetrator and victim are usually known to each other. The most common type of weapon is a sharp instrument such as a knife.

- The rate of homicide in Scotland is high and rising, mainly driven by high rates in Glasgow and adjacent areas in the west of Scotland.

- The highest current rate, and the greatest recent rise, is in young men. One homicide in every 14 is committed by a person aged 16 or under.

- Killing a stranger is a crime frequently linked to mental illness. In this study, people who killed someone they did not know were less likely to have a history of mental disorder but many had a history of drug or alcohol misuse.

4.2 DEFINITIONS OF MENTAL DISORDER

There is no single definition of mental disorder and there are therefore several ways of estimating the rate of mental disorder in people convicted of homicide **(Table 20)**. Definitions can be based on:

- Mental illness at the time of the offence
- Commitment to psychiatric hospital following conviction
- Lifetime diagnosis of mental disorder (i.e. disorder occurring any time before offence)
- Specific diagnostic groups (e.g. schizophrenia)
- Contact with mental health services.

Table 20: Definitions of mental disorder in people convicted of homicide (2000-2004)

	Number (477)	%
Abnormal mental state at time of offence †	25	7
Mental disorder (lifetime) including alcohol and drug dependence	193	40
Mental disorder (lifetime) excluding alcohol and drug dependence	80	17
Schizophrenia (lifetime)	15	3
Hospital order (with or without restriction)	13	3
Contact with mental health services (lifetime)	133	28
Contact with mental health services within 12 months of the offence	58	12

† Mental illness at the time of the offence was calculated using data from psychiatric reports (359 cases).

Rate of mental illness at the time of the offence

Twenty-five (7%) perpetrators were described in psychiatric reports as having mental illness at the time of the offence (referred to here as the mentally ill group). Symptoms included (hypo)mania, depression, delusions, hallucinations and other psychotic symptoms (e.g. passivity, thought insertion). Women were more likely to have an abnormal mental state at the time of offence (7 cases, 27% v. 18 cases, 5%). Seven (28%) perpetrators had a lifetime diagnosis of schizophrenia and 10 (40%) had affective disorder. Only a quarter (6 cases, 24%) of the mentally ill group had been in contact with mental health services in the previous year, compared to 60% (6 cases) in the previous report. Eleven (44%) had delusions, hallucinations or both at the time of the homicide, indicating psychotic illness. Symptoms of depression were present in 15 cases (60%). Most of those with symptoms of depression had a lifetime diagnosis of affective disorder (10 cases, 67%).

Twelve (52%) perpetrators had a history of violence. Fourteen mentally ill perpetrators (56%) were convicted of murder.

Compared to perpetrators who were not mentally ill at the time of the offence, the mentally ill group were less likely to be male (18 cases, 72% v. 315 cases, 94%) and older (35 years v. 28 years). Victims were more likely to be female (10 cases, 40% v. 51 cases, 16%) and were more likely to be a family member or current or former spouse/partner (16 cases, 68% v. 52 cases, 17%) and less likely to be an acquaintance (5 cases, 21% v. 197 cases, 64%). Perpetrators were also more likely to receive a hospital disposal (9 cases, 36% v. 3 cases, 1%) and less likely to be given a prison disposal (14 cases, 56% v. 315 cases, 97%).

The number of mentally ill perpetrators by year is shown in **Figure 35**. The figures show a recent rise in the number of perpetrators who were mentally ill at the time of the offence, but numbers per year are small and this change is not significant.

Rates of mental disorder based on commitment to psychiatric hospital

Thirteen (3%) perpetrators received a hospital order. All had a lifetime history of mental disorder and 7 (54%) were in contact with psychiatric services in the 12 months prior to the offence. In a quarter (3 cases, 25%), perpetrators did not have an abnormal mental state at the time of the offence but all of these had a primary diagnosis of schizophrenia. Overall, the most common primary diagnosis was schizophrenia (7 cases, 54%). The other diagnoses were affective disorder (5 cases, 38%) and personality disorder (1 case, 8%).

The number of homicide perpetrators who received a hospital disposal between 1998 and 2004 is shown in **Figure 36**. There was no significant change over time.

Perpetrators with a lifetime history of mental disorder

In 193 cases (40% of the total homicide sample), a diagnosis of mental disorder was specified in the psychiatric report or by services, based on lifetime history. The most common diagnoses were drug dependence (57 cases, 30%), alcohol dependence (56 cases, 29%) and schizophrenia (15 cases, 8%). Female perpetrators were more likely than males to have a lifetime history of mental illness (23 cases, 66% v. 170 cases, 38%). The number of perpetrators with a lifetime history of mental illness is shown in **Figure 37**. Analysis showed an upward trend but this change did not reach statistical significance.

Figure 35: Number of perpetrators with mental illness at the time of offence (1998-2004)

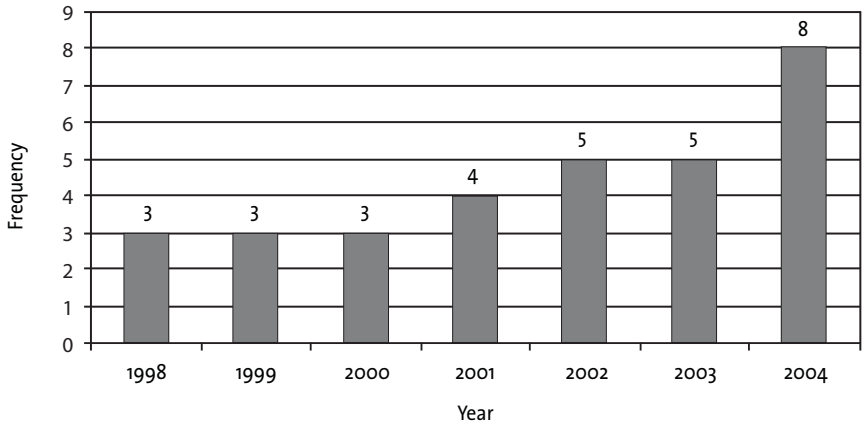
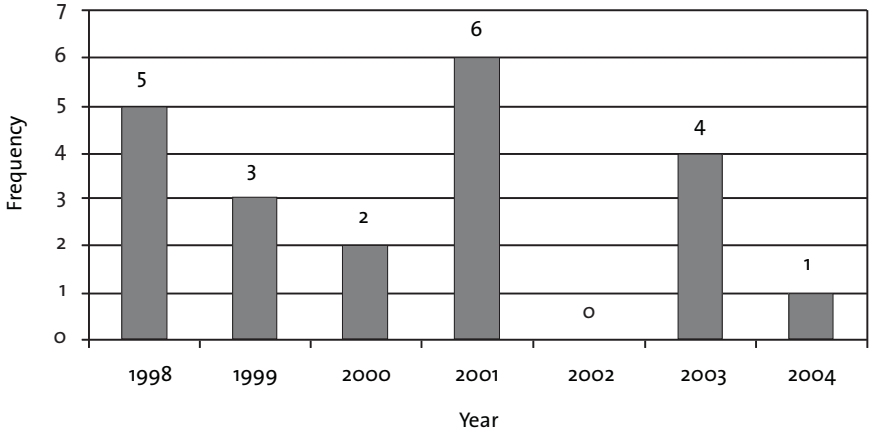


Figure 36: Number of perpetrators receiving a hospital disposal (1998-2004)



Removing patients with a diagnosis of alcohol or drug dependence reduces the number of cases from 193 to 80, less than a fifth of the total sample **(Table 20)**. The most common diagnoses in this group were affective disorder (19 cases, 24%), schizophrenia (15 cases, 19%) and personality disorder (15 cases, 19%). These patients were more likely to live alone (21 cases, 30% v. 56 cases, 18%). They were more likely to kill a family member (13 cases, 17% v. 27 cases, 7%) and less likely to receive a prison disposal (62 cases, 78% v. 364 cases, 94%) compared to those with no history of mental disorder.

Analysis of lifetime mental disorder throughout the remainder of the report will include those with alcohol and drug dependence.

Perpetrators with a lifetime history of schizophrenia

The number of perpetrators with a lifetime history of schizophrenia in the period 1998-2004 was 17 **(Figure 38)**; 15 individuals fell within the report period of 2000-2004, 3% of the total homicide sample. A lifetime history of schizophrenia was specified in either the psychiatric reports or by services in the Inquiry questionnaire. There was no significant change over time. Perpetrators with schizophrenia were more likely to be mentally ill at the time of the offence (7 cases, 54% v. 18 cases, 5%) and to have been in recent contact with services (7 cases, 47% v. 51 cases, 11%).

4.2.1 Comparisons between 2000-2004 and 1997-2000

There are differences in the findings presented in this report compared with our previous findings for 1997-2000. In the current sample, more perpetrators had a history of violence against the person (224 cases, 55% v. 87 cases, 45%), drug dependence (57 cases, 12% v. 12 cases, 5%) and a history of drug misuse (237 cases, 66% v. 75 cases, 43%), reflected in the regular use of several types of drug; heroin (65 cases, 19% v. 16 cases, 9%), cocaine/crack cocaine (27 cases, 8% v. 5 cases, 3%), ecstasy (23 cases, 7% v. 2 cases, 1%) and cannabis (115 cases, 34% v. 39 cases, 23%). Perpetrators of stranger homicide were more likely to have a history of drug misuse (47 cases, 77% v. 15 cases, 31%).

