

Second Report of the Suicide Support and Information System

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National Suicide Research Foundation

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2013

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National Suicide Research Foundation 2013

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Executive Summary

This is the Second Report of the Suicide Support and Information System (SSIS). The first report of the SSIS was published in July 2012 (Arensman *et al*, 2012). In 2008, The National Office for Suicide Prevention (NOSP) commissioned the National Suicide Research Foundation to establish a National Suicide Support and Information System in line with Action 25.2 of the *Reach Out* National Strategy for Action on Suicide Prevention 2005-2014 (HSE, 2005). The first SSIS report provided outcomes of the implementation of the SSIS during the pilot phase in the Cork region, descriptive characteristics of people who died by suicide and who were recorded by the SSIS, and details of a large cluster of suicide among young men identified by the SSIS.

Within both the national and international context, the SSIS can be considered innovative, as this system combines a number of key objectives, such as facilitation of support for people bereaved by suicide, access to real-time information on the incidence of suicide and associated risk factors, and identification of emerging suicide clusters (Windfuhr, 2010).

The Second SSIS Report presents the results of the on-going implementation of the SSIS and information on 307 consecutive cases of suicide in Cork City and County between September 2008 and June 2012. The main focus of this report is on 1) investigating whether there are different subgroups among people who die by suicide, and 2) early identification of emerging suicide clusters using advanced geo-spatial techniques.

Most of the research conducted into suicide in Ireland so far has primarily focused on risk factors associated with suicide in general, without investigating specific patterns of risk factors that may be associated with subgroups among those who die by suicide. Furthermore, the available research has mostly addressed socio-demographic risk factors and to a lesser extent psychosocial and psychiatric risk factors. Therefore, the outcomes of the in-depth investigation into subgroups and patterns of risk factors associated with suicide presented in this report will make an important contribution to early identification of people at risk of suicide and the improvement of suicide risk assessment procedures.

With regard to suicide clustering and contagion, the very few studies which have been conducted in Ireland to date involved mostly anecdotal information or exploratory techniques. In order to improve our understanding of the development of emerging suicide clusters and the characteristics of individuals who die by suicide as part of a cluster, advanced research approaches are required. In terms of response strategies and procedures for the occurrence of emerging suicide clusters, there is a lack of evidence-informed strategies. In the first SSIS report, an exploratory approach was adopted to investigate suicide clustering and contagion. In the second SSIS report we have moved beyond this exploratory stage and systematically examined clustering patterns using the geo-spatial programme SaTScan. The outcomes of this analysis will contribute to improving early identification of suicide clusters and contagion, and inform strategies and procedures to be implemented when suicide clusters emerge.

Key outcomes

Proactive facilitation of bereavement support resulted in a significantly higher uptake of support by families/friends bereaved by suicide compared to a non-proactive approach. For 118 cases proactive facilitation of bereavement support was offered, with an uptake of support of 39.5%. In 47.5% of cases bereavement support had been obtained prior to contact with the SSIS team, 8.2% did not wish to avail of any support and 5.3% did not wish to receive further contact following the initial letter from the SSIS team. Following the contingency arrangement in July 2010, a non-proactive approach was adopted (letter & bereavement support pack only), which resulted in only 3.8% of the bereaved families/friends seeking contact with the SSIS team and taking up support.

In total, 307 cases were recorded by the SSIS between September 2008 and June 2012 (275 suicides and 32 open verdicts fulfilling the case finding criteria). Coroner checklists were completed for all 307 cases.

In line with the first SSIS report, men were overrepresented among those who had died by suicide (80.1%), and men were significantly younger (mean=39.5 years, SD=15.7) than women (mean=46.2 years, SD=17.1).

March, May and October were exceptional in that in each of these months more than 10% of the suicides occurred, in total 33.1%. Days in the week on which a relatively high proportion of suicides occurred were Saturdays (19.2%) and Mondays (17.6%).

In terms of employment status, 40.6% were in paid employment, 33.1% were unemployed, 11.4% were retired, 6.8% were fulltime students, 5.0% had a long term disability and 3.1% were homemakers.

More than two fifths (41.6%) had worked in the construction/production sector, followed by the agricultural sector (13.2%), sales/business development (8.9%), students (8.2%), healthcare sector (6.6%) and education sector (3.9%).

The majority of people had died by hanging (63.8%), 12.4% had died by drowning and 9.8% had taken an intentional overdose of medication or drugs. Among those who had died by intentional overdose, the medication involved included both prescribed (53.8%) and non-prescribed medication (46.2%).

History of self-harm was known for 132 cases, of which 86 (65.2%) had engaged in at least one act of deliberate self-harm. 26.7% had engaged in self-harm 12 months or more prior to ending their lives. However, 14% had engaged in self-harm less than one week prior to suicide and 10.5% less than a day.

Psychiatric diagnosis was confirmed in 123 cases. Of these, 69.1% had been diagnosed with depression, 5.7% with an anxiety disorder, 4.9% with schizophrenia or other delusional disorders, and 4.9% with bipolar mood disorder.

The presence of alcohol and/or drug abuse was known for 173 cases, which was confirmed for 60.7%. Among these, 48.6% had abused alcohol, 21% had abused drugs and 27.6% had abused both alcohol and drugs.

In-depth investigation of the SSIS data on the 307 cases of suicide revealed a number of distinct demographic and clinical subgroups associated with different risk factors, such as men versus women, men younger than 40 years versus men aged 40 years and older, people who were unemployed versus those who were employed, people with and without a history of non-fatal self-harm, and people diagnosed with depression versus those without this diagnosis.

Among men who had died by suicide, the majority were single (57%), and nearly half had been working in the construction/production sector (48.6%). In contrast, the majority of women were married/cohabiting (46.7%) and a relatively high proportion had been working in the healthcare sector (26.5%). Even though hanging was the most common method of suicide among both genders, more women than men had drugs in their system according to their toxicology results at time of death (53.4% vs. 30.0%). However, a higher proportion of men than women had alcohol in their system according to their toxicology (46.7% vs. 32.8%). More women than men had a history of non-fatal self-harm (44.3% vs. 24.0%), and more women than men had received a diagnosis of depression (39.3% vs. 24.8%).

Specific risk factors associated with suicide among men under 40 years were unemployment (39.5%), drug abuse (29.4%) and history of non-fatal self-harm (31.3%). Risk factors more strongly associated with suicide among men aged >40 years included history of alcohol abuse (76.5%), physical illness (38.3%) and diagnosis of depression (31.5%). At time of death younger men more often had opiates and benzodiazepines in their toxicology (62% and 58% respectively), while those aged >40 years more often had used antidepressants (45.5%).

Among people who had died by suicide and who were unemployed at the time of death a higher proportion had worked in the construction/production sector compared to those who were employed (66.7% vs. 38.4%). Among those who were unemployed, a higher proportion had a history of non-fatal self-harm than those employed (41.9% vs. 17.5%). Alcohol and drug abuse was more common among those unemployed (51.6%) compared to those employed (18.4%). Among those unemployed, a higher proportion had been in contact with their GP for psychological reasons in the year prior to death (23.5%) compared to the employed (15.0%).

A higher proportion of people with a self-harm history took their life by hanging compared to those without such history (74% vs. 65.2%). Of those with a self-harm history, 72.1% had drugs in their toxicology at time of death compared to 47.8% without. Two thirds of those with a self-harm history (66.3%) had received a diagnosis of depression compared to 43.5% of those without. Alcohol and/or drug abuse was also higher among those with a self-harm history (50.0%) than those without (34.8%).

A higher proportion of people diagnosed with depression had died by drowning (24.7%) compared to 13.2% without this diagnosis. Suicide by hanging was more common among those without depression (71.7%) versus 48.2% among those with depression. A higher proportion of those with depression had a history of non-fatal self-harm (42.4%) compared to 35.8% of those without. Alcohol and/or drug abuse was higher among those without depression (47.2%) compared to those with depression (34.1%). Among people with depression a higher proportion had received outpatient (44.7%) and inpatient psychiatric treatment (34.1%) compared to those without depression (34.0% and 24.5% respectively).

Applying the SaTScan analysis to the most recent period for which SSIS data were available, August 2010 to June 2012, a total of 9 statistically significant clusters were observed. There was much overlap and nestling within these clusters, with 2 'groups' of clusters emerging.

Cluster 1 involved 13 cases of suicide which occurred in County Cork over a 3 month period, from April to June 2011. The expected number of cases for the time period of the cluster was 1.86. Thus, the observed cluster represents a 6.9 fold increase in suicide cases. The cluster had a radius of 23.44 km.

Cluster 2 involved 7 cases of suicide which occurred in County Cork over a 2 month period, from September to October 2011. The expected number of cases in the area for the time period of the cluster was 0.52. Thus, the observed cluster represents a 13.46 fold increase in suicide cases. The cluster had a radius of 28.06 km.

Recommendations

1. Through its systematic approach and access to multiple sources of information, the SSIS meets the requirement of a real-time register of suicide by monitoring patterns and risk factors associated with suicide to improve risk assessment and to identify emerging suicide clusters and contagion effects. In this regard the SSIS addresses the limitations of the suicide mortality data provided by the CSO, and fulfils similar objectives as the UK National Confidential Inquiry into Suicide and Homicide (Kapur *et al*, 2013; Appleby *et al*, 1999) and the Scottish Suicide Information Database (ScotSID, Information Service Division, 2012).
2. Pro-active facilitation of bereavement support would be the recommended approach for services working with families bereaved by suicide, ensuring that these families are offered bereavement support through the services currently in place.
3. It is recommended to increase the awareness of coroners and healthcare professionals of local bereavement support services and materials and to offer these to bereaved family members and friends as a matter of course.
4. Alcohol/drug abuse was identified as a major risk factor for suicide across the identified subgroups. It is therefore recommended that:
 - a) National strategies to increase awareness of the risks involved in the use and misuse of alcohol should be intensified, starting at pre-adolescent age
 - b) National strategies to reduce access to alcohol and drugs should be intensified
 - c) Active consultation and collaboration between the mental health services and addiction treatment services be arranged in the best interests of patients who present with dual diagnosis (psychiatric disorder and alcohol/drug abuse).
5. The SSIS provided evidence for the presence of a range of vulnerability and risk factors among people who died by suicide and who were unemployed, such as a history of non-fatal self-harm and psychiatric treatment, and alcohol and drug abuse, which underlines the need for increased awareness among professionals in social and community-based services who are working with unemployed people.
6. The association between the impact of the recession (unemployment, financial problems, loss of possessions) and suicide as identified by the SSIS underlines the fact that suicide prevention programmes should be prioritised during times of economic recession.
7. It is recommended that suicide risk assessment be included as a core element of routine practice within health care services working with clients with self-harm, mood disorders, alcohol/drug abuse, and physical illness (in particular men aged ≥ 40 years).
8. Among the people who had drugs in their toxicology at time of death, the majority had used prescribed medication, which underlines the need for careful

monitoring of prescriptions by health care professionals, in particular among people with a history of self-harm and those with a diagnosis of depression.

