



National Suicide Research Foundation

# **Inquested deaths in Ireland: A study of routine data and recording procedures**

## **Summary Report**



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

**Commissioned by the HSE National Office for Suicide Prevention**





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Electronic copies of the Summary Report and the Technical Report are available from the websites of the National Suicide Research Foundation and the HSE National Office for Suicide Prevention:

[www.nsrf.ie](http://www.nsrf.ie)

[www.nosp.ie](http://www.nosp.ie)

## FOREWORD

Effective suicide prevention programmes depend on the quality of information regarding the extent and nature of the suicide problem. In Ireland, information on suicide deaths is routinely obtained from a number of official sources, including a statistical return called Form 104. This form was revised in 1998 and the National Suicide Research Foundation was then commissioned to research the extent of suicide and its associated factors based on the information being gathered.

Following the launch of Reach Out, the National Strategy for Action on Suicide Prevention, 2005-2014 and the establishment of the Health Service Executive National Office for Suicide Prevention in 2005, this research work was prioritised as part of Reach Out Action Area 25, which aims:

“To establish effective and integrated national information systems relating to suicidal behaviour in order to inform service development and to improve the availability and accessibility of information on where and how to get help”.

The work reported here will contribute to increased knowledge and understanding of the circumstances of deaths by suicide in Ireland. In addition, the research will help us to determine the efficacy of Form 104 as a tool for routinely gathering accurate sociodemographic and psychosocial data on deaths that lead to a coroner’s inquest.

In terms of evaluating the impact of the ten year Reach Out strategy in Ireland, a reduction in the suicide rate is one of the main outcome measures. Therefore, access to reliable routine data on suicide deaths is a key priority. This important report will contribute significantly to meeting this priority.

**Mr Geoff Day**

**Director, HSE National Office for Suicide Prevention**

**December 2007**



## **ACKNOWLEDGEMENTS**

This report was compiled by Dr Paul Corcoran, National Suicide Research Foundation, with significant comments and contributions from Dr Ella Arensman, National Suicide Research Foundation, and officers of the Vital Statistics Section of the Central Statistics Office (CSO), in particular Mr Joseph Keating. Helpful comments were also provided by Mr Geoff Day and Mr Derek Chambers of the HSE National Office for Suicide Prevention and Chief Superintendent John Kelly of An Garda Síochána. Dr Paul Corcoran and Ms Vera McCarthy of the National Cancer Registry were appointed as Officers of Statistics to the CSO and carried out the study. Thanks are due to Dr Harry Comber, Director of the National Cancer Registry, for facilitating this arrangement. The National Task Force on Suicide made the recommendations that led to the study being undertaken. Particular thanks are due to the late Dr Michael J Kelleher and Mr Brian Howard in this regard. The study was commissioned initially by the National Suicide Review Group and then, after its establishment in 2005, by the HSE National Office for Suicide Prevention. Support and advice were provided throughout the study by Dr Margaret Kelleher and Mrs Eileen Williamson of the National Suicide Research Foundation. Special thanks are due to the many officers of the CSO who supported and facilitated the study. These include Mr Donal Garvey, Mr Joseph Treacy, Mr Pádraig Dalton, Mr Kieran Walsh, Ms Mary Heanue, Mr Joseph Keating, Mr Pat Casey and Ms Mary Condon. Thanks also to the coroners, registrars and garda officers who provided information and participated in interviews, and the National Advisory Group to the HSE National Office for Suicide Prevention, in particular Dr John Connolly and Mr Brian Howard.

## INTRODUCTION

Ireland's Central Statistics Office (CSO) and national statistics offices in other European countries classify the cause of every death according to the World Health Organization's International Classification of Diseases, Injuries and Causes of Death (ICD). Deaths not due to illness or disease are due to an external cause and generally comprise accidental falls, drownings and poisonings, suicides, road traffic accidents and homicides. The providers of the information used by national statistics offices to classify external causes of death varies across Europe.

In Ireland in the 1960s, coroners were the primary providers of such information to the CSO. At this time, suicide was considered a crime in Ireland and religious sanctions against suicide were in place. Ireland had one of the lowest official suicide rates in Europe, though significant underreporting of suicide was suspected.

In 1968, the CSO began classifying cause of death according to the eighth revision of the ICD (ICD-8). This revision introduced a new external cause of death category for deaths where it was undetermined whether the death was accidentally or purposely inflicted, often called deaths of undetermined intent or undetermined deaths.

In the same year, the CSO and An Garda Síochána (the Irish police) made an arrangement to provide additional information to the CSO in respect of deaths that resulted in a coroner's inquest. The Form 104 was developed solely for the purpose of supplementing the information on the coroner's certificate for the better statistical classification of cause of death. The form provided the CSO with a garda opinion as to whether the death was accidental, suicidal, homicidal or undetermined. Since 1968, this opinion has been central to informing the CSO in respect of classifying the cause of deaths that resulted in an inquest.