4.2.2 Commentary

- There is considerable public interest in how many homicides are committed by people with mental disorder. These findings show that the figure depends on the definition of mental disorder.

- The number is low by most definitions and the evidence for any change over time is inconsistent.

- There has however been a rise in the number of perpetrators with a history of drug misuse, particularly in those who kill strangers.

Figure 37: Number of perpetrators with a lifetime history of mental illness (1998-2004)

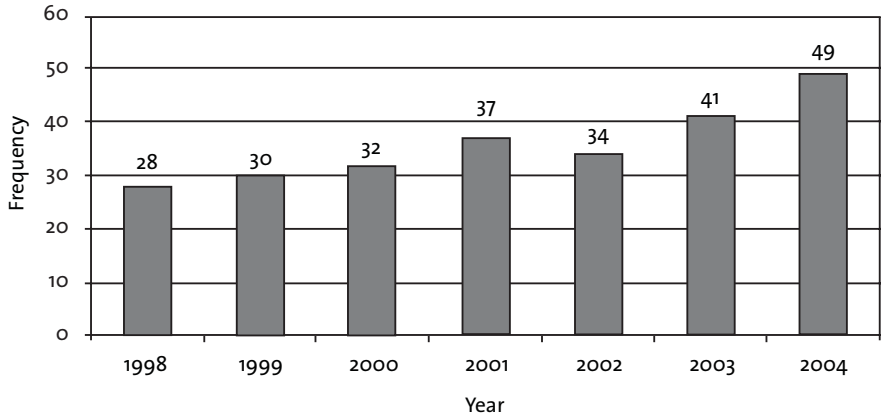
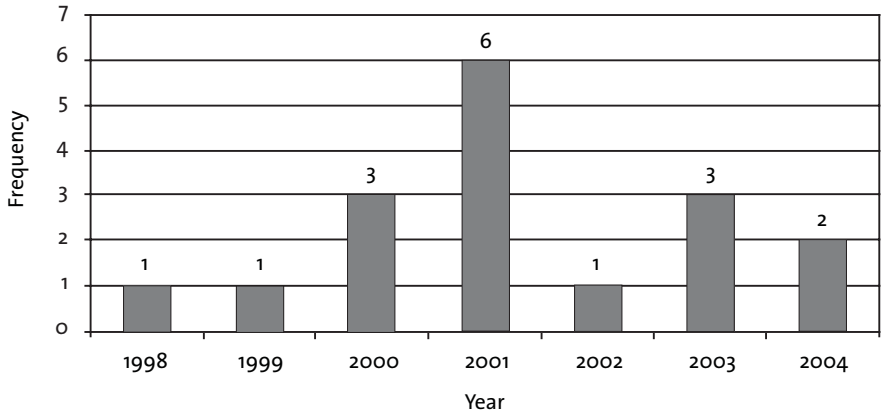


Figure 38: Number of perpetrators with a lifetime history of schizophrenia (1998-2004)

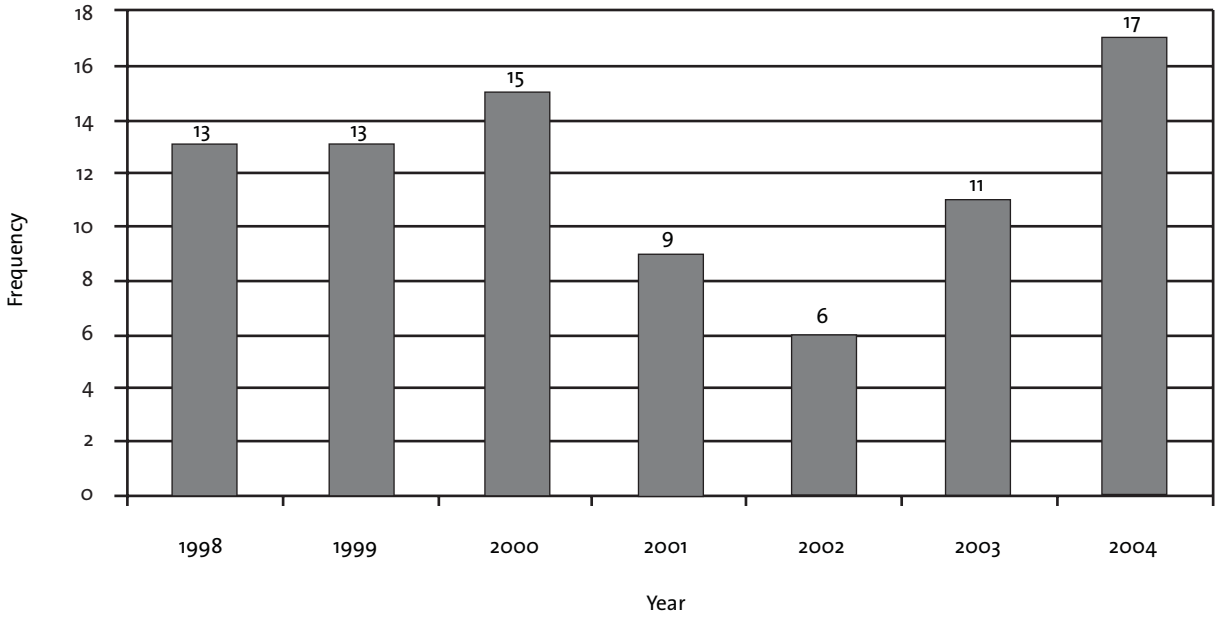


4.3 INQUIRY PATIENT CHARACTERISTICS

Of the total sample of 477 homicide convictions between January 2000 to December 2004, 133 (28%) perpetrators were confirmed to have been in contact with mental health services at some time in their lives. We received completed questionnaires in 126 cases, a response rate of 95%. Of those in contact, 58 (43%) were seen by mental health services in the 12 months prior to the offence (12% of the total sample). This equates to 12 cases per year during the study period. Seventy-five (57%) perpetrators had previously been in contact with mental health services but not in the last year. There were a further 43 people in whom mental health service contact was referred to in the psychiatric reports but not confirmed by extensive enquiry. In many of these cases contact was said to have occurred several years before the homicide and was more likely to be with general psychiatric services.

We will describe the findings on those in contact with services within 12 months of the offence (Inquiry cases). The number of Inquiry cases per year is shown in **Figure 39**. There was no consistent change over time.

Figure 39: Number of perpetrators in recent contact (1998-2004)



Last contact with mental health services was with a general psychiatry service in 21 cases (38%), while 15 cases (27%) had more recently been under drug services, 8 cases (14%) had been under alcohol services, and 1 case (2%) under forensic psychiatry services.

A multidisciplinary review was conducted after the homicide in 12 (22%) cases. In 6 (12%), services had contact with the family of the perpetrator after the offence.

4.3.1 Social characteristics

The social characteristics of the Inquiry cases are shown in **Table 21**. As with homicides in the general population, most perpetrators were male, single and unemployed.

Previous violence

Twenty-two (46%) had a history of violence towards another person documented in the case notes. There were a further 8 cases with previous convictions for violence, but no documentation of this in the notes.

Inquiry cases also had a high rate of documented recent violence: 6 (14%) had committed at least one physical assault against another person in the year before the homicide and 6 (14%) had made threats of homicide or serious violence (two patients were in both groups).

4.3.2 Clinical characteristics

The clinical characteristics of the Inquiry cases are shown in **Table 21**.

A breakdown of primary diagnoses (from questionnaire) is given in **Figure 40**. The most common diagnoses were alcohol dependence (18 cases, 31%) and drug dependence (18 cases, 31%). A fifth (11 cases, 19%) had severe mental illness (schizophrenia, 5 cases, 9%, or affective disorder, 6 cases, 10%). Twenty-nine (50%) also had at least one secondary diagnosis **(Figure 41)**, the most common being drug dependence or misuse (12 cases, 41%) and alcohol dependence or misuse (9 cases, 31%). Seven (12%) had previous admissions under the Mental Health Act. Thirty-two cases (56%) had never been admitted to hospital. In 15 cases (27%) the onset of mental disorder had been in the previous year. In 25 cases (45%) it had been more than five years earlier, reflecting the long-term nature of the main primary diagnoses.

Location of care

One Inquiry case was an in-patient at the time of the homicide, and the victim was also an in-patient.

Last admission

Twenty-five cases (44%) had been admitted to hospital at some time. In 6 cases (25%) this was a re-admission within three months of a previous discharge. In 2 cases (4%) the last admission had been under the Mental Health Act. In 11 cases (46%) the final admission lasted less than 7 days. Discharge was patient-initiated, i.e. against medical advice or the result of the patient's behaviour on the ward, in 6 of these cases. In 7 the homicide occurred within 3 months of hospital discharge.