9. Among women who died by suicide, a relatively large proportion had worked in a healthcare setting, which indicates the need for more awareness of risk factors associated with suicide, mental health problems, and openness in relation to help seeking behaviour among professionals working in this setting.
10. The finding that a large proportion of people who died by suicide had been in contact with mental health and primary care services provides evidence for the need of increased awareness and skills training on suicidal behaviour and related mental/physical health issues among professionals working in these services.
11. In areas with emerging suicide clusters, it is recommended to encourage involvement of GPs and other primary care professionals in a response plan and in early identification of people at risk of suicidal behaviour.
12. In areas with emerging suicide clusters, the HSE-NOSP guidelines (HSE, 2011) for responding to suicide clusters should be implemented and supported by additional capacity and specialist expertise as a matter of priority.
13. The outcomes of the SSIS in terms of specific risk factors associated with suicide clustering underline the need for intensive multi-level suicide prevention programmes whereby multiple interventions are implemented with key stakeholders at the same time.
14. The outcome that 37 cases of open verdicts met the case-finding criteria for probable suicide, underlines the need for further research into open verdict cases and other external causes of death. In this regard, the NSRF will start new research in 2013 into the accuracy of suicide recording systems of suicide and other external causes of death and updating the case-finding criteria for assessing probable suicides.
15. Based on the benefits of the SSIS in terms of its outcomes, it is recommended to maintain the SSIS in Cork and to expand to other regions, in particular those regions with high rates of suicide and a history of suicide clusters. Recommended options for

expansion of the SSIS include:

- a) Phased implementation in collaboration with the Department of Health and Children and the Department of Justice and Equality
- b) Phased implementation in collaboration with suicide bereavement support services.

In this regard it is important to note that the Health Research Board has provided funding for a new study, which will include continuation of the SSIS approach in Cork City and County between October 2013 and October 2016. This study will address interactions between psychosocial, psychiatric and work-related risk factors associated with suicide in Ireland using a case-control design.

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1. Introduction

1.1 Background and objectives

This is the second report of the Suicide Support and Information System (SSIS). The first report of the SSIS was published in July 2012 (Arensman *et al*, 2012). In 2008, The National Office for Suicide Prevention (NOSP) commissioned the National Suicide Research Foundation (NSRF) to establish a National Suicide Support and Information System to be piloted initially in the Cork region. The SSIS is innovative as it was developed to prevent suicide by facilitating access to support for the bereaved while at the same time obtaining information on risk factors associated with suicide and deaths classified as open verdicts, which is in line with key priorities of *Reach Out* (HSE, 2005), the Reports of the Houses of the Oireachtas Joint Committee on Health and Children (Joint Committee on Health & Children, 2006; Joint Committee on Health & Children, 2008), and the Form 104 Report *Inquested Deaths in Ireland* (NSRF, 2007; Corcoran & Arensman, 2010). The objectives of the SSIS are also in line with priorities stated in the Coroners Bill (Coroners Review Group, 2007). The NOSP provided funding for a pilot study in the Cork region.

The NSRF has established the National Registry of Deliberate Self-Harm (NRDSH) in Ireland, collecting data from every general hospital accident and emergency department in the country. The Registry has reliably established the incidence and pattern of hospital-treated deliberate self-harm in Ireland. It is informing service providers in hospitals and policy makers in the Health Service Executive on an on-going basis. A target of reducing repeated deliberate self-harm has been set for *Reach Out*, the evaluation of which will rely on the Registry data.

In Ireland, national suicide statistics are provided by the Central Statistics Office (CSO). However, the annual suicide figures ('year of occurrence figures') are usually published with a delay of 2 years or longer. In addition, the available information on characteristics of people who die by suicide is mostly limited to demographic information. In order to implement timely and evidence-informed intervention and prevention programmes, it is important to have access to a real-time register of suicides similar to the National Registry of Deliberate Self-Harm.

Specific objectives of the Suicide Support and Information System are to:

- 1) Improve provision of support to the bereaved
- 2) Identify and better understand the causes of suicide
- 3) Identify and improve the response to clusters of suicide and extended suicide (e.g. filicide-suicide and familicide)
- 4) Better define the incidence and pattern of suicide in Ireland
- 5) Reliably identify individuals who present for medical treatment due to deliberate self-harm and those who subsequently die by suicide.

Preparations to develop the Suicide Support and Information System go back as far as 2005 when the NSRF, in collaboration with the NOSP, started consultations with key stakeholders such as the Department of Health, Department of Justice and Equality, the Coroners Society of Ireland, the Central Statistics Office (CSO), An Garda Síochána and mental health and primary care services. In addition, intensive consultation has taken place with the National Confidential Inquiry into Suicide and Homicide at the University of Manchester, a unique suicide information system which was established in 1995 (Kapur *et al*, 2013; Appleby *et al*, 1999). In line with a recommendation from the *Choose Life* National Suicide Prevention Strategy in Scotland, the National Health Services Scotland has also initiated the Scottish Suicide Information Database (ScotSID) to provide a central repository for information on all confirmed and probable suicide deaths in Scotland in order to support epidemiology, preventive activity and policy making (Information Service Division, 2012).

1.2 Incidence rates of suicide and deaths of undetermined intent in Ireland, 2004-2010

Rates of suicide per 100,000 by gender in Ireland for the period 2004-2010 are presented in Figure 1.1. At present, the latest confirmed suicide figures published by the CSO are for the year 2010, 10.9 per 100,000 for the total population in Ireland, 17.4 for men and 4.4 per 100,000 for women.

An initial decreasing trend in suicide was observed for men between 2004 and 2007, followed by an increase in 2008 and 2009, with a subsequent reduction in 2010. Whether the 2010 reduction represents a decreasing

trend or stabilisation is unclear until the final figures for 2011 and 2012 will become available. Even though less pronounced, the rates for women show a fairly similar trend over the 7-year period.

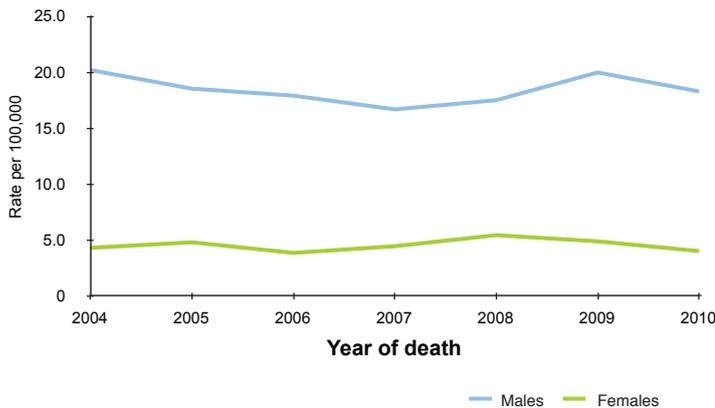


Figure 1.1: Rate of suicide per 100,000 for males and females in Ireland, 2004 - 2010

There are indications that deaths of undetermined intent may include ‘hidden’ cases of suicide (Arensman *et al*, 2012; Linsley *et al*, 2001; Cooper *et al*, 1995). However, it is not yet clear which proportion of undetermined deaths may involve suicide cases. Figure 1.2 presents the rates of suicide and undetermined deaths per 100,000 population in Ireland, 2004-2010. The highest rate of suicide was 12.4 per 100,000 in 2009 and the highest rate of undetermined deaths was 3.2 per 100,000 in 2005. Looking at the trends over time, there is a remarkable pattern in that in most years when undetermined death rates are decreasing, suicide rates are increasing. Considering this pattern, and together with findings based on a comparison of confirmed suicide cases with open verdict cases in terms of psychosocial and psychiatric characteristics which revealed more similarities than differences (Arensman *et al*, 2012), further in-depth investigation into undetermined deaths is required.

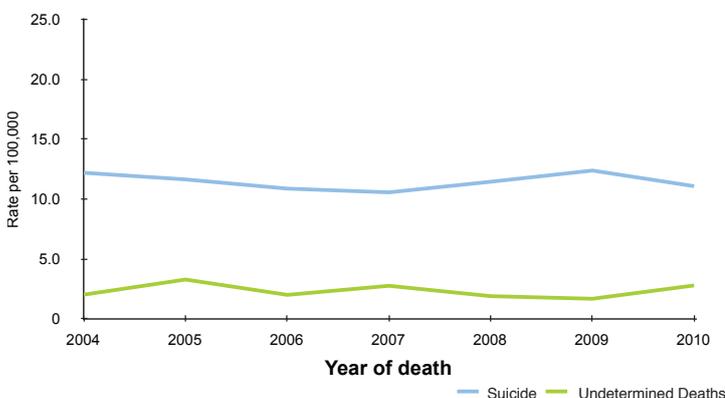


Figure 1.2: Rate of suicide and undetermined deaths per 100,000, 2004 – 2010

1.3 Risk factors associated with subgroups among people who die by suicide

Identifying patterns of risk factors or risk profiles associated with suicide is challenging due to the heterogeneity of risk factors (Windfuhr & Kapur, 2011; McLean *et al*, 2008; McGirr *et al*, 2006), cultural differences (Amitai & Apter, 2012; Colucci & Martin, 2007) and on-going changes in risk factors over time (McLean *et al*, 2008; Nock, 2008; Beautrais, 2005). In Ireland, there is consistency regarding some demographic and psychosocial factors associated with suicide. Young men aged 15-39 years and middle-aged women (45-55 years) consistently show an increased risk of suicide (Malone, 2013; Arensman *et al*, 2012). In terms of psychosocial factors, increased suicide risk is associated with presence of depression, alcohol and drug abuse, history of non-fatal self-harm and recent experience of suicide by a family member or friend by suicide (Arensman *et al*, 2012; Malone, 2013). However, in order to improve early identification of people at risk of suicide and specificity of risk prediction procedures, it is required to improve our knowledge on risk profiles encapsulating the co-occurrence of the factors involved (Logan *et al*, 2011; CDC, 2008). For example, the outcomes of the first phase of the SSIS showed that having a history of self-harm was significantly associated with risk of suicide (Arensman *et al*, 2012). Yet, it is unclear whether there are any other co-occurring risk factors in addition to self-harm history, which further contribute to increased suicide risk.

The relatively large number of suicide cases (N=307) and access to multiple sources of information accessed through the SSIS enabled further in-depth investigation of potential subgroups and patterns of risk factors associated with suicide in Ireland.