The late 1960s also signalled the beginning of the period when reported Irish suicide rates increased steadily. For 10 years or so, increasing rates were observed in men and women and across different age groups.



Since 1980, the male suicide rate continued to rise whereas the female rate remained stable. However, the suicide rate among young Irish women doubled in the last decade.

Suicide was decriminalised in Ireland in 1993, an act that precipitated Ireland's suicide prevention activities. In 1995, the Minister for Health and Children established a National Task Force on Suicide which published its recommendations in 1998. It recommended that Form 104 be expanded to include more information relating to the deceased and the circumstances of the death. Following a pilot phase, the expanded Form 104 went into operation at national level in October 1998.

The Task Force also recommended that a researcher be appointed as an Officer of Statistics to the CSO in order to analyse the information collected on Form 104. Form 104 is treated as strictly confidential in accordance with the Statistics Act, 1993. Exceptional access to the Forms 104 was granted by the CSO for the study.

The general objective of the study was to analyse the data recorded on Form 104. The primary reason for expanding the form was to know more about the profile of individuals who died by suicide. Consequently, it was a specific objective of the study to judge how the expanded Form 104 performed as a mechanism for routinely collecting sociodemographic and psychosocial data on individuals whose deaths led to an inquest and particularly on those who died by suicide. The study did not aim to quantify the extent to which suicide deaths had been misclassified as other causes of death. Such an aim would have required a broader and more extensive examination of the death registration and cause of death classification system.

The study focused on inquested deaths that occurred in 2002 and were registered in either 2002, 2003 or 2004. While data relating to these inquested deaths were analysed, particular attention was paid to the data relating to suicide deaths as this was the focus of the National Task Force on Suicide and of both agencies that commissioned the work – the National Suicide Review Group and, since September 2005, the HSE National Office for Suicide Prevention. Findings from the analysis of the Form 104 data are provided in detail in Section I of the Technical Report.



During the course of the study, the scope of the work broadened. This was in recognition of the fact that the Form 104 reporting procedure was just one part of the death registration and cause of death determination system. Interviews were carried out with representatives of the agencies involved in this system and a detailed description of the system is provided in Section II of the Technical Report. How the Form 104 reporting system performed in terms of forms being completed for all inquested deaths in 2002 is described in detail in Section III of the Technical Report. Section IV then describes the completeness of the data recorded on Form 104 and, where possible, how consistently these data matched other data collected by the death registration and cause of death determination system. These sections contain detailed technical descriptions which require careful interpretation.

As mentioned above, the study focused on inquested deaths that occurred in 2002 and were registered in either 2002, 2003 or 2004. More recently, changes have been made to the death registration and cause of death determination system and specific efforts have been made to improve the Form 104 reporting system. This should be borne in mind when reading Sections II through IV of the Technical Report. The profile of individuals whose deaths result in inquest is unlikely to have changed significantly since 2002. Therefore, the findings from the analysis of the Form 104 data are likely to be valid for more recent years.



# SUMMARY OF FINDINGS RELATED TO THE DEATH REGISTRATION AND CAUSE OF DEATH DETERMINATION SYSTEM

## Registration of deaths

The death registration and cause of death determination system that operated in Ireland in respect of deaths that occurred in 2002 and led to a coroner's inquest generally involved the following chain of notifications and information transfers:

1. Gardai notified and provided information to coroners
2. After inquest, coroners recorded information on their certificate and transferred this to registrars thereby notifying them of the death
3. Registrars transcribed information from the coroner's certificate onto a death registration form (Form 102) and forwarded both to the CSO
4. The CSO used information from these documents to compile an electronic database of inquested deaths and also to complete some parts of the Form 104
5. The Form 104 was then sent to the gardai with a request for it to be completed, thereby providing an opinion as to whether the death was accidental, suicidal, homicidal or undetermined, and returned to the CSO
6. Informed by this opinion and the supplementary information on the Form 104, Form 102 and coroner's certificate, the detailed cause of death was then assigned in accordance with the ICD guidelines.

## Time to inquest

Time from death to the completion or adjournment of inquest varied widely. Almost one in five (18%) inquests took place within three months of the death, almost half (48%) within six months, almost three-quarters (71%) within nine months and 85% within a year. Time to inquest varied by region. One in four (27%) Dublin-registered deaths were inquested more than 12 months after the death. This was the case for 8-11% of the deaths registered elsewhere. Time to inquest also varied by cause of death. Inquests taking place more than 12 months after the death included 8% of suicide deaths but 27% of deaths of undetermined intent.