Loss of contact with services

Twenty-six patients (47%) had missed their final contact with services before the homicide. In 24 cases follow-up action was taken, including sending a further appointment (10 cases, 42%) and in 1 case (4%) a home visit. One patient (4%) had a diagnosis of schizophrenia. Two cases (9%) were psychotic, experiencing delusions and hallucinations at the time of the offence.

Table 21: Social, clinical and offence characteristics and final outcome in court for Inquiry cases

	Number (58)	%	(95% CI)
Demographic features			
Age of perpetrator: median (range)	31 (15-50)		
Male perpetrator	52	90	(79-96)
Not currently married	45	83	(71-92)
Unemployed	42	79	(66-89)
Long-term sick	6	11	(4-23)
Living alone	23	46	(32-61)
Homeless	2	4	(0-13)
Child perpetrator (under 17 years)	2	3	(0-12)
Priority groups			
In-patient	1	2	(0-9)
Post-discharge patients	7	12	(5-24)
Missed last contact	26	47	(34-61)
Non-compliance in the last month	7	13	(5-25)

(continued overleaf)

Table 21: Social, clinical and offence characteristics and final outcome in court for Inquiry cases (continued)

	Number (58)	%	(95% CI)
Clinical features			
Primary diagnosis (lifetime):			
Schizophrenia & other delusional disorders	5	9	(3-19)
Affective disorder (bipolar disorder & depression)	6	10	(4-21)
Alcohol dependence	18	31	(20-45)
Drug dependence	18	31	(20-45)
Personality disorder	5	9	(3-19)
Lifetime mental illness	58	100	(94-100)
Mentally ill at the time of offence	6	12	(5-25)
Any secondary diagnosis	29	50	(37-63)
Duration of illness (under 12 months)	15	27	(16-40)
Over 5 previous admissions	3	5	(1-15)
Last contact within 7 days of offence	10	18	(9-30)
Symptoms at last contact	32	57	(43-70)
Estimate of immediate risk: low or none	43	96	(85-99)
Estimate of long-term risk: low or none	31	72	(56-85)
Homicide thought to be preventable	1	2	(0-12)

(continued overleaf)

Table 21: Social, clinical and offence characteristics and final outcome in court for Inquiry cases (continued)

	Number (58)	%	(95% CI)
Behavioural features			
Previous convictions for violence	34	63	(49-76)
History of self-harm	31	54	(41-68)
History of alcohol misuse	41	75	(61-85)
History of drug misuse	45	79	(66-89)
Offence variables			
Age of victim: median (range)	38 (4-93)		
Male victim	48	84	(74-93)
Victim was an acquaintance	33	59	(45-72)
Victim was a family member or current former spouse/partner	14	25	(14-38)
Sharp instrument used	34	60	(46-72)
Final outcome			
Murder	34	60	(46-72)
Culpable homicide	23	40	(28-54)
Disposal			
Prison	50	88	(76-95)
Hospital order (with or without restriction)	7	12	(5-24)

Figure 40: Primary diagnosis from questionnaire (services)

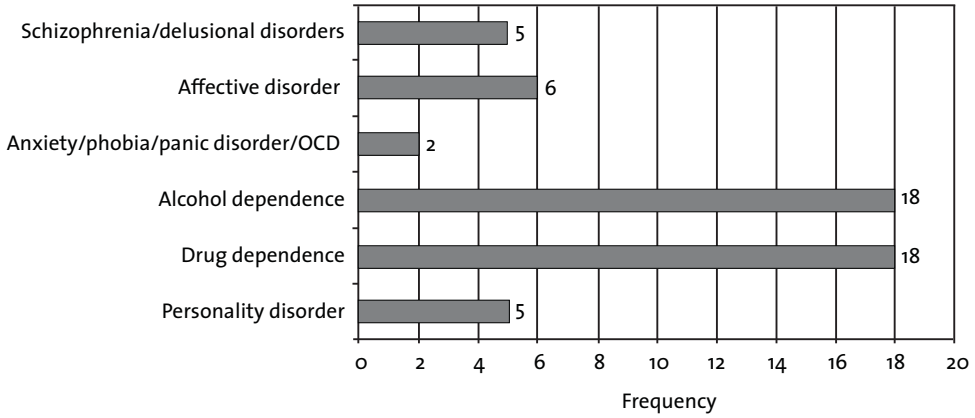
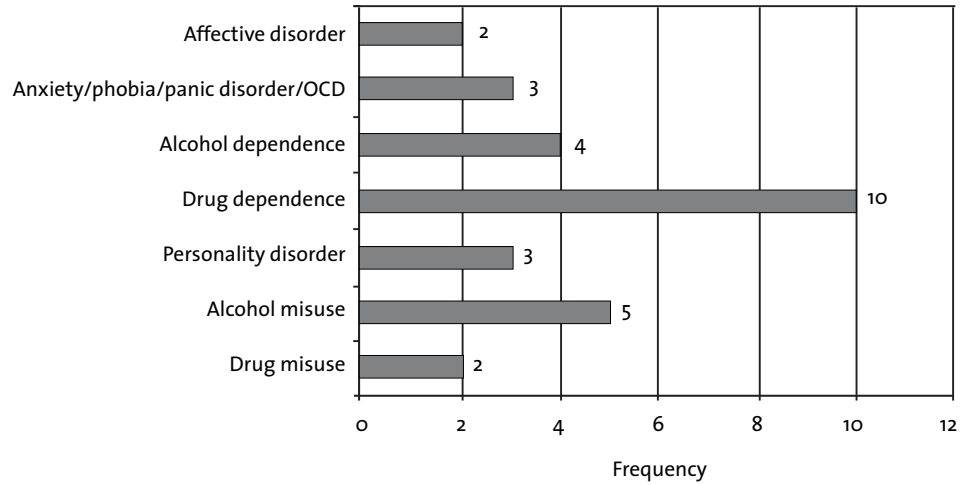


Figure 41: Secondary diagnosis from questionnaire (services)



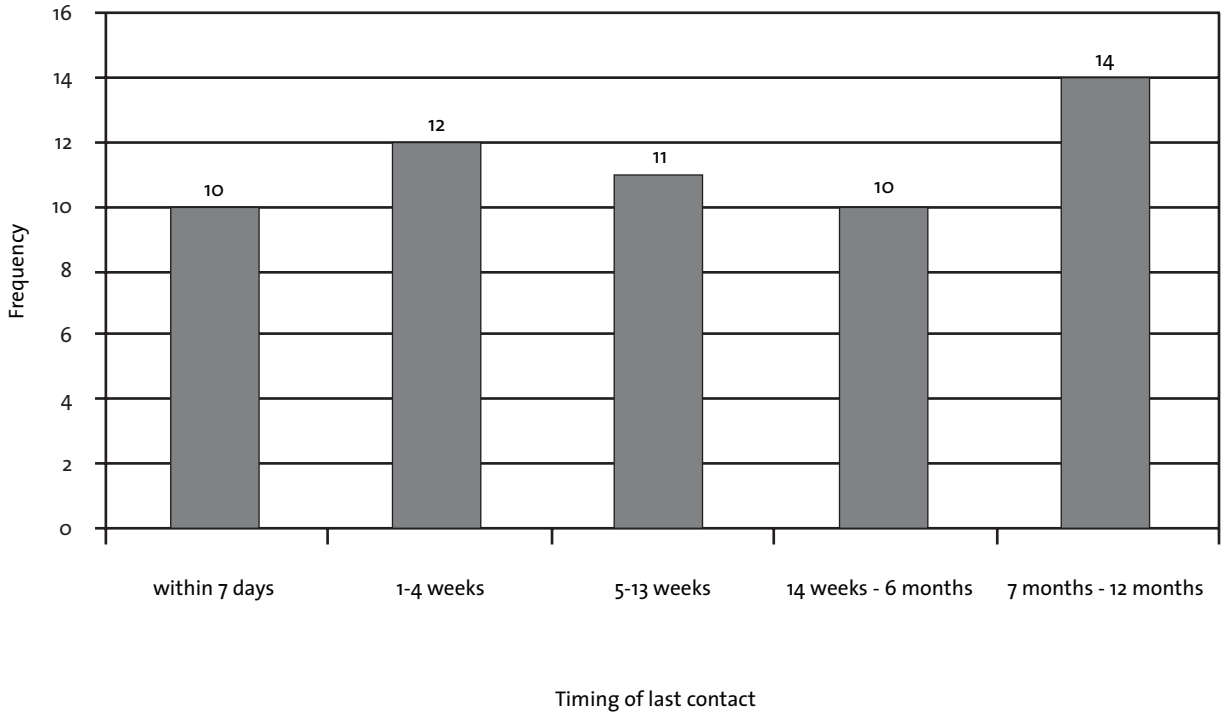
Treatment and compliance

Thirty patients (56%) were receiving some form of pharmacotherapy. Only 2 (6%) were regarded as receiving any form of psychological intervention, including psychological support. Seven (13%) were non-compliant with drug treatment in the month before the offence.