1.4 Suicide clustering and contagion

Internationally, there is growing public and professional interest in clustering and contagion in suicidal behaviour. There are indications of increasing clustering and contagion effects in suicidal behaviour associated with the rise of modern communication systems (Larkin & Beautrais, 2012; Robertson *et al*, 2012). Yet, the research in this area and information on effective response procedures and prevention strategies are limited (Haw *et al*, 2013; Larkin & Beautrais, 2012). Even in recent times, Boyce (2011) referred to the lack of research as “*Suicide clusters: the undiscovered country*”. The methodological approaches in assessing clustering and contagion of suicidal behaviour are wide-ranging and internationally, there is a lack of

consistency regarding the definition of clustering and contagion and regarding the statistical techniques assessing spatio-temporal aspects (Haw *et al*, 2013; Larkin and Beautrais, 2012; Mesoudi, 2009).

Suicide clusters are generally distinguished into two different types: mass clusters and point (space-time) clusters. A mass cluster is commonly defined as “a temporary increase in the total frequency of suicides within an entire population relative to the period immediately before and after the cluster, with no spatial clustering”. Mass clusters are typically associated with high-profile celebrity suicides that are publicised and disseminated in the mass media (Haw *et al*, 2013; Hegerl *et al*, 2013; Ladwig *et al*, 2012; Mesoudi, 2009; Stack, 2001).

A frequently used definition to indicate a point cluster is “a temporary increase in the frequency of suicides within a small community or institution, relative to both the baseline suicide rate before and after the point cluster and the suicide rate in neighbouring area” (Haw *et al*, 2013; Mesoudi, 2009; Joiner, 1999; Gould *et al*, 1990).

Based on a recent review, contagion is a concept derived from the study of infectious diseases and increasingly applied to cluster suicides. The underlying assumption is that “suicidal behaviour may facilitate the occurrence of subsequent suicidal behaviour, either directly (via contact or friendship with the index suicide) or indirectly (via the media)” (Haw *et al*, 2013). Those who are part of an at-risk population and have geographical and psychosocial proximity to a suicide are particularly vulnerable (Haw *et al*, 2013).

Research has tended to focus either on descriptive analysis of the factors influencing suicide clustering, or on the statistical verification of point and mass clusters. Arguably, while both approaches have their merits when taken in isolation, it is their combination that offers the best opportunity to further our understanding of the mechanisms of suicide clustering. Thus, in examining suicide clustering, it is important to both verify the statistical significance of emerging clusters across space and time, and also to examine the level of contagion (interrelatedness) of cases that occur within clusters.

In Ireland, systematic research into suicide clustering and contagion is limited. Based on the first outcomes of the SSIS, a large cluster of 19 suicides involving young men (aged 14-36 years) was identified in a small area in the Cork region. Specific risk factors associated with

this suicide cluster included severe alcohol and drug abuse, exposure to and grief related to loss of friends by suicide, and non-communication of suicidal intent. Additional contributing factors were over-attachment to peers and glorification of suicide (Arensman *et al*, 2012). In a psychological autopsy study conducted by Malone (2013) it was also found that suicide clustering was associated with young age, 50% of the suicide cases associated with suicide clusters were aged under 18 years.

For the current report we have investigated the presence of further suicide clustering and contagion in the Cork region using advanced geo-spatial techniques.

2. Methodology

2.1 Multiple sources of information

The SSIS has been implemented in County Cork over the period September 2008 – June 2012. The SSIS operates according to a stepped approach whereby **Step 1** involves pro-active facilitation of support for family members bereaved by suicide, followed by **Step 2**, obtaining information from different sources including information from coroners' records, family informants and health care professionals who had been in contact with the deceased in the year prior to death (Figure 2.1).

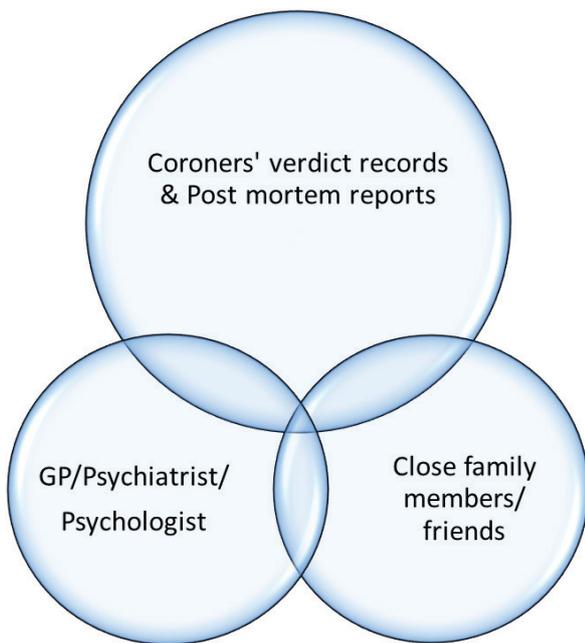


Figure 2.1: SSIS - Access to multiple sources of information

2.2. Case finding criteria

Inclusion criteria of the pilot SSIS comprise: (a) the inquested death having occurred within the Cork City and County coroners' defined catchment areas, (b) the verdict at conclusion of inquest being that of either 'suicide' or 'open' (undetermined deaths) or a narrative verdict in which the death is likely to have been a suicide, and (c) the death occurring and having gone to inquest within the time scale of the pilot study. Given clarification on coroner jurisdiction, suicide verdicts are returned whenever it has been established beyond a reasonable doubt that a person has taken their own life.

In order to be considered a probable suicide, the death must have been self-inflicted and there must be evidence to suggest that the deceased intended to cause his/her death. In some cases, the means by

which the deceased caused his/her death may clearly suggest that it was a probable suicide. The following may be considered as evidence of a death being a probable suicide (Rosenberg *et al*, 1988):

- Explicit verbal or nonverbal expression of suicide intent
- Inappropriate or unexpected preparations for death
- Expression of farewell, desire to die, hopelessness, great emotional or physical pain
- Precautions to avoid rescue
- Previous deliberate self-harm acts or threat
- Serious depression or mental health problems
- Stressful events or significant losses

2.3 Procedure

The main elements of the Suicide Support and Information System are presented in Figure 2.2. Consultation with the three Cork coroners participating in the study led to a standardised procedure for contacting family members. This included provision of minimum details regarding each case by the coroners or one of their staff, i.e. name of deceased, verdict, date of birth, date of death and name and contact details of the deceased's next of kin. Within 2-3 days after the inquest, the family received the initial contact via the SSIS which is described in greater detail in the following paragraphs.

STEP 1 – PRO-ACTIVE FACILITATION OF SUPPORT

The Senior Research Psychologists (SRPs) facilitated support for families bereaved by suicide and open verdict cases after conclusion of the inquest. The first contact between the SRPs and a bereaved family was made after conclusion of the inquest by sending a letter explaining about the SSIS and offering support. If family members did not indicate that they would not wish to be approached further, the SRPs contacted the family by telephone within 10 days after having sent the letter. During the telephone contact the SRPs assessed the needs of the family in relation to support. If required, the SRPs subsequently liaised with representatives from an appropriate bereavement support or related service who would be available to provide support to bereaved families in the Cork region. Additionally, a bereavement support pack with details of such services was posted to family members who agreed to receive such a pack and facilitation of support started at the 2-week follow-up. A record was

kept of those families/individuals already receiving/ having received bereavement support prior to contact by the SRP. In situations where family members expressed a preference to receive follow-up phone calls, this was always facilitated by the SRP.

STEP 2 - INFORMATION / RESEARCH

In addition to the proactive facilitation of support, a retrospective study using a mixed-methods approach obtaining both quantitative and qualitative data was conducted. The psychological autopsy method was used in order to achieve better knowledge and understanding of factors contributing to the occurrence of suicide. During the study period, information on each case of suicide and open verdict was obtained from verdict records and post-mortem reports that are preserved by the coroner and made available to the public after the inquest has been concluded.

Following facilitation of support, the SRP invited a family member who had a close relationship with the deceased to participate in a semi-structured psychological autopsy interview. Participation in the interview was on a voluntary basis and the family member could decide to end the interview at any time. If a family member expressed a preference to participate in the interview together with another family member, every effort was made to accommodate such an arrangement.

Following completion of the interview with family members, they were asked for permission to contact one or more health care professional(s) who had been in contact with the deceased prior to death. Following agreement, a semi-structured questionnaire (Appendix 1) was sent to the healthcare professional involved and they were subsequently contacted by the SRP by telephone to verify if they would be interested in participating in the study and if required, they were able to provide any further information about the SSIS. Due to reduced resources after July 2010, proactive facilitation of bereavement support could not be continued. A contingency arrangement was put in place and the next-of-kin were contacted by letter with a bereavement support pack enclosed without further proactive follow-up. They were invited to make contact with the SRP or Director of Research should they wish to avail of additional information or bereavement support. Additional consequences included discontinuation of interviews with key informants and accessing information from health care professionals.

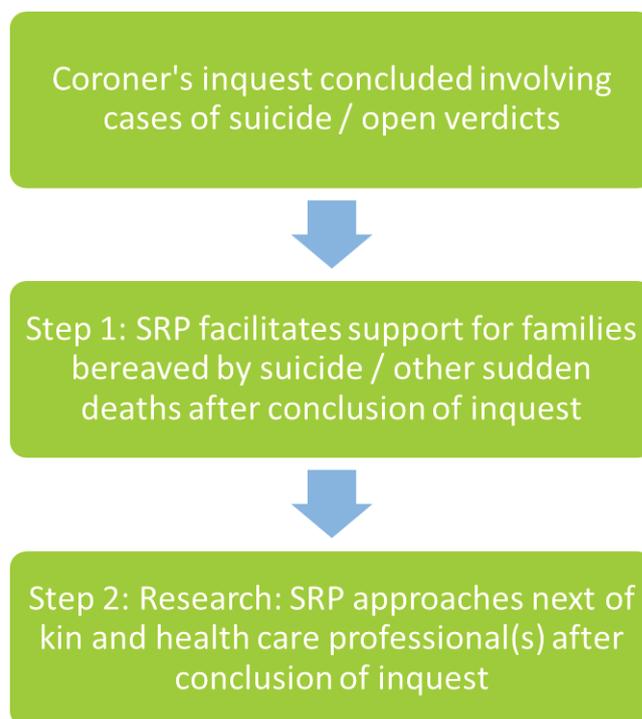


Figure 2.2: SSIS Methodology – A stepped approach

2.4 Data items

Table 2.1 presents an overview of the data items accessed through the main sources of information: coroners, family informants and health care professionals. Further details of the data items are provided in Appendices 1,2,3. For the data entry of the data items obtained from coroners' verdict records and post mortem reports an electronic database was developed (Appendix 1).