## Late registration

There were approximately 1,800 deaths in 2002 that resulted in an inquest of which 94% were registered on time (i.e. in 2002 or 2003) and included in routine mortality statistics while 6% were registered late (in 2004) and therefore excluded from routine mortality statistics. A small number of deaths would have been registered after 2004 though the study did not examine these. However, the findings indicate that late-registered deaths cause routine Irish mortality statistics to underestimate external causes of death by an average of at least 6%. The level of this underestimation varied by cause of death - 4% for suicides, 5% for accidental deaths and 12% for undetermined deaths.

## Form 104 reporting and cause of death recording

The examination of how the Form 104 reporting system performed in terms of forms being completed for the inquested deaths that occurred in 2002 (described in detail in Section III of the Technical Report) indicated that the CSO were in receipt of appropriately completed forms for in excess of 90% of year 2002 inquested deaths. Dublin-registered deaths accounted for the majority of unreturned forms. The CSO have recently taken steps to improve both the traceability and rate of return of Form 104.

Suicide was recorded as the cause of death for just 5% of the deaths without a completed Form 104, and therefore with no garda opinion of the cause of death, compared to 29% of deaths with a Form 104. Either suicide deaths were associated with a higher rate of returned forms or suicide was underrecorded among deaths without a form. If the latter was true then Dublin was most affected by such underrecording of suicide. However, this could only partly explain the lower official suicide rate observed for Dublin in 2002 compared to the rest of Ireland.

In addition to the possible underrecording of suicide in Dublin due to unreturned Forms 104, there was evidence to suggest that when forms were returned, misclassification of suicides as deaths of undetermined intent was common in Dublin compared with the rest of the country. Such misclassification could explain most of the difference between Dublin's low suicide rate and the rate for the rest of the country.

The garda completing Form 104 was asked to select whether, in his/her opinion, the death was accidental, suicidal, homicidal or undetermined. None of these options were selected in 8% of the forms examined. In almost two-thirds of these cases, the garda had written a note, usually specifying that the death was by natural causes. The importance of the garda opinion in determining the cause of death



recorded by the CSO was clearly evident. Of the deaths indicated to be accidental or homicidal by the garda who completed the form, 90% were assigned the equivalent cause of death. Of 495 deaths indicated to be suicides by the garda, 485 (98%) were so recorded by the CSO. There were seven deaths recorded as suicides by the CSO when this was not indicated by the garda opinion. Decisions to override the garda's opinion would have been informed by an examination of the supplementary information on the Form 104, Form 102 and coroner's certificate and would have been in accordance with the ICD guidelines.

## Data inconsistencies

As noted and described above, the death registration and cause of death determination system that operated in Ireland in respect of deaths that occurred in 2002 and led to a coroner's inquest involved a paper-based sequence of data transcription and transfer between gardai, coroners, registrars and officers of the CSO. During the course of the study, it was noted that the system had introduced some inconsistencies in the data recorded. Human error in the transcription of data was likely to have been the cause of these inconsistencies. The study did not seek to identify the source of the human error and did not attempt to apportion blame or fault specifically to any one of the agencies involved in the system. These inconsistencies are described in Section IV of the Technical Report. One of the most notable inconsistencies related to the year of death. In 4.5% of the 1,800 deaths examined, the year of death on the completed Form 104 differed from that on the CSO mortality database. Most data transfer between the agencies involved in the Irish death registration system is now done electronically, a measure that should eradicate inconsistencies introduced by human error.

## Data completeness

The completeness of the data recorded on Form 104 is also reported in detail in Section IV of the Technical Report. Core reference information and information relating to the death were recorded on virtually all forms. There was also a high level of completeness in respect of the sociodemographic characteristics of the deceased, particularly on age (96%), marital status (99%) and employment status (96%) though less so on domestic living arrangement (88%) and occupation (76%). There was a low level of completeness in respect of medical history and contributing factors, provided in just 35% and 16% of the forms examined, respectively. Forms relating to suicide deaths more often contained information relating to medical history (54%) and contributing factors (34%). Across the majority of the items recorded on Form 104, Dublin-registered deaths were associated with the highest level of missing information.

## SUMMARY OF FINDINGS ARISING FROM THE ANALYSIS OF DATA RECORDED ON FORM 104

For 3% of the 1,800 inquested deaths, the deceased had resided outside of Ireland. Almost half of these individuals had resided in Northern Ireland and 20% in England. Men accounted for three-quarters (75%) of all inquested deaths but 80% of the suicide and homicide deaths.

For suicides and homicides, the peak number of deaths was in the age range 15-34 years. For accidental deaths, there was a secondary peak in deaths in the 15-34 year age group due to road traffic accident deaths but the primary peak was among over 65 year-olds and was due to accidental falls.

### Marital status

Suicide rates calculated based on the marital status recorded on Form 104 showed separated men and women to have high suicide rates, several times higher than the rate of married persons. This was not evident from the rates calculated using the marital status recorded by the CSO from the coroners' certificates (Figure 1). It may be that persons legally married but separated from their spouse were generally classified as married by coroners and classified as separated by gardai completing Form 104.