Last contact

In 33 cases (58%) the last contact occurred less than 13 weeks before the homicide and in 10 cases (18%) this was within 1 week **(Figure 42)**. In 14 cases (25%) this was a non-routine contact. In 54 cases (96%) it took place face-to-face, most often with a junior psychiatrist (15 cases, 26%), community psychiatric nurse (11 cases, 19%), consultant psychiatrist (11 cases, 19%) or ward nurse (10 cases, 18%). Long-term risk of violence was judged to be moderate or high more frequently when a consultant psychiatrist was involved in the patient's last contact. Assessment at final contact revealed abnormalities of mental state or recent behaviour in 32 cases (57%).
The most common abnormality of mental state was evidence of emotional distress (15 cases, 27%) and increased use of alcohol (13 cases, 23%) or drugs (9 cases, 16%).

Figure 42: Timing between last contact with services and the offence



4.3.3 Commentary

- The high national rate of homicide is reflected in the figures for patients as perpetrators. Of those committing homicide, 1 in 8 was a current or recent patient. The number of cases rose in 2003 and 2004 but a consistent increase was not found over the whole period of data collection.

- The diagnostic profile of the patients in this study was dominated by alcohol and drug dependence, rather than mental illness.

- Compared to those who died by suicide, recent contact with services was less common.

- Almost half had missed their final appointment – in most cases, services had followed this up but not by home visit.

4.4 DIAGNOSTIC SUB-GROUPS

This section refers to the total sample, whether or not they were patients – the patient cases are also described specifically.

4.4.1 Schizophrenia

Fifteen people convicted of homicide during the study period had a diagnosis of schizophrenia, according to court reports or services. This represents 3% of all convictions. Most were male (14 cases, 93%), unmarried (14 cases, 93%) and unemployed or long-term sick (11 cases, 73%). Ten (77%) had a history of alcohol or drug misuse. Ten (67%) had previous convictions for violence.

Eight (53%) killed an acquaintance, 4 (27%) killed a stranger and 3 (20%) killed a family member or a current or former spouse/partner. Six perpetrators (40%) used a sharp instrument in the homicide. Seven (47%) were convicted of murder and 7 (47%) received a prison sentence.

Seven (54%)[4] were considered to have an abnormal mental state at the time of the offence. Seven (47%) had been in contact with services 12 months before the offence, 4 (27%) had previous contact with services but not in the last year and 4 (27%) had no previous contact. Of these 7 with recent service contact, 5 had been diagnosed with schizophrenia by services, while the 2 remaining cases were diagnosed with depressive illness[5].

Patients with schizophrenia

Of the 5 patients (Inquiry cases) diagnosed with schizophrenia by services, 3 had been previously detained under the Mental Health Act, including 2 in a secure facility. Four had convictions for violence. All 5 were compliant with medication in the month before the offence and all 5 cases had been seen by services within 13 weeks of the offence. One had missed their last appointment. At final contact, 3 had symptoms of mental illness but the immediate risk of violence was documented to be low or absent in all 5 cases. One patient was in the first year of illness.

[4]Data were collected only on 13 perpetrators for this question.

[5]Where a discrepancy occurs between a psychiatric report diagnosis and a diagnosis provided by mental health services in the questionnaire, the psychiatric reports and questionnaires are individually examined to determine a diagnosis based on: duration of history, degree of contact with services, timing of the most recent assessment or contact and identification of psychotic symptoms.

4.4.2 Affective disorder

Twenty people with affective disorder (4% of all convictions) committed homicide. The majority of perpetrators were male (13 cases, 65%) although a diagnosis of affective disorder was proportionally more likely in female perpetrators (7 cases, 20% v. 13 cases, 3%). Most perpetrators were unmarried (11 cases, 65%), and unemployed/long-term sick (12 cases, 63%); relatively few lived alone (3 cases, 17%). Over half killed a family member or current or former spouse/partner (11 cases, 58%) and a third killed an acquaintance (6 cases, 32%). Most perpetrators used a sharp instrument (14 cases, 70%).

Seven (35%) had never been in contact with services and 9 (45%) had been in contact but not within a year of the offence. A further 6 people were in contact with services in the 12 months before the offence but only 4 of these received a final diagnosis of affective disorder in the psychiatric report, the other 2 receiving a diagnosis of schizophrenia. Twelve (60%) were convicted of murder and 14 (70%) received a prison sentence.

Patients with affective disorder

Of the 6 patients (Inquiry cases) diagnosed with affective disorder by services, 4 had missed their last appointment and 2 were non-compliant with medication in the month before the offence. Two had previously been detained under the Mental Health Act, including 1 in a secure facility. One patient had previous convictions for violence. Three had abnormalities in their mental state examination. Immediate risk of violence was absent in 5 cases (100%).

4.4.3 Personality disorder

There were 15 people with personality disorder as a primary diagnosis in the absence of severe mental illness, 3% of all convictions. All of the cases were male (15 cases, 100%), most were unmarried (10 cases, 77%) and unemployed/long-term sick (12 cases, 100%). Ten cases had a history of alcohol or drug misuse and 11 (79%) had previous convictions for violence. Eight (57%) killed an acquaintance and 5 (36%) killed a family member or current or former spouse/partner. Nine (64%) were convicted of murder and 13 (93%) received a prison disposal. Three (20%) people with personality disorder had no previous contact with services, 7 (47%) had been in contact but not in the last year and 5 (33%) had been in contact with services in the last year.

Patients with personality disorder

Of the 5 patients (Inquiry cases) diagnosed with personality disorder by services, 4 had missed their last appointment and 3 were non-compliant with treatment in the month before the offence. Four had convictions for violent offences. Three had symptoms of mental illness at last contact but immediate risk of violence was considered moderate/high in only 1 case.

4.4.4 Commentary

- There were on average 3 homicides per year by people with schizophrenia, of whom 1 per year was a current or recent patient. These figures are consistent with figures from England and Wales, assuming broadly similar rates of schizophrenia in the population of each country.

- Despite the history of mental disorder, many were convicted of murder and sent to prison, including almost half of those with schizophrenia.

- Although numbers in individual diagnostic categories were small, there seem to be differences in clinical circumstances.

- Recent non-compliance or missed contact was not a prominent feature in those with schizophrenia, in contrast to those with affective disorder or personality disorder.

- Previous convictions for violent offences were a feature in those with schizophrenia or personality disorder, but not affective disorder.

4.5 ALCOHOL AND DRUG DEPENDENCE AND MISUSE

This section refers to the whole sample, whether or not they were mental health patients. Contacts with mental health and addiction services are described.

4.5.1 Alcohol and drug misuse

One hundred and seventy-six people had a history of alcohol misuse, 51% of all convictions. Two hundred and thirty-seven (66%) had a history of drug misuse. Two hundred and eighty-nine (79%) had a history of alcohol or drug misuse.

Based upon cases where the information was known (valid percentage), the commonest drugs taken regularly in the year prior to the homicide were cannabis (115 cases, 34%), heroin and other opiates (65 cases, 19%), benzodiazepines (42 cases, 12%), cocaine/crack cocaine (27 cases, 8%) and amphetamines (24 cases, 7%).

The social, clinical and offence characteristics of people misusing alcohol are shown in **Table 22**, and for those misusing drugs in **Table 23**.

4.5.2 Alcohol dependence

Fifty-six perpetrators were diagnosed with alcohol dependence, 12% of all convictions **(Table 24)**. As with homicides in the general population, most perpetrators were male (51 cases, 91%), unmarried (45 cases, 82%) and unemployed or long term sick (50 cases, 89%). Thirty-four (65%) had convictions for violence and 16 (29%) killed a family member or current or former spouse/partner. In 31 cases (56%) the victim was an acquaintance and in 8 cases (15%) a stranger. Over half (31 cases, 55%) were convicted of murder and the majority (55 cases, 98%) received a prison disposal.

Table 22: Social, clinical and offence characteristics and final outcome in court for perpetrators with a history of alcohol misuse

	Number (176)	%	(95% CI)
Demographic features			
Age of perpetrator: median (range)	31 (15-73)		
Male perpetrator	163	93	(88-96)
Not currently married	135	77	(70-83)
Unemployed	130	74	(67-81)
Long-term sick	11	6	(3-11)
Living alone	54	34	(26-41)
Homeless	19	11	(7-17)
Clinical features			
Primary diagnosis (lifetime):			
Schizophrenia & other delusional disorders	8	5	(2-9)
Affective disorder (bipolar disorder & depression)	7	4	(2-8)
Alcohol dependence	52	30	(23-38)
Drug dependence	25	14	(9-20)
Personality disorder	7	4	(2-8)
Mentally ill at time of the offence	14	8	(5-13)

(continued overleaf)

Table 22: Social, clinical and offence characteristics and final outcome in court for perpetrators with a history of alcohol misuse (continued)

	Number (176)	%	(95% CI)
Offence variables			
Age of victim: median (range)	39 (0-93)	-	-
Male victim	146	84	(78-89)
Victim was a family member or current or former spouse/partner	36	22	(16-28)
Victim was an acquaintance	106	65	(57-72)
Sharp instrument used	96	55	(48-63)
Contact with services			
Any contact (lifetime)	72	41	(34-49)
Contact in last year	33	19	(13-25)
Final outcome			
Murder	105	60	(53-68)
Culpable homicide	69	40	(32-47)
Disposal			
Prison	166	95	(92-99)
Hospital order (with or without restriction)	5	3	(1-7)
Non-custodial	3	2	(0-5)