2.5 Ethical considerations

The SSIS was approved by the Social Research Ethics Subcommittee of the Clinical Research Ethics Committee of the Cork University Teaching Hospitals and the Coroners Society Ireland. A stepped approach was adopted in relation to the contacting of families and other relevant parties. A number of explicit communications occurred to clarify, both in writing and during telephone correspondence, that participation was voluntary, that this could be discontinued at any point during contact, and that non-participation would not in any way affect access to services, etc. Every effort was also made at various points throughout the research to make explicit and transparent the purposes, methods, and reasoning underlying the study itself, and participants therefore provided informed consent throughout the study. During the course of the implementation of the SSIS, there was growing acceptance and appreciation of the work by the parties involved – these include coroners, family members and other loved ones of the deceased, and

Cause Of Death	Demographic Information	History
Description of cause of death	Date of birth	Precipitants to death
Verdict based on inquest	Gender	History of non-fatal suicidal behaviour Suicidal behaviour by persons known to the deceased
Toxicology results in relation to alcohol, drugs and poisons	Nationality	Psychiatric history incl. psychiatric diagnoses
Presence of suicide note/text/ e-mail message	Ethnicity	Physical health
		Alcohol and drug abuse
	Marital status	Treatment history
	Accommodation	History of physical maltreatment and/or sexual abuse
	Living arrangements	
	Level of education	Family and personal history
	Employment status and profession	Stressful and traumatic life events
		Social network

Table 2.1: Data items accessed through the 3 main sources of the SSIS

other individuals such as health care professionals, in particular GPs and psychiatrists.

2.6 Data protection

The NSRF takes very seriously issues concerning the collection, storage, and access of individuals to data. Confidentiality and anonymity of individuals participating in the research, as well as those whose deaths are the subject of the study, was ensured in a number of ways. Firstly, data are stored securely in offices at the buildings of the NSRF. Laptops were password-protected and sensitive information was filed on the secured NSRF server (rather than on the individual laptop hard-drive). Numerical case codes were used to avoid identification of individuals on Excel databases. Digital audio recordings of interviews with family members were saved to the central server as soon as researchers returned to the office and the audio file on the recorder itself was promptly deleted. Additionally, laptops used in the study were stored in a physically secure manner, i.e. in locked desk drawers, when not in use by researchers.

2.7 Data analysis

The data was exported from the SSIS database to Excel and subsequently imported into IBM SPSS for statistical analyses. Data obtained from the checklists completed on the basis of the coroners' records were available for 307 cases, data from completed interviews with family informants were available for 70 cases and data from the completed semi-structured questionnaires obtained from health care professionals

were available for 64 cases. Percentages were adjusted for missing data. Frequencies were calculated for all data items. Statistically significant differences between groups were examined using Chi-square tests for categorical variables and t-tests for continuous variables. Differences were considered to be statistically significant if their associated p-value was <0.05.

SaTScan analysis is used to analyse spatial, temporal and space-time data using spatial, temporal or space-time scan statistics (Kulldorff, 1997). For the purpose of the SSIS data, SaTScan was used to perform geographical surveillance of deaths by suicide in the Cork region and to determine if statistically significant suicide clusters existed. A Poisson-based model was used as the number of deaths by suicide in a geographical location is Poisson-distributed. Where missing data comprised less than 20%, it was recoded as system missing. Where data was missing for more than 20%, those variables were not included in the statistical analysis.

3. Results: Risk factors associated with suicide: Total population

3.1 Response

In total, 275 cases of suicide and 32 open verdicts (total 307) were ascertained in the Cork region between September 2008 and June 2012 (Figure 3.1).

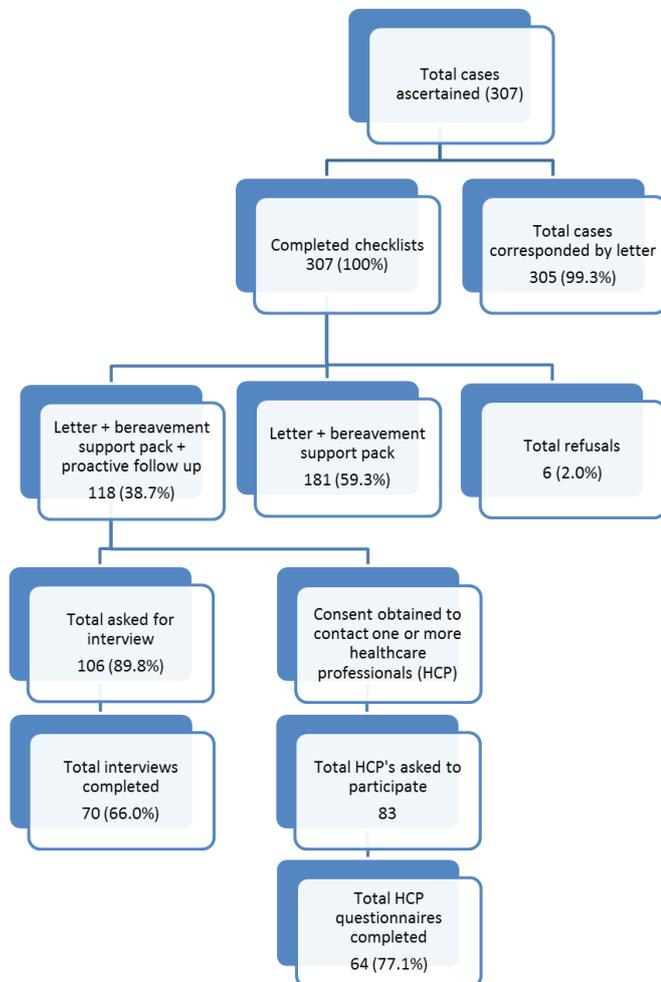


Figure 3.1: Flowchart illustrating flow of cases and response rates through the SSIS

Note: In 2 cases it was advised by the Gardai to refrain from contacting the bereaved family. Due to the contingency arrangement after July 2010, proactive facilitation of bereavement support could not be continued. Additional consequences included discontinuation of interviews with key informants and accessing information from healthcare professionals.

Coroner checklists were completed for all 307 cases. The next-of-kin (family informant or friend) were written to in 305 (99.3%) cases. Proactive facilitation of bereavement support involving one or more follow-up phone calls was carried out until July 2010, at which point this procedure was discontinued due to a lack of resources. As a result a contingency arrangement was put in place and the next-of-kin of 181 cases were contacted by letter with a bereavement support pack

enclosed without proactive follow up. They were invited to make contact with the SRP or Director of Research should they wish to avail of additional information or bereavement support.

Prior to the contingency plan, of the 106 next-of-kin asked, 70 (66.0%) completed a psychological autopsy interview with the SRP. In 6 cases (2.0%) the next-of-kin refused further contact beyond the initial letter. This response rate compares favourably with previous psychological autopsy studies where response rates of 50-60% are common for interviews with key informants (Owens *et al*, 2004). Consent was sought at interview to contact the treating GP and, where relevant, the treating psychiatrist of the deceased. In total, 83 healthcare professionals (67 GPs and 16 psychiatrists) were asked to participate, of whom 64 completed HCP questionnaires (77.1% response rate).

3.2 Pro-active facilitation of bereavement support

Prior to the contingency plan, proactive facilitation of bereavement support was undertaken by the SRPs. In addition to the bereavement support pack, which was made available in all cases, the next-of-kin were contacted by phone and asked if they or another member of the deceased's family had availed of any bereavement support since the death of their relative. In 59 cases (47.6%), bereavement support had already been obtained by one or more of the next-of-kin prior to contact by the SRP. In each case the family informant or friend was asked if they were satisfied with the support they had received and if they or someone else among the bereaved would like to access bereavement support at that time. In 49 cases (39.5%) the next-of-kin was interested in making contact with a specific bereavement support service and was either provided with the contact details of the relevant service or was asked for their consent to have their details passed on to the relevant service. While a minimum of two follow-up phone calls over a minimum 2 week period was made with the consent of the next-of-kin, in many cases the total number of follow-up calls made, with their consent, far exceeded this. In some cases the bereaved who did not wish to avail of formal bereavement support from a specific service welcomed the opportunity to be contacted further by the SRP and to discuss how they were getting on (N=10, 8.0%). In a minority of these cases the bereaved requested follow-up after the

important first anniversary of the deceased and were not in a position to avail of any specific supports until after this major milestone had passed. In a number of these cases the bereaved indicated that they found the subsequent year after the first anniversary even more difficult as the numbing effect of the shock of the death had now worn off and the full impact of the loss of the deceased and the finality of their altered circumstances was only now beginning to register. Others indicated that they would have welcomed the opportunity of bereavement support sooner than the first contact by the SRP. A small proportion (2.0%, N=6) did not wish to receive further contact following the initial letter from the SSIS team. Of the 182 contingency cases contacted only 9 (4.9%) responded by phone to the initial letter and pack they had received through the SSIS. Seven of these took up a referral to a bereavement support service.

3.3 Socio-demographic risk factors associated with suicide

In total, 307 cases were recorded by the SSIS between September 2008 and June 2012 (275 suicides, 32 open verdicts). Coroner checklists were completed for all 307 cases.

Age and gender

Men were overrepresented among those who had died by suicide (80.1%). The overall average age was 40.8 years (SD=16.1). Men were significantly younger (mean=39.5, SD=15.7) than women (mean=46.2, SD=17.1; $p < .01$). Men were overrepresented among the younger age groups, while women were mostly in the older age groups (Figure 3.2). The highest proportion of female deaths occurred in the 45-49 year age group (19.7%), while the highest percentage of male deaths occurred in both the 20-24 year age group and the 30-34 year age group (26.8%).

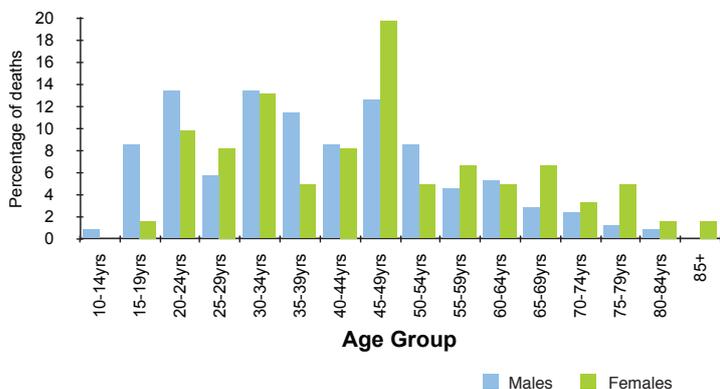


Figure 3.2: Age-gender distribution

Nationality

With regard to nationality, the majority were Irish (93.0%), followed by British (2.7%), other European nationalities 3.3%, (mostly from Central/Eastern Europe e.g. Lithuania, Poland and Slovakia) with the remaining people from other countries (1.0%).

Month

March, May and October were standing out in that in each of these months more than 10% of the suicides occurred, in total 33.1% (Figure 3.3).