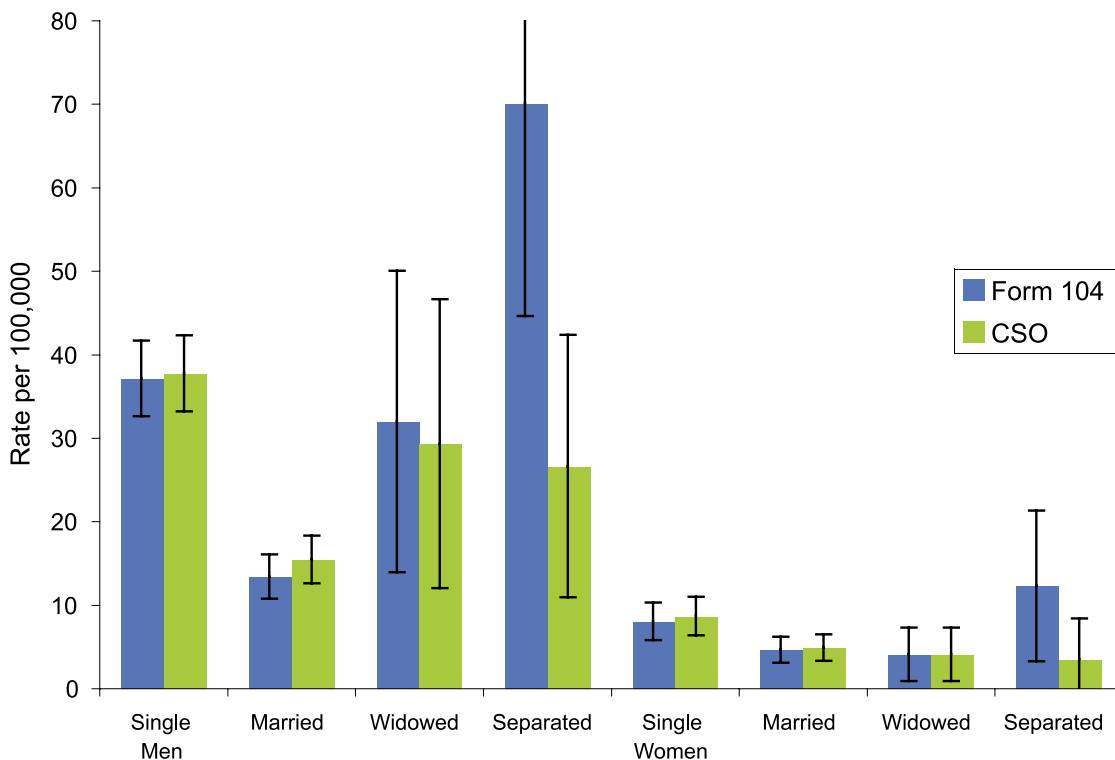


Figure 1. Male and female suicide rate by marital status according to Form 104 and the CSO's routine mortality data (the error bars represent 95% confidence intervals for the rates).



### Domestic living arrangement

For those who died by suicide, 85% were either living alone (23%), with their parent(s) (32%) or with their partner (30%). For men and women, living alone was associated with a marked increase in the rate of suicide whereas living with a partner was associated with a reduced rate (Figure 2).