Table 23: Social, clinical and offence characteristics and final outcome in court for perpetrators with a history of drug misuse

	Number (237)	%	(95% CI)
Demographic features			
Age of perpetrator: median (range)	26 (14-73)		
Male perpetrator	222	94	(90-96)
Not currently married	174	73	(67-80)
Unemployed	169	72	(65-77)
Long-term sick	12	5	(3-9)
Living alone	48	22	(17-28)
Homeless	21	9	(6-13)
Clinical features			
Primary diagnosis (lifetime):			
Schizophrenia & other delusional disorders	9	4	(2-7)
Affective disorder (bipolar disorder & depression)	9	4	(2-7)
Alcohol dependence	27	11	(8-16)
Drug dependence	54	23	(18-29)
Personality disorder	7	3	(1-6)
Mentally ill at time of the offence	13	6	(3-9)

(continued overleaf)

Table 23: Social, clinical and offence characteristics and final outcome in court for perpetrators with a history of drug misuse (continued)

	Number (237)	%	(95% CI)
Offence variables			
Age of victim: median (range)	33 (0-93)		
Male victim	202	87	(82-91)
Victim was a family member or current or former spouse/partner	33	15	(11-21)
Victim was an acquaintance	139	63	(57-70)
Sharp instrument used	143	62	(55-68)
Contact with services			
Any contact (lifetime)	74	31	(25-38)
Contact in last year	35	15	(11-20)
Final outcome			
Murder	130	56	(49-62)
Culpable homicide	103	44	(38-51)
Disposal			
Prison	226	97	(95-99)
Hospital order (with or without restriction)	3	1	(0-4)
Non-custodial	4	2	(0-4)

Table 24: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with a history of alcohol dependence

	Number (56)	%	(95% CI)
Demographic features			
Age of perpetrator: median (range)	36 (18-64)		
Male perpetrator	51	91	(80-97)
Not currently married	45	82	(69-91)
Unemployed	44	79	(66-88)
Long-term sick	6	11	(4-22)
Living alone	24	45	(32-60)
Homeless	2	4	(0-13)
Priority groups			
Post-discharge patients	3	9	(0-19)
Missed contact	9	32	(15-49)
Non-compliance in the last month	1	3	(0-20)
Clinical features			
Any secondary diagnosis (from questionnaire)	15	27	(15-38)
Duration of illness (under 12 months)	7	23	(8-38)
Over 5 previous admissions (from questionnaire)	1	3	(0-9)
Any contact (lifetime)	32	57	(43-70)
Contact in last year	19	34	(22-48)
Behavioural features			
History of self-harm (from questionnaire)	16	59	(41-78)
Previous convictions for violence	34	65	(51-78)

(continued overleaf)

Table 24: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with a history of alcohol dependence (continued)

	Number (56)	%	(95% CI)
Mental state			
Mentally ill at the time of the offence	4	8	(2-18)
Psychotic at the time of the offence	1	2	(0-10)
Delusions at the time of the offence	1	2	(0-10)
Last contact within 7 days of offence (from questionnaire)	3	10	(0-20)
Symptoms at last contact (from questionnaire)	15	50	(31-69)
Estimate of immediate risk: low or none (from questionnaire)	18	100	(79-100)
Estimate of long-term risk: low or none (from questionnaire)	13	76	(45-92)
Victims details			
Age of victim: median (range)	42 (17-84)		
Male victim	48	86	(74-94)
Victim was a family member or current or former spouse/partner	16	29	(17-42)
Victim was an acquaintance	31	56	(42-70)
Sharp instrument used	27	48	(35-62)
Final outcome			
Murder	31	55	(41-69)
Culpable homicide	25	45	(31-59)
Disposal			
Prison	55	98	(90-100)

Figure 43 shows previous contact with alcohol treatment services and mental health services. Sixteen individuals had been seen by alcohol treatment services, of whom 6 (38%) had been seen within 12 months of the offence. Thirty-two cases (67%) had not been seen by alcohol treatment services, of whom 21 cases (66%) had no contact with mental health services.

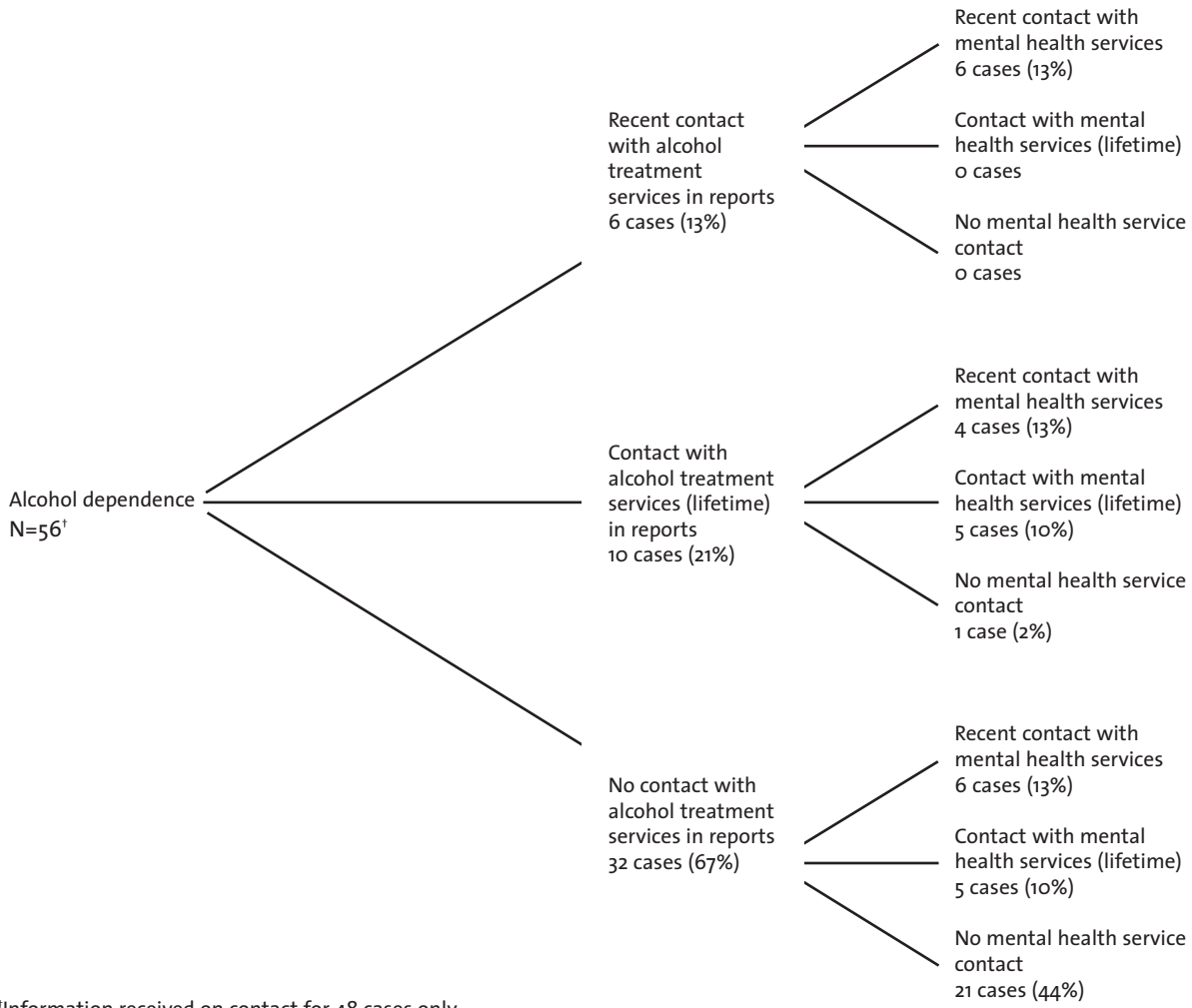
Patients with alcohol dependence

Of the 19 cases in recent service contact, 18 patients had been diagnosed with alcohol dependence by services (Inquiry cases). Of these, 9 had their last contact with alcohol services. Seven missed their last appointment with services and 1 was non-compliant with medication. Seven were reported to show evidence of increased use of alcohol at last contact. Thirteen patients were considered to pose no risk or low risk at last contact.

4.5.3 Drug dependence

Fifty-seven people were diagnosed with drug dependence, 12% of all convictions. Taken with the figures for alcohol dependence, there were 113 people with an addiction, 24% of all convictions. Of those with drug dependence, most were male (49 cases, 86%) although proportionally, women were more likely to be drug dependent (8 cases, 23% v. 49, 11%) **(Table 25)**.