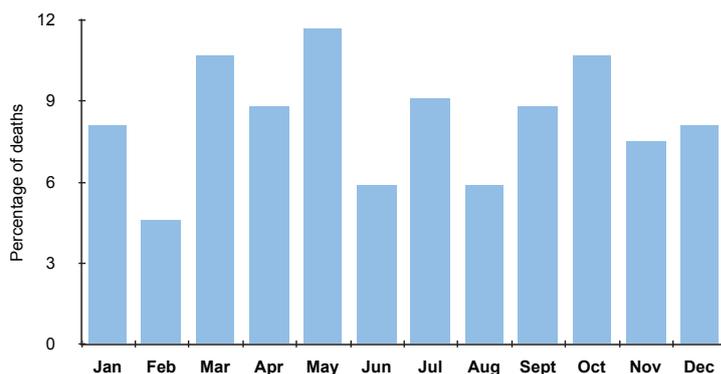


Figure 3.3: Percentage of deaths by month

Day

Days in the week on which a relatively high proportion of suicides occurred were Saturdays (19.2%) and Mondays (17.6%) (Figure 3.4).

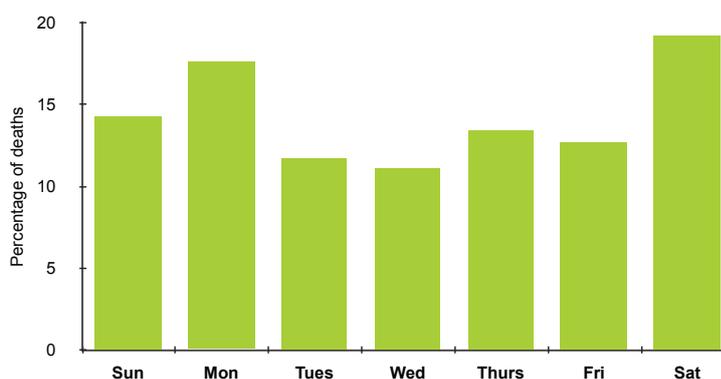


Figure 3.4: Percentage of deaths by day of the week

Marital status and living situation

At the time of death, just over half were single (51.0%), 35.9% were married or co-habiting, 9.9% were divorced or separated and 3.3% were widowed. The majority were residing in a house or flat at the time of death (95.3%) and 1.6% were living in a supervised hostel. Just under one third (31.4%) were living with their family, 22.1% were living alone 19.5% were living with

partner and child(ren), 11.4% with partner only, 13.6% with other/shared and 2.0% with children only.

Employment status

In terms of employment status, 40.6% were in paid employment, 33.1% were unemployed, 11.4% were retired, 6.8% were fulltime students, 5.0% had a long term disability and 3.1% were homemakers.

Occupation

More than two fifths (41.6%) had worked in the construction/production sector, followed by the agricultural sector (13.2%), sales/business development (8.9%), students (8.2%), healthcare sector (6.6%) and education sector (3.9%).

3.4 Characteristics of the suicide act

The majority of people had died by hanging (63.8%), 12.4% had died by drowning and 9.8% had taken an intentional overdose of medication or drugs. A minority (14.0%) had used other methods, including cutting or stabbing, carbon monoxide poisoning, firearms and jumping from a height or in front of a train.

Among those who had died by intentional overdose, the medication involved included both prescribed (53.8%) and non-prescribed medication (46.2%). Drugs involved in intentional overdoses included cocaine, ecstasy and heroin (non-prescribed), and paroxetine, amitriptyline and zopiclone (prescribed). The majority (79.0%) had alcohol and/or drugs in their toxicology at the time of death (24.4% had alcohol and drugs, 34.6% had drugs only and 20.0% had alcohol only).

For those with drugs in their toxicology, just over one quarter (26.3%) had drugs above the therapeutic range, and 21.5% had multiple drugs in their toxicology. In addition, 39.4% had antidepressants in their toxicology, 54.5% had benzodiazepines, 38.6% had opiates and 28.8% had other drugs in their toxicology. In 17.3% of cases, alcohol and/or drugs were taken in combination with using other, more lethal methods such as hanging and drowning. Close to one third (30.9%) had left suicide notes, either as a letter, e-mail or text message.

3.5 Psychosocial and psychiatric characteristics

History of self-harm

A history of self-harm was known for 132 cases, of which 86 (65.2%) had engaged in at least one act of deliberate self-harm. Among those known to have engaged in previous self-harm, almost one third (32.6%) had undertaken one act of self-harm,

14.0% had engaged in two self-harm acts and 10.5% engaged in three self-harm acts. The remainder had either engaged in more than 3 self-harm acts or it was not specified how many times they had self-harmed. In terms of method of self-harm, 41.9% had engaged in intentional drug overdose, 23.2% had engaged in either attempted hanging or attempted drowning, and 14.0% had engaged in self-cutting. With regard to the time lapse between last act of self-harm and death by suicide, 26.7% had engaged in self-harm 12 months or more prior to ending their lives. However, 14.0% had engaged in self-harm less than one week prior to suicide and 10.5% less than a day. Medical treatment following last act of self-harm was known for 61.6% of cases with a history of self-harm, where one third (31.4%) had presented to general hospital following their last act of self-harm and 8.1% had received treatment from a GP. However, 20.9% had not received any medical treatment following their last act of self-harm. Psychiatric treatment following last act of self-harm was known for 45 of the 86 cases (52.3%), with 26.7% having received no psychiatric treatment and 24.4% having received in-patient psychiatric treatment.

Suicidal behaviour by persons known to the deceased

It was known that 62 people (20.2%) had experienced suicidal behaviour (either fatal or non-fatal) by family members or close friends prior to death. In addition, for one in ten the loss of a family member or friend had occurred less than 3 months prior to their own death. Of the 62 cases, 85.5% had a relative or close friend who had died by suicide and the remaining 15.0% had engaged in non-fatal self-harm. In eleven cases (17.7%), the deceased had lost 3 relatives or close friends by suicide.

Psychiatric diagnosis

A psychiatric diagnosis was confirmed in 123 cases. Of these, 69.1% had been diagnosed with depression, 5.7% with an anxiety disorder, 4.9% with schizophrenia or other delusional disorders, and 4.9% with bipolar mood disorder. Alcohol, drug or alcohol and drug dependence/misuse was diagnosed in 6.4% of cases.

In terms of comorbidity, 28.5% of those diagnosed with a psychiatric disorder were diagnosed with an additional secondary psychiatric disorder. Those who were diagnosed with depression as their primary diagnosis tended to be a diagnosed with an anxiety disorder, alcohol dependence or misuse and drug dependence or misuse as a secondary diagnosis.

Substance abuse

The presence of alcohol and/or drug abuse was known for 173, which was confirmed for 60.7%. Among these, 48.6% had abused alcohol, 21% had abused drugs and 27.6% had abused both alcohol and drugs. Of the 105 cases known to have abused alcohol and/or drugs, an increase in alcohol and/or drug abuse was observed in the year prior to death for 20 (20.8%), and 28 (40.6%) had made recent attempts to stop abusing alcohol and/or drugs.

Precipitating factors in the month prior to suicide

Even though access to information from next-of-kin and health care professionals was limited in the second half of 2010 and the year 2011, the outcomes on precipitating factors in the month prior to suicide were in line with the first SSIS report. The experience of significant loss(es) was most frequently reported. Loss(es) mostly involved loss of a relationship, family members or friends, prestige and finances. Other frequently reported factors included significant (or perceived) disruption of a primary relationship, significant life changes (either negative or positive), legal troubles or difficulties with the Gardai, experience of a (perceived) traumatic event and anniversary of an important death.

Physical health

Whether or not the deceased was diagnosed with a physical illness was known for 165 cases, and which was confirmed for 57.0% of the cases. A wide range of physical symptoms and illness were reported including cancer, chronic back pain, chronic neck pain and coronary heart problems. Of those who had a physical illness prior to death, 38.0% were in physical pain in the year prior to death and 16.5% had reduced physical capabilities in the month prior to death.

Psychiatric treatment

It was known in 121 of the cases whether or not they had received inpatient psychiatric treatment. Among these cases, 43.0% had been admitted at least once, 73.1% had been admitted between 1 and 5 times ever and 42.3% had been admitted at least once in the year prior to their death (categories are overlapping). It was known in 111 cases whether or not they had received outpatient psychiatric treatment. Of these, 64.9% had attended an outpatient psychiatric service at least once. Public psychiatric services were the most common (61.1%) followed by alcohol and drug addiction services (13.9%).

4. Results: Subgroups among people who died by suicide

The relatively large number of suicide cases (N=307) and access to multiple sources of information through the SSIS enabled further in-depth investigation of potential subgroups and patterns of risk factors associated with suicide in Ireland. In order to enhance early identification of people at risk of suicide, subgroup analyses were conducted revealing a number of fairly distinct demographic and clinical subgroups. Numbers and percentages do not include the not specified category. Where a small percentage (<20%) was not specified, it was removed.

4.1 Men versus women

Socio-demographic characteristics

Of the 307 cases recorded, 246 were men (80.1%) and 61 were women (19.9%). All reported differences were statistically significant (p-values <0.01).

The majority of men were single (57.0%), whereas the majority of women were married/co-habiting (46.7%) (Figures 4.1, 4.2). For both genders, the most common type of accommodation was house/flat. For males, just over one third (35.4%) were living with their family of origin. In contrast, more women (27.9%) than men (17.5%) were living with their partner and children. Among men, the majority (42.9%) were in paid employment, while one third (35.8%) of men were unemployed. Among women, the largest proportion was also in paid employment (30.9%), while a further one fifth (21.8%) were unemployed, and 16.4% were home makers versus none among men. In terms of occupation, the largest proportion of men (48.6%) worked in the construction/production sector, while the largest proportion of women worked in a health care setting (26.5%).

Characteristics of the suicide act

For both men and women, hanging was the most common method of suicide (68.3% and 45.9% respectively) (Figures 4.1, 4.2). In relation to toxicology at time of death, more women than men had drugs only in their toxicology (53.4% vs. 30.0%). In addition, women were more commonly found to have multiple types of drugs in their toxicology that were above the therapeutic range in comparison to men (35.6% vs. 13.9%). In contrast, a higher proportion of men had alcohol in their toxicology as compared to women (46.7% and 32.8% respectively). Over half of women with drugs in

their toxicology (54.2%) had benzodiazepines in their toxicology in comparison with men where this was the case for over one third (36.5%). Women also had more often antidepressants in their toxicology (41.7%) compared to men (25.4%). Men more often had opiates in their toxicology (31.5%) compared to women (9.2%).

History of self-harm

A higher proportion of women (44.3%) had a history of previous non-fatal self-harm compared to men (24.0%), with intentional drug overdose being the most common method (55.5% for women, 35.6% for men), (Figures 4.1, 4.2). Regarding other self-harm methods used in previous self-harm acts, self-cutting was more prevalent among men (20.3%) versus none of the women. Attempted hanging was also more frequent among men (20.3%) than women (7.4%). However, attempted drowning was higher among women (22.2%) than men (1.7%). A higher proportion of men had engaged in self-harm less than one week prior to death compared to women (27.2% vs. 18.5%).