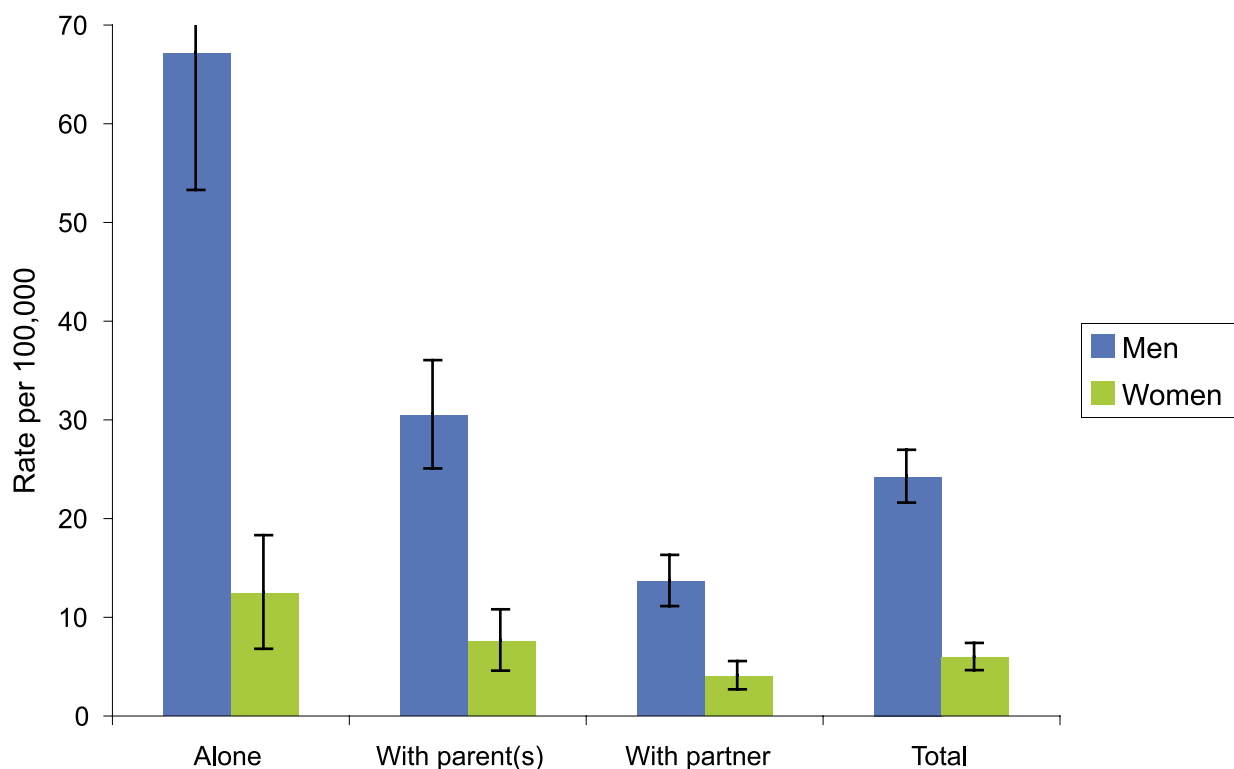


Figure 2. Suicide rate (persons aged over 15 years) by domestic living arrangement (the error bars represent 95% confidence intervals for the rates).

## Employment status

For both genders, unemployment was associated with a greatly increased rate of suicide (Figure 3). Unemployed men had a suicide rate (88.8 per 100,000) that was almost four times higher than the rate for men in employment (23.9 per 100,000). The suicide rate of women who were unemployed (27.1 per 100,000) was five times higher than that of the employed (5.2 per 100,000). Women engaged in home duties had a similar suicide rate (7.2 per 100,000) to the employed.

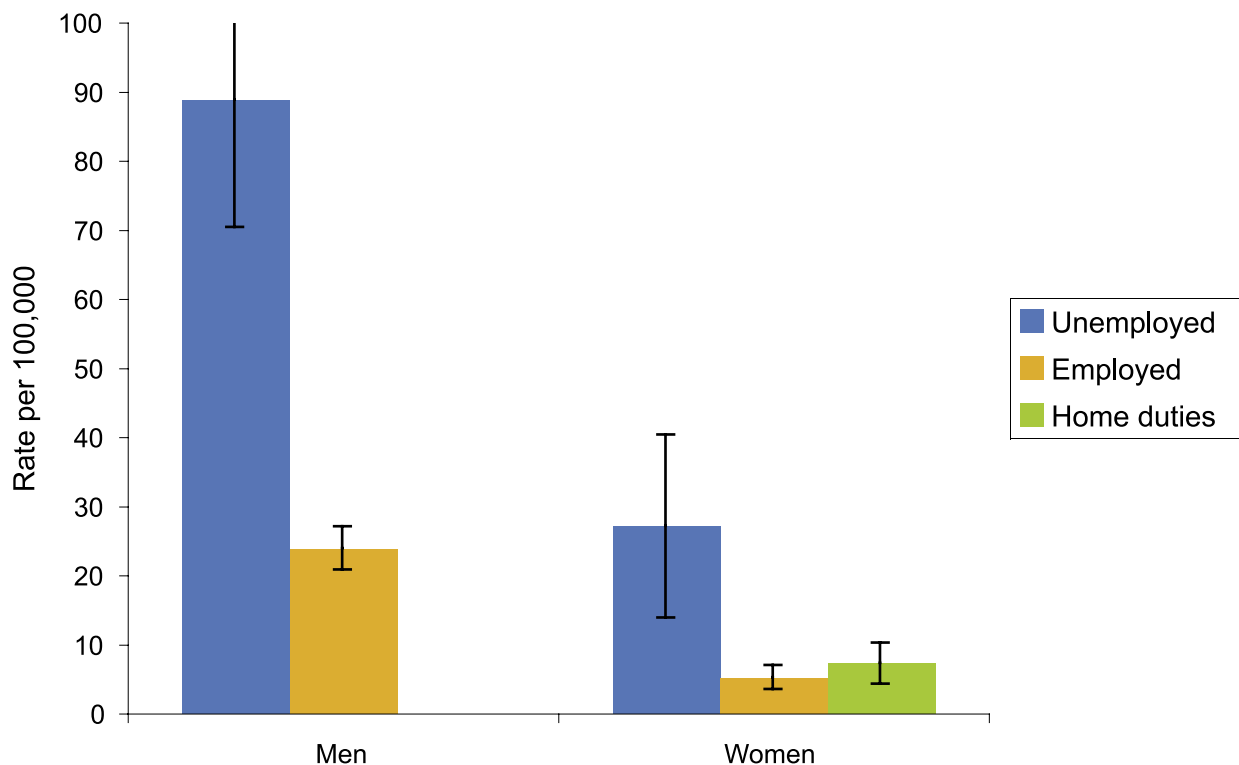


Figure 3. Suicide rate (persons aged over 15 years) by employment status (the error bars represent 95% confidence intervals for the rates).