Figure 43: People with alcohol dependence with or without contact with mental health services (diagnosis from psychiatric reports and services)



†Information received on contact for 48 cases only, therefore proportions are valid % based on these cases

Table 25: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with a history of drug dependence

	Number (57)	%	(95% CI)
Demographic features			
Age: median (range) of perpetrator	28 (17-43)		
Male perpetrator	49	86	(74-94)
Not currently married	36	65	(51-78)
Unemployed	51	91	(80-97)
Long-term sickness	1	2	(0-10)
Living alone	9	18	(8-31)
Homeless	11	20	(11-34)
Priority groups			
Missed contact	12	39	(22-58)
Non-compliance in the last month	1	4	(0-20)
Clinical features			
Any secondary diagnosis (from questionnaire)	16	28	(18-42)
Any contact (lifetime)	34	60	(46-72)
Contact in last year	19	33	(21-47)
Behavioural features			
History of self-harm (from questionnaire)	13	39	(23-58)
History of alcohol misuse	25	49	(35-63)
Previous convictions for violence	39	75	(61-86)

(continued overleaf)

Table 25: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with a history of drug dependence (continued)

	Number (57)	%	(95% CI)
Mental state			
Mentally ill at the time of the offence	1	2	(0-10)
Psychotic at the time of the offence	1	2	(0-10)
Last contact within 7 days of offence (from questionnaire)	2	6	(1-21)
Symptoms at last contact (from questionnaire)	21	64	(45-80)
Estimate of immediate risk: low or none (from questionnaire)	21	95	(77-100)
Estimate of long-term risk: low or none (from questionnaire)	12	60	(36-81)
Victims details			
Age of victim: median (range)	36 (5-77)		
Male victim	46	84	(71-92)
Victim was a family member or current or former spouse/partner	4	8	(2-18)
Victim was an acquaintance	37	70	(56-82)
Sharp instrument used	37	69	(56-81)
Final outcome			
Murder	33	60	(45-73)
Culpable homicide	22	40	(27-53)
Disposal			
Prison	53	96	(87-100)

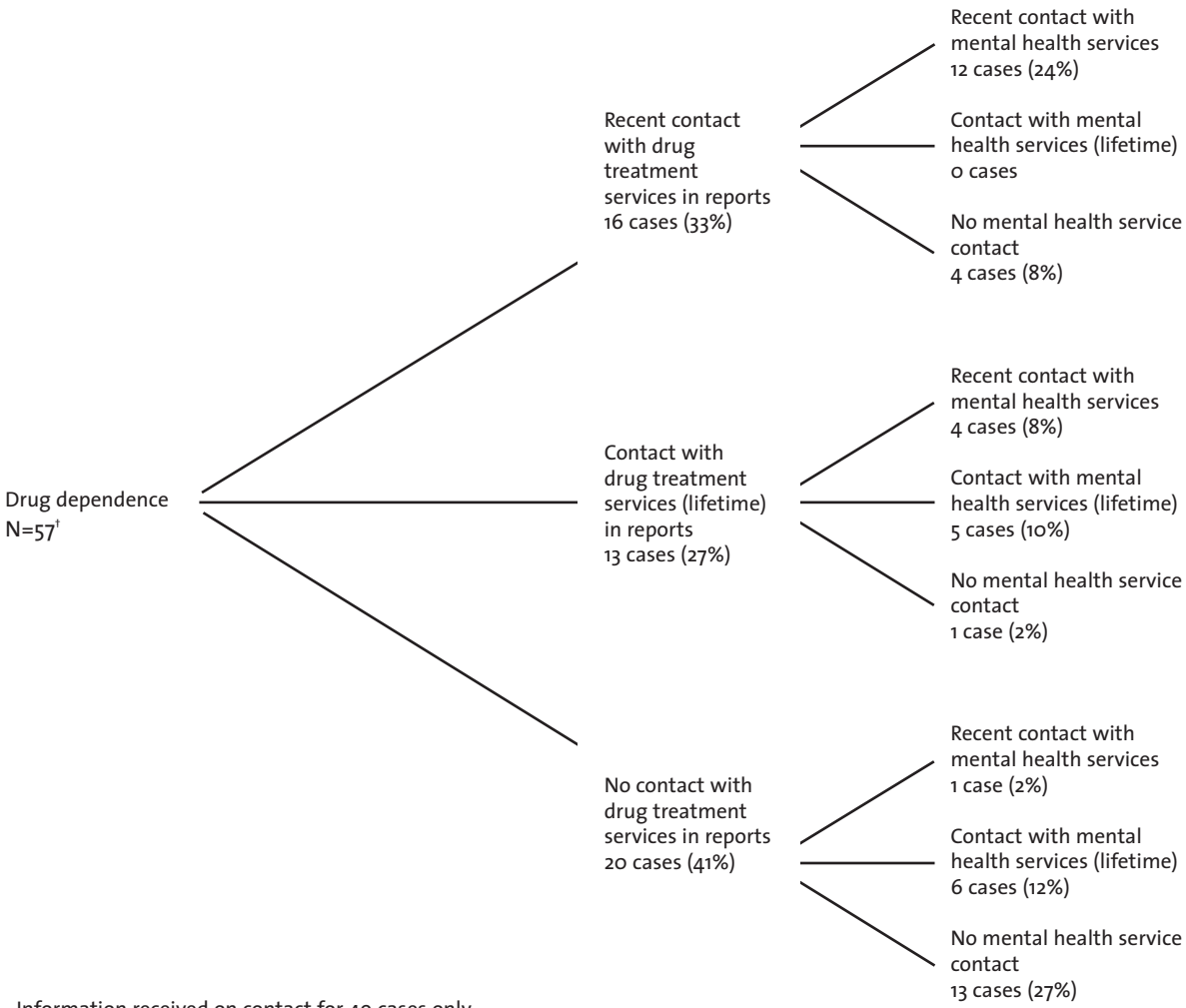
Most were unmarried (36 cases, 65%) and unemployed or long-term sick (52 cases, 93%). Thirty-nine (75%) had previous convictions for violence. The majority of perpetrators killed an acquaintance (37 cases, 70%), 12 (23%) killed a stranger and 4 (8%) a family member or current or former spouse/partner. Thirty-three (60%) were convicted of murder and 53 (96%) received a prison disposal.

Figure 44 shows previous contact with drug treatment and mental health services. Twenty-nine individuals had been seen by drug treatment services, of whom 16 (55%) were seen within 12 months of the offence. Twenty individuals (41%) had not been seen by drug treatment services, of whom 13 (65%) had no contact with mental health services.

Patients with drug dependence

Of the 18 patients (Inquiry cases) with drug dependence diagnosed by services, 7 missed their last appointment with services and 1 was non-compliant with medication in the month before the offence. Nine had abnormal symptoms at last contact, 6 of whom showed evidence of increased use of substances. Thirteen had previous convictions for violence. Immediate risk of violence was considered to be low or absent in 14 cases.

Figure 44: People with drug dependence with or without contact with mental health services (diagnosis from psychiatric reports and services)



† Information received on contact for 49 cases only, therefore proportions are valid % based on these cases

Table 26: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with dual diagnosis (severe mental illness & alcohol or drug dependence/misuse).

	Number (13)	%	(95% CI)
Demographic features			
Age of perpetrator: median (range)	30 (17-63)		
Male perpetrator	11	85	(55-98)
Not currently married	11	85	(55-98)
Unemployed	8	62	(32-86)
Living alone	5	45	(17-77)
Homeless	1	8	(0-22)
Clinical features			
Primary diagnosis (lifetime):			
Schizophrenia & other delusional disorders	8	62	(32-86)
Affective disorder (bipolar disorder & depression)	5	38	(14-68)
Mentally ill at time of the offence	8	67	(35-90)

(continued overleaf)

Table 26: Social, behavioural, clinical and offence characteristics and final outcome in court for perpetrators with dual diagnosis (severe mental illness & alcohol or drug dependence/misuse)(continued).

	Number (13)	%	(95% CI)
Offence variables			
Age of victim: median (range)	37 (6-93)		
Male victim	11	85	(55-98)
Victim was a family member or current or former spouse/partner	5	38	(14-68)
Victim was an acquaintance	6	46	(19-75)
Sharp instrument used	7	54	(25-81)
Previous convictions for violence	7	58	(28-85)
Contact with services			
Any contact (lifetime)	7	54	(25-81)
Contact in last year	3	23	(5-54)
Final outcome			
Murder	5	38	(14-68)
Culpable homicide	8	62	(32-86)
Disposal			
Prison	8	62	(32-86)
Hospital order (with or without restriction)	4	31	(9-61)
Non-custodial	1	8	(0-36)

4.5.4 Dual diagnosis

There were 13 homicide perpetrators with severe mental illness (schizophrenia or affective disorder) and alcohol or drug dependence/ misuse **(Table 26)**. Most were male (11 cases, 85%) and single (11 cases, 85%). Seven (58%) had previous convictions for violence. Six (46%) killed an acquaintance. Eight (62%) had a primary diagnosis of schizophrenia. Three (23%) were in contact with mental health services within 12 months of the offence. Eight (62%) received a verdict of culpable homicide, 4 (31%) received a hospital disposal.

Three perpetrators with dual diagnosis were in contact with mental health services within 12 months of the homicide, 0.6% of the sample, 5% of Inquiry cases.