Psychosocial and psychiatric characteristics

A higher proportion of women (63.9%) than men (34.1%) had been diagnosed with a psychiatric disorder (Figures 4.1, 4.2). Depression was the most common primary diagnosis for both men and women, but higher among women (24.8% and 39.3% respectively). Among both men and women, one third had a history of alcohol and/or drug abuse (34.6% and 32.8% respectively).

Fourteen percent of men had received in-patient psychiatric treatment, of which 71.4% had been admitted between 1 and 5 times. Among women, 28.0% were known to have received in-patient psychiatric treatment, of which 76.5% were admitted between 1 and 5 times. One in five men (20.3%) was known to have been treated as a psychiatric outpatient, the majority availing of public psychiatric services. Over one third (36.1%) of women had been treated as a psychiatric outpatient, the majority also availing of public psychiatric treatment services.

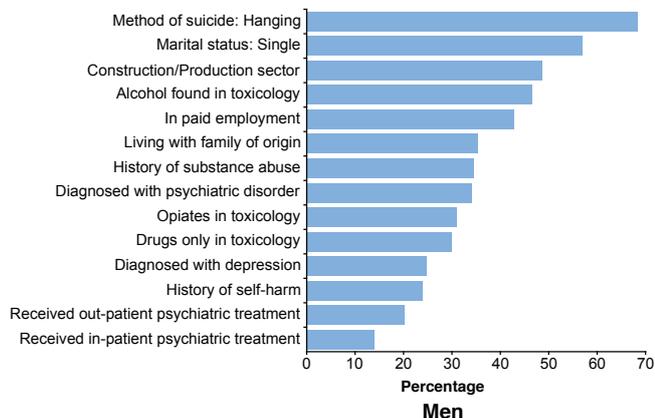


Figure 4.1: Demographic, psychosocial and psychiatric factors associated with suicide among men

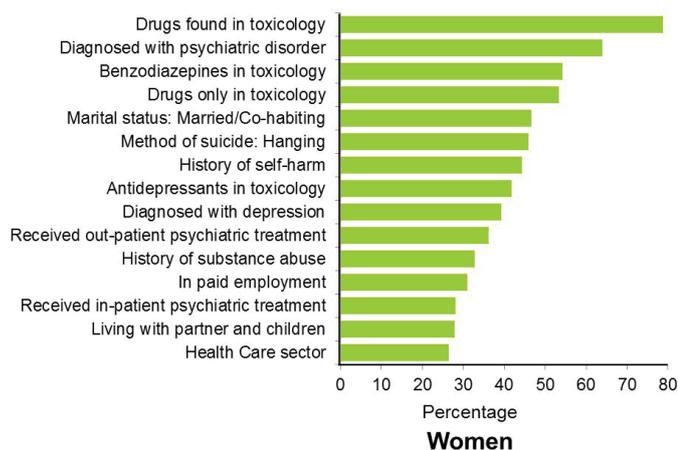


Figure 4.2: Demographic, psychosocial and psychiatric factors associated with suicide among women

4.2 Men aged <40 years versus men aged ≥40 years

Of the 246 men included in the SSIS, 131 (53.3%) were younger than 40 years of age while 115 (46.7%) were 40 years of age or older. All reported differences were statistically significant (p-values <0.01). Due to the relatively smaller number of women it was not possible to conduct subgroup analyses for women based on different age groups.

Socio-demographic characteristics

In terms of year of death, the largest proportion of the younger men (<40 years) died in 2008 and 2009. However, in 2010 and 2011, this reversed, and there was an increase in the number of deaths among men aged ≥40 years (Figure 4.3).

With regard to the day of death among the younger men (<40 years), Monday was the most common day, whereas Saturday was more common among men aged ≥40 years (Figure 4.4).

Among men aged ≥40 years, almost half were married/cohabiting (46.9%), just over one third (36.3%) were single and the remainder were divorced, separated or

widowed. Among the younger men, the majority were single (74.8%), one in five were married (21.4%), and the remainder were divorced or separated. In terms of living arrangements, the largest proportion of men aged ≥40 years lived alone (53.9%), while the largest proportion of younger men (55%) lived with their family of origin. Just over two fifths (43.9%) of men aged ≥40 were in paid employment, with nearly one third (31.8%) unemployed. Among younger men a higher proportion was unemployed (39.5%). In both age groups, about half worked in the construction/production sector (55.8% and 41.3% respectively). A higher proportion of men aged ≥40 years had worked in the agricultural sector (18.8% vs. 6.7%), while a higher proportion of younger men were students (17.6% vs. 0.0%), (Figures 4.5, 4.6).

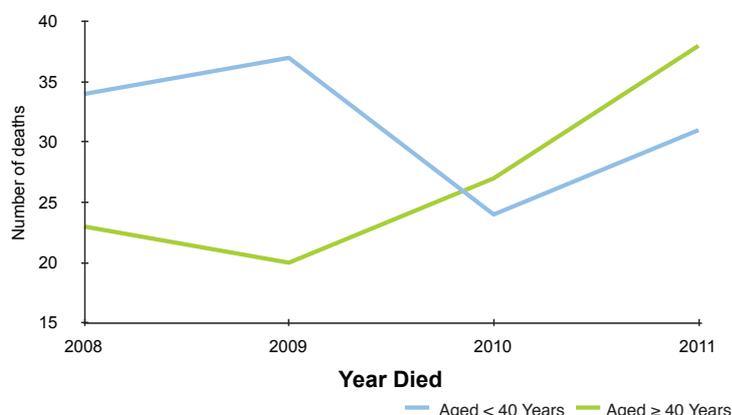


Figure 4.3: Number of deaths from 2008 – 2011 for men aged <40 and men aged ≥40

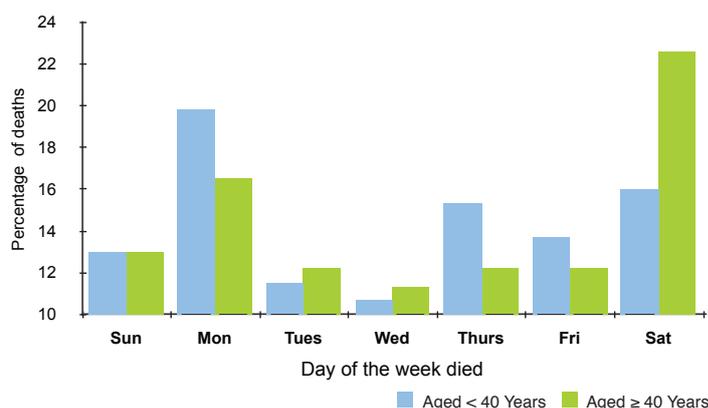


Figure 4.4: Number of deaths by day of week for men aged <40 and men aged ≥40

Characteristics of the suicide act

The most common method of suicide in both age groups was hanging. However, this method was more frequently used in the younger age group (<40 years compared to those aged ≥40 years (78.6% versus 56.5% respectively) (Figures 4.5, 4.6). Intentional

overdose and drowning were more common methods among men aged ≥ 40 years compared to those who were younger (intentional overdose: 10.4% vs. 4.6%; drowning: 15.7% vs. 3.8%).

With regard to toxicology at the time of death, a larger proportion of men aged ≥ 40 years had drugs only in their toxicology (36.4%) compared to those who were younger (< 40 years) (43.5%). A larger proportion of younger men had alcohol and drugs in their toxicology (27.5% vs. 21.2%). A larger proportion of younger men had alcohol only in their toxicology (29.1%) compared to those aged ≥ 40 years (18.2%). In terms of the type of drugs in the toxicology, antidepressants were more commonly used by men aged ≥ 40 years than those who were younger (45.5% vs. 24.0%). Younger men had used more often benzodiazepines and opiates (58.0%, 62.0%) compared to those aged ≥ 40 years (38.6%, 18.2%) (Figures 4.5, 4.6). The most common opiates used were heroin, cocaine, amphetamine, ecstasy and cannabis.

History of self-harm

A history of self-harm prior to death by suicide was significantly more frequent among the younger men (31.3%) compared to those aged ≥ 40 years (15.7%), with intentional drug overdose being the most common method used in both age groups (Figures 4.5, 4.6). Intentional drug overdose was more common among men aged ≥ 40 years (44.4%) compared to those who were younger (31.7%). Both self-cutting and attempted hanging were more common among the younger men (24.4% vs. 24.4%) compared to those aged ≥ 40 years (11.1% vs. 5.6%).

Psychosocial and psychiatric characteristics

A psychiatric diagnosis was confirmed among 38.3% of the men aged ≥ 40 years compared to 30.5% of the younger men, with depression being the most common diagnosis in both groups, although this was higher among men aged ≥ 40 (35.9% vs. 19.5%) (Figures 4.5, 4.6). A history of alcohol and/or drug abuse was more frequently reported for the younger men (38.9%) compared to those aged ≥ 40 years (29.6%). Of those known to have abused alcohol and/or drugs, 76.5% of men aged ≥ 40 had abused alcohol only, compared to 27.5% for younger men. 41.2% of younger men had abused both alcohol and drugs, which was 14.7% for men aged ≥ 40 . Drug abuse was higher among younger men (29.4%) compared to those aged ≥ 40 years (2.9%).

There were no significant differences with regard to inpatient and outpatient psychiatric treatment. Among

the younger men 14.5% had received inpatient psychiatric treatment and for the men aged ≥ 40 years, this was 13.9%. In both groups almost one in five had received outpatient psychiatric treatment, with the majority having used public psychiatric treatment services. A higher proportion of the younger men (28.6%) had experienced suicide by a family member or friend compared to those aged ≥ 40 and older (9.2%).

Physical illness

A higher proportion of men aged ≥ 40 years had been diagnosed with a physical illness (38.3%) (Figure 4.6) compared to those who were younger (21.4%). The most common physical illnesses for men aged ≥ 40 years were cancer, heart disease, and hypertension, while for the younger men this was chronic back pain and chronic neck pain.