### Circumstances of the death

Approximately half of the suicides and the undetermined deaths occurred at or around the home of the deceased compared to 26-30% of the accidents and homicides. The data indicated that a final communication (generally in the form of a written note) was made in 30% of the suicide deaths.

### Temporal variation

An above average number of deaths occurred on Sundays and Mondays (Figure 4). Accidental deaths had their peak on Sundays whereas suicide deaths peaked on Mondays. For each, the rate was at least 20% higher than expected on these days. Suicide deaths were least common on Wednesdays and Thursdays, days with 17% fewer deaths than expected.

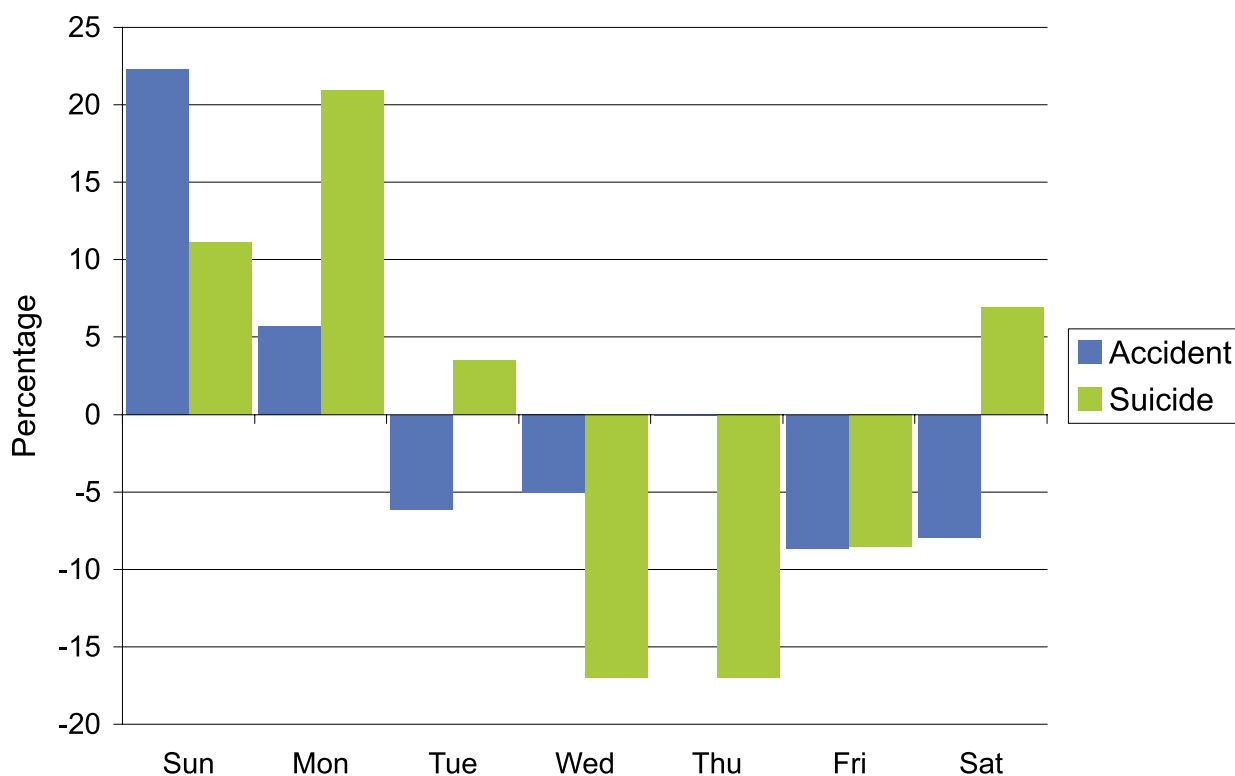


Figure 4. Percentage difference between observed and expected number of accidental and suicidal deaths by weekday.