4.5.5 Comparisons between 2000-2004 and 1997-2000

The number of perpetrators misusing drugs was significantly higher than in the previous report (237 cases, 66%, v. 75 cases, 43%) as was the proportion with drug dependence (57 cases, 12% v. 12 cases, 5%). The rates of alcohol misuse or dependence remained high but did not change.

4.5.6 Commentary

- Alcohol or drug misuse were found in the majority of cases (289 cases, 79%).

- Alcohol and drug dependence were also common, occurring in 113 cases (24%), but few of these people were in current or recent contact with either mental health or addiction services.

- The majority of drug or alcohol dependent perpetrators were convicted of murder and almost all were sent to prison. A prison sentence was less likely if mental illness was also present but even then, most were imprisoned.

4.6 RISK ASSESSMENT

Of the 58 patients in contact with services within 12 months of the offence, 10 (18%) were seen within 7 days of committing the offence **(Figure 42)**.

Assessment at final contact revealed abnormalities of mental state or a change in recent behaviour in 32 cases (57%) as shown in **Table 21**. Staff judgment of risk at final contact is shown in **Figure 45**. In 43 cases (74%), immediate risk was judged to be low or absent, although in 23 (58%) there had previously been a conviction for a violent offence. Of the 31 (72%)[6] patients considered to present low or absent long-term risk, 11 had previous convictions for violence.

Of the 5 patients considered to present a high long-term risk of violence at last contact with mental health services, all had convictions for violence; 1 had previously been detained in a secure unit and 1 had been detained under the Mental Health Act. Two had their last contact with services less than 7 days before the offence, one 1-4 weeks, one 5-13 weeks and one 14 weeks-6 months. One patient had a diagnosis of schizophrenia, 1 anxiety disorder (anxiety/phobia/panic disorder/obsessive compulsive disorder) and 3 substance dependence. All were compliant with medication a month before the homicide, but 2 missed their last appointment with a member of the mental health team. Patients considered to be moderate or high long-term risk of violence at last contact were more likely to have a previous conviction for violence, a secondary diagnosis and were seen by services within 7 days of the offence.

[6]Data was only collected on 43 perpetrators for this question.

4.6.1 Commentary

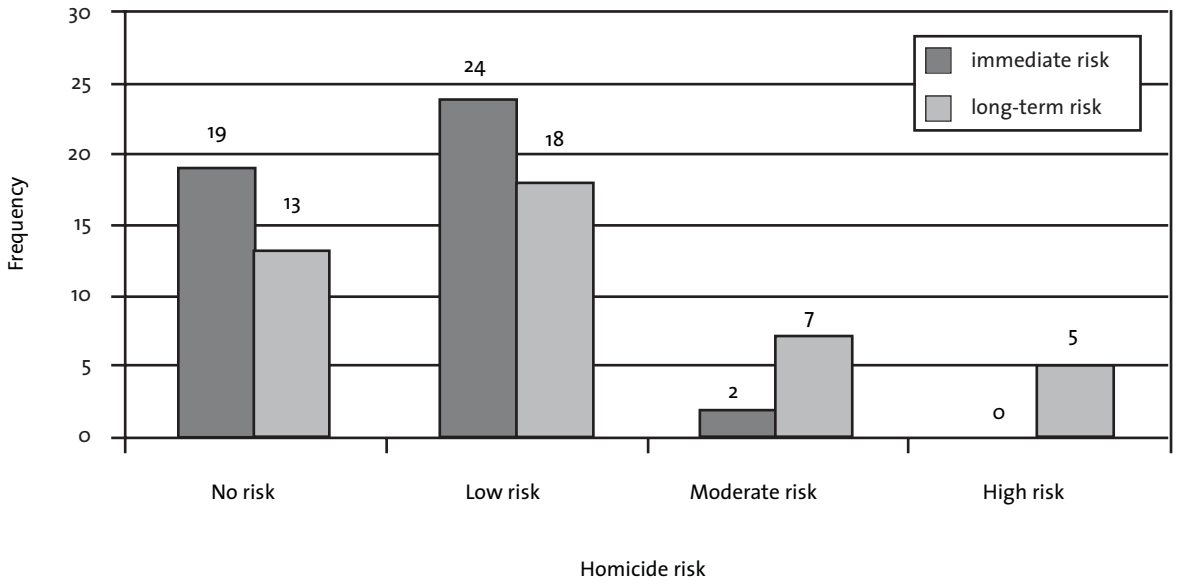
- The pattern of estimated risk is similar to what we have reported for suicide – in most cases, risk was thought to be low or absent.

- Although it could be argued that clinicians are bound to say this when asked about a case in which a tragedy has occurred, we believe this is a true reflection of how most patients were viewed, as it is largely confirmed by the care being delivered at the time.

- There are several reasons why risk may appear to have been under-estimated: for example, circumstances can change and an assessment made on one day may not be accurate the following week or month. However, there are also difficulties for clinicians inherent in current ways of assessing and monitoring risk, which rely on "here and now" factors such as mental state at the expense of historical factors, such as previous violence or drug misuse, which suggest substantial risk even when mental state appears normal. Clinicians must also manage numerous patients with multiple risk factors – it is possible that they become "desensitised" to the risk of a single individual.

- These issues should be at the heart of risk management procedures and training.

Figure 45: Mental health teams' estimation of homicide risk at last contact



4.7 HOW MANY HOMICIDES COULD BE PREVENTED?

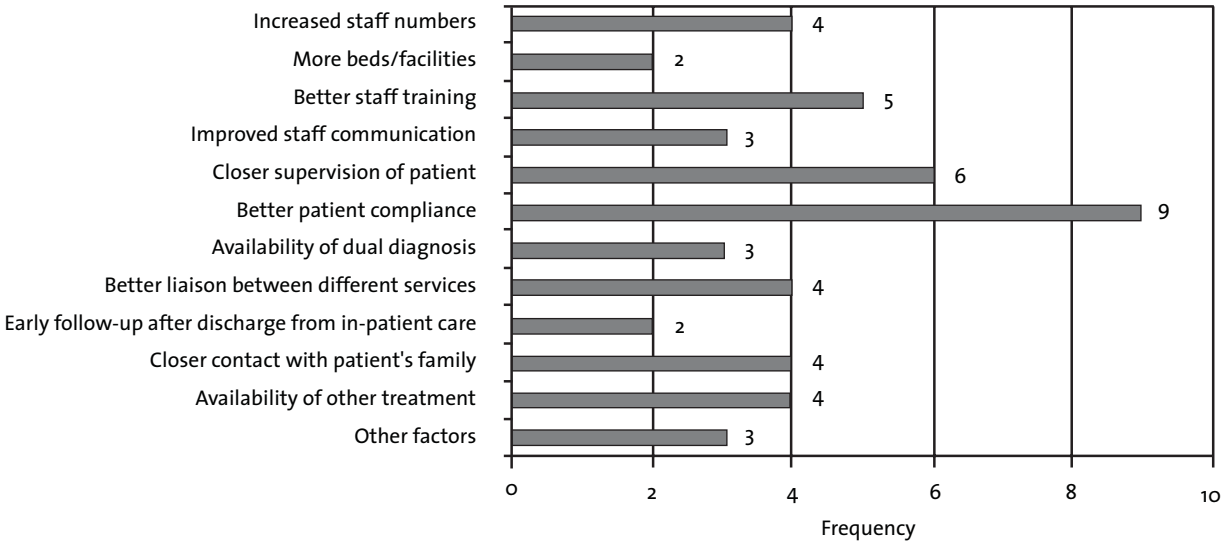
In 1 case (2%) the respondent believed that the homicide could have been prevented. However, in 18 cases (36%) factors were identified that would have made the homicide less likely. These factors are shown in **Figure 46**.

4.7.1 Commentary

- As with suicide, clinicians see most cases as not preventable, although they do suggest several ways in which a reduction in risk might have occurred.

- The most commonly suggested measures are concerned with the receipt of care and treatment – a positive view of what services can achieve.