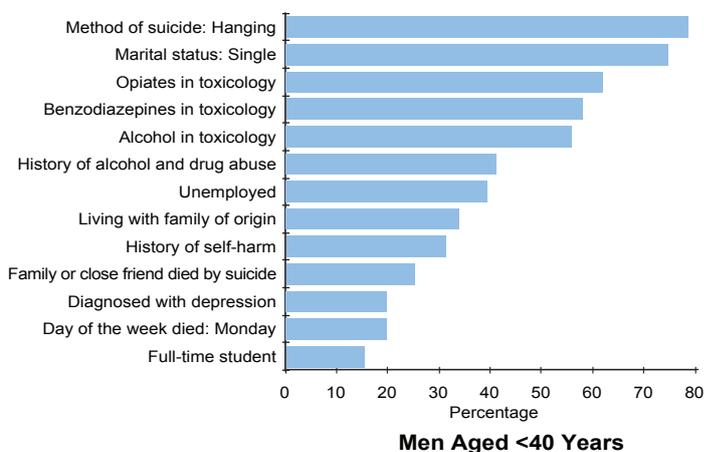


Figure 4.5: Demographic, psychosocial and psychiatric factors associated with suicide in men <40 years

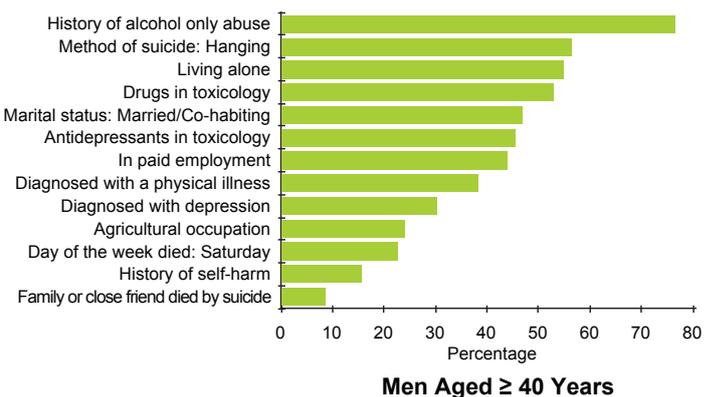


Figure 4.6: Demographic, psychosocial and psychiatric factors associated with suicide in men ≥ 40 years

4.3 People who were employed versus those who were unemployed

Information on employment status was available for 281 people, with 114 (40.6%) being employed and 93 (33.1%) unemployed at the time of death. The remainder (26.3%) were home makers, students, retired, and long

term disabled. All reported differences were statistically significant ($p < 0.01$).

Socio-demographic characteristics

For those who were employed, the most common day of death was Monday (21.9%) and the most common month was May (14.9%), compared to Saturday and July for those who were unemployed (25.8% and 11.8% respectively) (Figures 4.8, 4.9). Over the period 2008-2011, the proportion of suicide deaths among people who were unemployed decreased whereas suicide deaths among those who were employed increased (Figure 4.7).

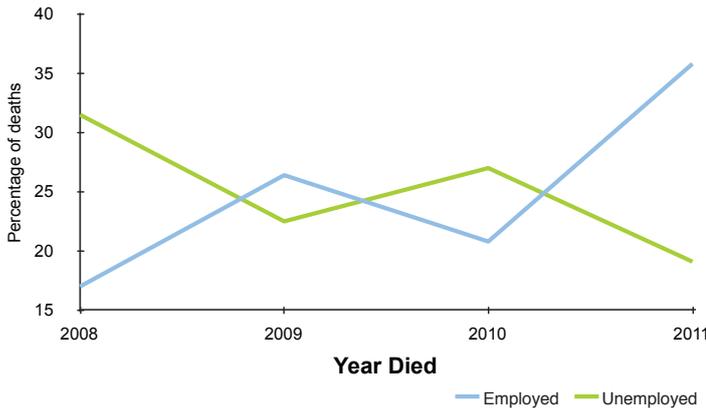


Figure 4.7: Percentage of suicide deaths among those employed and unemployed, 2008-2011

In terms of age, the highest percentage of suicide deaths for the employed group was observed in the 45-49 year age group (18.4%), while for the unemployed group this was in the 20-24 year age group (18.3%). There were no significant gender differences.

Almost two thirds (58.1%) of the people who were unemployed were single compared to 46.5% of those who were employed (Figures 4.8, 4.9). Among people who were employed a higher proportion was married/cohabiting (46.5%) and lived with partner/children (30.7%) compared to those who were unemployed (30.1% and 9.5% respectively). Among people who were unemployed a higher proportion had worked in the construction/production sector (66.7%) compared to those who were employed (38.4%). Among people who were employed, a higher proportion had worked in the agricultural sector (19.6%) compared to the unemployed (7.6%).

Characteristics of the suicide act

The most common method of suicide in both groups was hanging (employed: 70.2%, unemployed: 71.0%). However, intentional drug overdose was higher among those who were unemployed (9.7%) compared to those who were employed at the time of death (2.6%) (Figures 4.8, 4.9).

Nearly two thirds (64.5%) of the unemployed people had drugs in their toxicology at the time of death compared to 44.7% of those who were employed. Moreover, a higher proportion of those who were unemployed had multiple drugs in their toxicology above the therapeutic range (25.9% and 10.0% respectively). People who were unemployed also had used more often benzodiazepines (58.3%) and alcohol (55.6%) at the time of death compared to those who were employed (41.7% and 38.7% respectively). People who were unemployed had more often opiates in their toxicology (47.9%) compared to the employed (8.5%).

History of self-harm

People who were unemployed more often had a history of non-fatal self-harm (41.9%) compared to those who were employed (17.5%) (Figures 4.8, 4.9). Intentional drug overdose was the most common self-harm method involved in the last self-harm act prior to death in both groups, but this was higher among those who were employed (50.0%) compared to the unemployed (38.5%). In contrast, attempted hanging was higher among those who were unemployed (20.5%) versus the employed (10.0%). Following the last self-harm act a higher proportion of those who were unemployed (38.5%) had been medically treated in general hospital compared to those who were employed (20.0%).

Psychosocial and psychiatric characteristics

Both groups were fairly similar in terms of the presence of psychiatric diagnosis. Among those who were unemployed 36.6% had a psychiatric diagnosis compared to 38.6% of those who were employed. The diagnosis of depression was slightly higher among those who were unemployed (29.8%) compared to 23.7% among the unemployed, but this comparison was not statistically significant (Figures 4.8, 4.9). However, just over half of those who were unemployed had a history of alcohol and/or drug abuse (51.6%) compared to 18.4% of the employed. Alcohol abuse alone was higher among those unemployed (21.5%) compared to those employed (8.8%).

Those who were unemployed had more often received outpatient psychiatric treatment (32.3%) than those who were employed (18.4%), the majority using public psychiatric services. Inpatient psychiatric treatment was reported for 19.4% of those who were unemployed compared to 13.2% of the employed. However, this comparison was not statistically significant.

The frequency of contact with a GP in the year prior to death was similar in both groups (unemployed: 33.3%

vs. employed: 31.6%). However, among those who were unemployed a higher proportion had been in contact with their GP for psychological reasons (23.5%) than among the employed (15%).

A higher proportion of those unemployed had lost a family member or close friend by suicide (24.7%) compared to 13.2% of the employed.

Physical illness

Physical illness was similar among those who were employed (26.9%) than among the unemployed (25.4%). Common physical illnesses/complaints for both groups were coronary heart problems and chronic back pain.

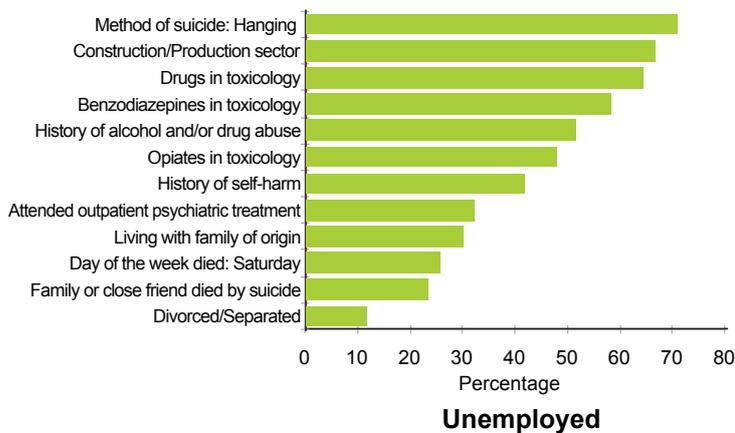


Figure 4.8: Demographic, psychosocial and psychiatric factors associated with suicide among the unemployed

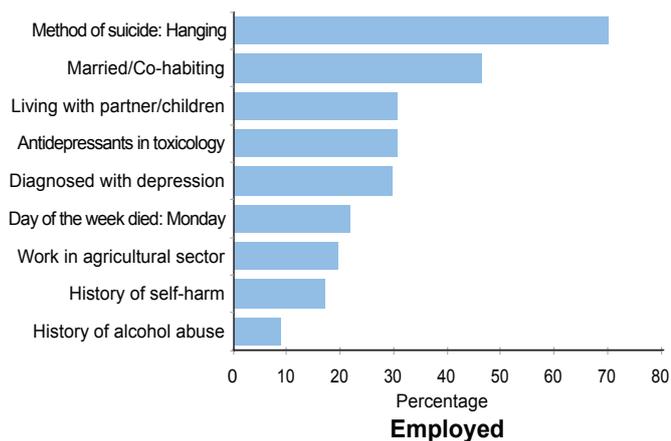


Figure 4.9: Demographic, psychosocial and psychiatric factors associated with suicide among the employed

4.4 People with and without a history of self-harm

Information on history of self-harm was available for 132 people, with 86 (65.2%) having a self-harm history and 46 (34.8%) without. All reported differences were statistically significant (p< 0.01).

Socio-demographic characteristics

The highest percentage of suicide deaths among people who had self-harmed was in the 30-34 year age group (19.8%). The highest percentage of deaths among those who had not self-harmed was in the 45-49 year age group (17.4%).

A higher proportion of those who had not self-harmed were married/co-habiting (50.0%) in comparison to those who had self-harmed (18.6%). In addition, 18.6% of those who had self-harmed were divorced/separated versus 4.3% of those without a self-harm history (Figures 4.10, 4.11). People with a self-harm history were more often living alone (25.6%) compared to those without (10.5%).

People with a history of self-harm were significantly more often unemployed compared to those with such history (48.1% vs. 20.5%). A higher proportion of those who had not self-harmed were in paid employment (56.8%) compared to those who had self-harmed (24.7%). Among those without a history of self-harm, more people had been working agricultural sector (18.6%) than those with a history (11.1%). Almost half of both those who had and those who had not self-harmed worked in the construction/production sector (44.4%, 44.2% respectively). Among those with a self-harm history, 9.4% had been working in healthcare setting compared to 4.7 % with a self-harm history.

Characteristics of the suicide act

A higher proportion of people with a self-harm history took their life by hanging (74.4%) compared to those without a history (65.2%) (Figures 4.10, 4.11). Of those with a self-harm history, 72.1% had drugs in their toxicology at the time of death compared to 47.8% of those without. In addition, those with a history of self-harm were more likely to have drugs in their toxicology above the therapeutic range. The presence of both alcohol and drugs was also higher among those with a self-harm history (30.1%) compared to those without (15.4%). Moreover, a higher proportion of those with a self-harm history had multiple drugs in their toxicology (38.4%) compared to those without (15.2%). With regard to the different drugs involved, higher proportions were found among those with a self-harm history compared to those without: antidepressants: 34.6% vs. 18.2%; benzodiazepines: 47.4% vs. 15.9%; opiates: 26.9% vs. 11.4%. Among those with a self-harm history, a higher proportion had left a suicide note or message (38.4%) compared to those without (28.3%).