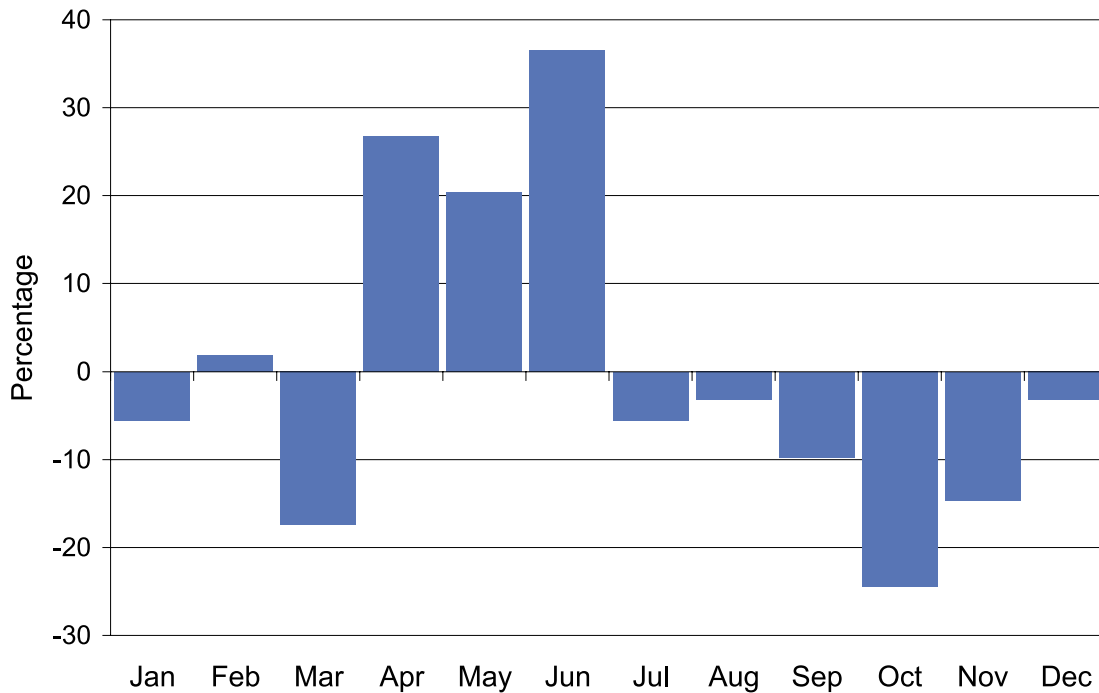


Figure 5. Percentage difference between observed and expected number of suicide deaths by month.

The occurrence of suicide deaths in 2002 showed greater monthly variation than other causes of death. There were 27%, 20% and 37% more suicide deaths than expected in April, May and June, respectively (Figure 5). This late Spring/early Summer peak in suicide rates has previously been reported for Ireland and many other countries. There was a fall in the rate of suicide in late Autumn/early Winter. Respectively, 10%, 25% and 15% fewer suicides than expected occurred in September, October and November.



## Psychosocial factors

Of the four external causes of death, the lowest recorded prevalence of alcohol dependence was among those who died by suicide (15% vs. 21-23%). For accidental, homicidal and suicidal deaths, men had the higher prevalence of alcohol dependence.

The prevalence of drug dependence was lowest among those whose deaths were accidental (13%), followed by suicides (19%) and homicides (21%) and then undetermined deaths, of whom one in three (33%) were drug dependent. Drug dependence was twice as common in women who died by suicide as it was in men (34% vs. 16%). This gender difference was associated with prescription drugs.

As mentioned earlier, there was a low level of recording relating to medical history and contributing factors, being provided in just 35% and 16% of the forms examined, respectively. Forms relating to suicide deaths more often contained information relating to medical history (54%) and contributing factors (34%). Medical history information was provided for 80% of the female suicides but less than half (47%) of the male suicides. There were clear gender differences in the prevalence of the most commonly reported medical histories and contributing factors. Mental health problems were reported for 38% of the men but two-thirds (66%) of the women. Interpersonal/relationship problems were reported as a contributing factor in 20% of male suicides compared to 13% of female suicides.

## RECOMMENDATIONS

### Recommendations relating to new initiatives

It is recommended that another system be developed to collect and collate data on the medical and psychosocial characteristics of individuals whose deaths lead to inquest. In line with recommendations in Reach Out, the National Strategy for Action on Suicide Prevention, and based on existing templates in other countries, this could take the form of a national inquiry carried out in conjunction with coroners. Such a system could be implemented initially on a pilot basis in a defined region before consideration be given to national implementation.

### Recommendations relating to the existing Form 104

It is recommended that the Form 104 reporting procedure be maintained and improved until a preferable alternative system has been developed.

Each item of data requested on the form should be reviewed and improvements made where possible.

A written protocol explaining the Form 104 reporting procedures should be provided to gardai who complete the Form 104 in order to support standardised reporting across the country. This should include guidelines explaining the nature of the information being sought by each data item on the form as well as criteria for determining what constitutes a suicide death.

### Recommendations relating to the death registration system

Deaths resulting in a post mortem or inquest may not come to the notice of registrars until they receive the coroner's certificate. It is recommended that the coroner notify the registrar of such deaths at an early stage of the investigation.