Figure 46: Factors which could have made homicide less likely in recent contact Inquiry cases



4.8 COMPARISON WITH ENGLAND AND WALES (2000-2004)

4.8.1 Rates

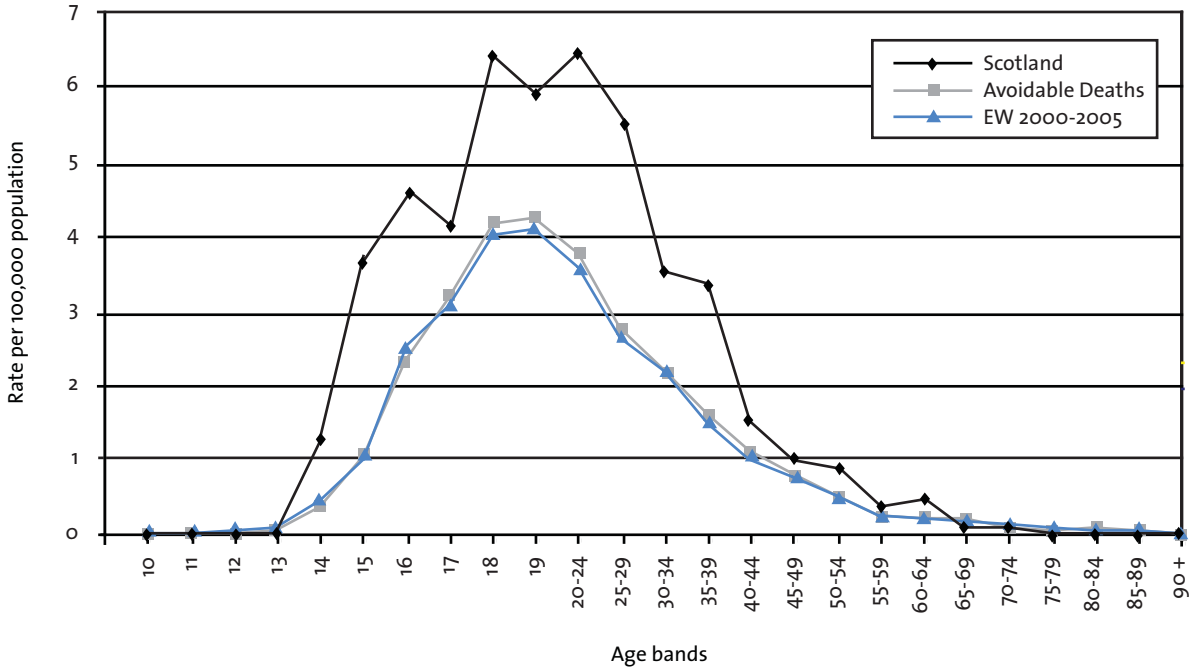
The average annual homicide rate in Scotland is significantly higher than in England and Wales, 2.12 compared to 1.23 per 100,000 population. (Data were compared for the reporting periods 2000-2004 for Scotland and 1999-2003 for England and Wales).

4.8.2 Homicide in the general population

The risk of carrying out a homicide varies with age, and the higher rates in Scotland are particularly found in young people **(Figure 47)**.

In Scotland, fewer perpetrators killed a family member or current or former spouse/partner (88 cases, 20% v. 823 cases, 39%) while more killed an acquaintance (257 cases, 58% v. 813 cases, 38%). There were no differences in the number of stranger homicides. However, in Scotland perpetrators of stranger homicide were less likely to have a history of alcohol misuse (21 cases, 37% v. 74 cases, 52%).

Figure 47: Homicide age profile for Scotland compared to England and Wales 2000-2004 and Avoidable Deaths Report (England and Wales, April 1999-December 2003)



The use of a sharp instrument was significantly more common in Scotland (252 cases, 56% v. 971 cases, 36%). More people had a history of violence against the person (224 cases, 55% v. 994 cases, 39%). Fewer were committed to psychiatric hospital (13 cases, 3% v. 154 cases, 6%).

4.8.3 Homicide by people with mental illness

In Scotland a lower proportion of perpetrators had symptoms of mental illness at the time of offence (25 cases, 7% v. 261 cases, 22%) or a diagnosis of schizophrenia (15 cases, 3% v. 141 cases, 5%). A lifetime history of mental disorder was more likely (193 cases, 40% v. 806 cases, 30%) in cases in Scotland, although it was less likely if alcohol dependence and drug dependence were excluded (80 cases, 17% v. 590 cases, 22%). Contact with services within 12 months of the offence was more frequent in Scotland (58 cases, 12% v. 249 cases, 9%).

These lower figures for rates of schizophrenia and severe mental illness reflect a higher rate of homicide overall in Scotland, i.e. there are more perpetrators without mental illness. When homicide rates per 100,000 population for the main diagnoses other than addictions are compared they are almost identical: schizophrenia 0.07 in Scotland, 0.06 in England and Wales; affective disorder 0.09 in Scotland, 0.07 in England and Wales; personality disorder 0.07 in Scotland, 0.07 in England and Wales. Differences occur in alcohol dependence: 0.25 in Scotland, 0.06 in England and Wales; drug dependence 0.25 in Scotland, 0.04 in England and Wales.

Of perpetrators with schizophrenia, fewer in Scotland killed a family member or current or former spouse/partner (3 cases, 20%, v. 78 cases, 61%). Fewer were considered to be mentally ill at the time of the offence (7 cases, 54%, v. 104 cases, 86%).

4.8.4 Substance dependence and misuse

More perpetrators were diagnosed with alcohol dependence in Scotland (56 cases, 12% v. 134 cases, 5%) and drug dependence (57 cases, 12% v. 83 cases, 3%). Likewise, the number misusing drugs was higher than in England and Wales (237 cases, 66%, v. 603 cases, 50%). Perpetrators were significantly more likely to use heroin (65 cases, 19% v. 103 cases, 9%), benzodiazapines (42 cases, 12% v. 35 cases, 3%), ecstasy (23 cases, 7% v. 42 cases, 4%) and cannabis (115 cases, 34% v. 308 cases, 27%).

4.8.5 Inquiry homicide cases

In Scotland, patients convicted of homicide were more likely to have a service diagnosis of alcohol dependence (18 cases, 31% v. 32 cases, 14%) or drug dependence (18 cases, 31% v. 27 cases, 12%) and less likely to have schizophrenia (5 cases, 9% v. 73 cases, 31%).

Those who missed their last appointment with services were less likely to have a diagnosis of schizophrenia (1 case, 4% v. 26 cases, 31%), less likely to be mentally ill (2 cases, 9% v. 29 cases, 43%) at the time of the offence, and specifically less likely to be psychotic (2 cases, 9% v. 19 cases, 29%). More people in England and Wales were in contact with services within 7 days of the offence (10 cases, 8% v. 73 cases, 17%).

appendices

APPENDIX 1: REFERENCES

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APPENDIX 2: GLOSSARY OF TERMS

The following list defines key terms as used in this report:

Alcohol/drug/substance misuse/dependence

The term "drugs" includes heroin and other opiates, amphetamines, ecstasy, cocaine, crack cocaine, hallucinogens, cannabis, and (when used without prescription) benzodiazepines. When alcohol is included, the term "substance" is used. Misuse is an imprecise term referring to excessive consumption that could cause social, physical or legal problems. Dependence is synonymous with addiction, suggesting severe misuse.

Co-morbidity

The simultaneous presence of two or more disorders (often refers to severe mental illness and substance misuse).

Drugs:

Psychotropic drugs

Any drugs used in the treatment of individuals with mental disorder.

Antipsychotic drugs

Drugs used to treat psychosis, particularly schizophrenia.

Atypical antipsychotic drugs

Newer (and more expensive) anti-psychotic drugs which do not have some of the side-effects of older drugs, especially abnormal movements.

Antidepressants

Drugs used to treat depression (and other disorders). Two main sub-groups:
(1) Tricyclic antidepressants, used for many years, cheap but can be more dangerous in overdose.
(2) Selective serotonin reuptake inhibitors (SSRIs), newer and more expensive but generally have fewer side-effects and are safer in overdose.

Homicides

Convictions for murder or culpable homicide in Scotland:

Murder

Unlawful killing where the offender is of sound mind and discretion and had malice aforethought (i.e. intent to cause death or grievous bodily harm).

Culpable homicide

Homicide where there is an absence of intent to kill or there are mitigating factors such as immediate severe provocation, or there is an abnormality of mind of such severity that the perpetrator's responsibility was substantially impaired ("diminished responsibility").

Inquiry case
A person on whom the Inquiry obtained questionnaire data. The Inquiry requests information on all persons in contact with mental health services in the year before suicide or at any time before homicide. "Recent contact" homicide cases are those in which the perpetrator had been in contact with mental health services in the 12 months before the homicide.

Jumping/multiple injuries
This method of suicide includes: jumping from a height, lying in front of a road vehicle, train, or other unspecified object.

Mental illness
Clinically significant mental disorder other than "behavioural" disorders such as alcohol or drug misuse and personality disorder. Mainly refers to schizophrenia and affective disorders. When "severe" is added, this signifies that the illness is of a severity that would usually lead to contact with mental health services rather than primary care alone.

Mental disorder
Any clinically significant mental or behavioural disorder, including alcohol or drug dependence (but not misuse) and personality disorder.

(Non-) compliance
Refer to (non-)receipt of proposed treatment. Unsatisfactory terms because they carry the implication that the patient should always follow medical instruction. Being superseded by (non-)concordance and (non-)adherence as both a concept and an expression, but retained here because they are still in general use.

Patient-initiated discharge
Includes discharge following breach of patient contract, e.g. self harm; or ward rules, e.g. drinking, violence; patient request; self-discharge and discharge following refusal of section 18 by the sheriff.

Secure Units
Secure units for individuals who are thought to pose special risks, particularly of violence to others. Also includes **High Secure Hospital** (i.e. in Scotland, The State Hospital, Carstairs)

Suicides
Deaths that at the inquest of the Procurator Fiscal received a verdict of suicide or undetermined intent, excluding verdicts in which suicide was clearly not considered. Therefore includes suicides and probable suicides but excludes suicides receiving any other verdict such as misadventure.

APPENDIX 3: INQUIRY PUBLICATIONS

Papers

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