For 15% of inquested deaths, more than 12 months elapsed before the inquest. Such delays have implications for the publication of statistics and may also impact on the bereaved. The reasons for such delays should be identified and improvements made to overcome them.

The obligation to register a death in the district where it occurs was removed in 2006. Consideration should be given to routinely providing mortality data by both county of occurrence and county of residence with the latter also classifying persons who were not resident in Ireland.

### **Recommendations relating to research**

The study analysed data from inquested deaths that occurred in 2002. Data from the years since then should be analysed. The primary focus should be on the sociodemographic variables for which there were low levels of missing data. The analysis should further examine the question of suicide underrecording in Dublin. Consideration should also be given to carrying out spatial analysis including the identification of possible suicide clusters.

In the context of Reach Out, it is recommended to monitor changes in the incidence of suicide and associated factors using the Form 104 data.

## APPENDIX – FORM 104

### CONFIDENTIAL STATISTICAL RETURN IN RESPECT OF INQUEST

This return will be used solely for the purpose of supplementing the information on the Coroner's Certificate for the better statistical classification of cause of death and will be treated as strictly confidential in accordance with the Statistics Act, 1993. It should be forwarded via the relevant Garda Inspector to the Director General, Central Statistics Office, Vital Statistics Section, Skehard Road, Cork on the adjournment or completion of the inquest.

#### Reference Information:

1. Coroner's District.	2. Date of adjournment or completion of inquest.
3. Member of An Garda Síochána and station investigating the death.	

#### Information on deceased:

4. Date on which death occurred.									
5. Address at which death occurred (if not at home)									
6. Name, surname and home address of deceased.									
7. Sex. Male <input type="checkbox"/> Female <input type="checkbox"/>	8. Date of Birth.								
9. Marital Status. Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed <input type="checkbox"/> Separated									
10. Most recent domestic living arrangements (e.g. living alone, with parents, with spouse/partner etc.).									
11. Employment status at time of death.	<table border="0"> <tr> <td>Employee <input type="checkbox"/></td> <td>Unemployed for last 12 months <input type="checkbox"/></td> </tr> <tr> <td>Self-employed <input type="checkbox"/></td> <td>Unemployed for longer than 12 months <input type="checkbox"/></td> </tr> <tr> <td>Retired <input type="checkbox"/></td> <td>Worked in the home <input type="checkbox"/></td> </tr> <tr> <td>Student <input type="checkbox"/></td> <td>Other, specify ..... <input type="checkbox"/></td> </tr> </table>	Employee <input type="checkbox"/>	Unemployed for last 12 months <input type="checkbox"/>	Self-employed <input type="checkbox"/>	Unemployed for longer than 12 months <input type="checkbox"/>	Retired <input type="checkbox"/>	Worked in the home <input type="checkbox"/>	Student <input type="checkbox"/>	Other, specify ..... <input type="checkbox"/>
Employee <input type="checkbox"/>	Unemployed for last 12 months <input type="checkbox"/>								
Self-employed <input type="checkbox"/>	Unemployed for longer than 12 months <input type="checkbox"/>								
Retired <input type="checkbox"/>	Worked in the home <input type="checkbox"/>								
Student <input type="checkbox"/>	Other, specify ..... <input type="checkbox"/>								
12. Main occupation. (If person was unemployed or retired, give last previous occupation.)									

#### Medical Details:

13. Medical evidence as to cause of death.
14. How injuries were sustained: Describe events surrounding death. (In case of a traffic accident, please state (i) whether deceased was a driver, passenger cyclist or pedestrian and (ii) type of vehicle(s) involved etc.)



Medical details (contd.):

15. Please state the place where the incident occurred. (For example, at home, residential institution, school, sports area, street/road, trade/service area, industrial/construction area, farm, other).	
16. Is there any evidence of deceased being alcohol dependent?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is there any evidence of deceased being drug dependent? If drug dependent please specify:	Yes <input type="checkbox"/> No <input type="checkbox"/>
(i) type of drug(s) .....	
(ii) were the drugs prescribed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
17. Deaths caused by poison: Please state type of poison, how and where stored.	

Other Information:

18. Cases of shooting: how was the firearm obtained? (Was it licensed/unlicensed?)	
19. Please state if any written note etc. was left at the scene (for example, suicide note).	
20. Any known medical history (mental/physical, previous contact with medical or social services).	
21. Any other known contributing factors (for example stress, family/relationship problems etc.)	
22. Name and address of G.P., hospital doctor or medical attendant (if known)	
23. Is Post Mortem report available?	Yes <input type="checkbox"/> No <input type="checkbox"/>
24. Please state, in your opinion, whether death was:	accidental <input type="checkbox"/> suicidal <input type="checkbox"/> homicidal <input type="checkbox"/> undetermined <input type="checkbox"/>

Signature of Sergeant in Charge \_\_\_\_\_

Sub District \_\_\_\_\_

Date \_\_\_\_\_









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