Psychosocial and psychiatric characteristics

The presence of a psychiatric diagnosis was higher among those with a self-harm history (66.3%) than among those without (43.5%). The presence of a diagnosis of depression and alcohol/drug abuse was higher among those with a self-harm history (41.9% and 50% respectively) compared to those without (30.4% and 34.8% respectively) (Figures 4.10, 4.11).

Among those with a history of self-harm a higher proportion had received outpatient and inpatient psychiatric treatment (45.3%, 40.7%) compared to those without such history (21.7%, 10.9%).

Physical illness

There were no significant differences between the two groups in term of the presence of a physical illness. Among those with a self-harm history of self-harm, 38.4% were diagnosed with a physical illness compared to 34.8% among those without.

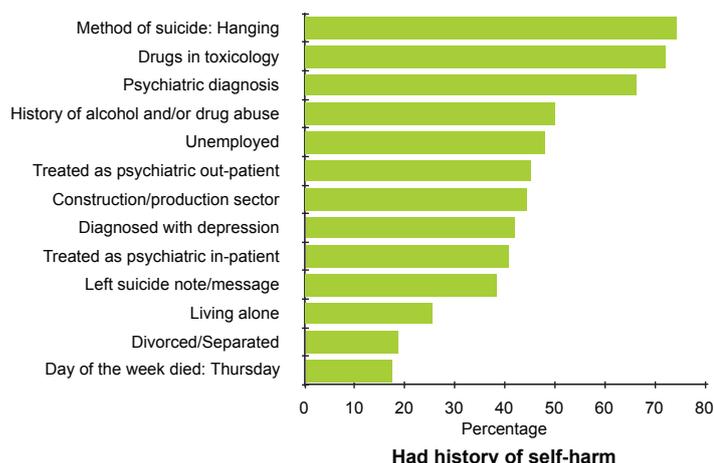


Figure 4.10: Demographic, psychosocial and psychiatric factors associated with suicide among people with a history of self-harm

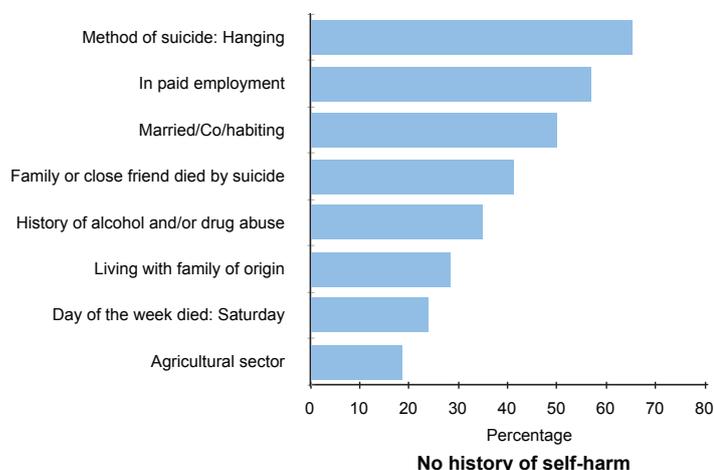


Figure 4.11: Demographic, psychosocial and psychiatric factors associated with suicide among people without a history of self-harm

4.5 People diagnosed with and without depression

Information on diagnosis of depression was available for 138 people, with 85 (61.6%) being diagnosed with depression and 53 (38.4%) not. All reported differences were statistically significant ($p < 0.01$).

Socio-demographic characteristics

Among people with depression, the highest proportion of suicides occurred in the age group 45-49 years (18.8%), whereas among those not depressed the highest proportion of suicides was observed in the 35-39 years age group (15.1%). Among those diagnosed with depression, 71.8% were men and 28.2% women.

A higher proportion of those without depression were single (50.9%) compared to those diagnosed with depression (35.7%). However, a higher proportion of those diagnosed with depression were married/co-habiting (51.2%), compared to those without depression (30.2%). In addition, 15.1% of those without depression were divorced/separated compared to 9.5% of those diagnosed with depression (Figures 4.12, 4.13).

A higher proportion of people with depression were employed (43.0%) compared to those without depression (34.7%). The level of unemployment was similar for those with and without depression (27.8% and 30.6% respectively). However, among those with depression a higher proportion was retired or long-term disabled (26.6%) compared to those without depression (14.3%). Among those with depression a higher proportion had been working in the construction/production sector (37.3%) and in an agricultural setting (17.3%) compared to those without depression (34.8% and 10.9% respectively).

Characteristics of the suicide act

Even though hanging was the most common method of suicide in both groups, this was a more frequently used method used by those without depression (71.7%) compared to those with depression (48.2%), (Figures 4.12, 4.13). However, the proportion of people who had died by drowning was higher among those with depression (24.7%) than among those without (13.2%). The proportion of those involved in intentional drug overdose was similar in both groups (depression: 10.6% vs. no depression: 9.4%). The majority of people diagnosed with depression had drugs in their toxicology at time of death (74.1%) compared to 25.3% of those without depression. A higher proportion of people without depression had opiates in their toxicology at time of death (22.5%) than those with depression (9.3%). A higher proportion of people without depression had

alcohol in their toxicology (44.2%) compared to 17.4% of those with depression. Over one third of people without depression had left a suicide note/message (37.7%) compared to 9.6% of those with depression.

History of self-harm

A higher proportion of those with depression had self-harmed (42.4% vs. 35.8%), (Figures 4.12, 4.13). The most common method of self-harm was intentional drug overdose (42.1% for those without depression and 38.9% for those with depression). Attempted drowning was higher among those with depression (16.7% vs. 5.3%). A higher proportion of those with depression had self-harmed less than one week prior to taking their own lives (27.8% vs. 15.8%). The most common medical treatment following last act of self-harm was general hospital (42.1% for those without depression and 33.3% for those with depression). In addition, 42.1% of those without depression received no psychiatric treatment following their last act of self-harm versus 25.0% among those with depression) (Figures 4.12, 4.13).

Psychosocial and psychiatric characteristics

Among people without depression, a higher proportion had a history of alcohol and/or drug abuse (47.2%) compared to those with depression (34.1%), (Figures 4.12, 4.13). Alcohol abuse was the most common type of abuse in both groups (depression: 18.8% vs. no depression: 24.5%). Among people with depression a higher proportion had received outpatient and inpatient psychiatric treatment (44.7%, 34.1%) compared to those without (34%, 24.5%).

Physical illness

There were no significant differences between the two groups in term of the presence of a physical illness. Among those with depression 41.2% had a physical illness compared to 39.6% among those without depression.

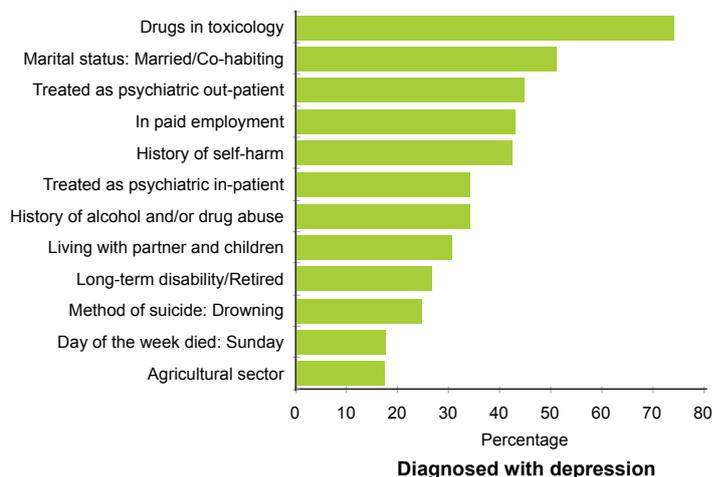


Figure 4.12: Demographic, psychosocial and psychiatric factors associated with suicide among people diagnosed with depression

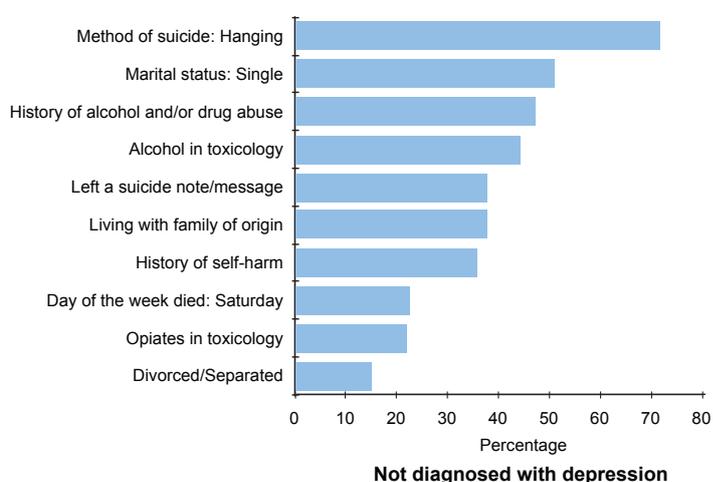


Figure 4.13: Demographic, psychosocial and psychiatric factors associated with suicide among people not diagnosed with depression

5. Suicide clustering and contagion

In the first SSIS report, an exploratory approach was adopted to examining a suicide cluster involving young men in a small area in Cork. The analysis of information accessed through coroners, family members and health professionals allowed us to identify a pattern of suicide clustering amongst individuals with the majority being connected (Arensman *et al*, 2012). Since the publication of the first SSIS report, we have moved beyond this exploratory stage and started to systematically examine clustering patterns, using the statistical programme SaTScan (Kulldorff, 1997). SaTScan has previously been used mainly to examine clustering patterns in infectious diseases, and this technique offers an innovative means of furthering our understanding of space-time (point) suicide clusters (Bando *et al*, 2012; Cheung *et al*, 2012; Larkin & Beautrais, 2012).

5.1 Suicide clusters identified in County Cork in 2011

Applying the SaTScan analysis to the most recent period for which SSIS data were available, August 2010 to June 2012, a total of 9 statistically significant clusters were observed. There was much overlap and nestling within these clusters, with 2 'groups' of clusters emerging. In order to illustrate a sample of the types of clusters that emerged, we detail two distinct clusters here that do not overlap in time or space.

Cluster 1 involved 13 cases of suicide which occurred in County Cork over a 3-month period, from April to June 2011. The expected number of cases for the time period of the cluster was 1.86. Thus, the observed cluster represents a 6.9 fold increase in suicide cases. The cluster had a radius of 23.44 km (Figure 5.1).

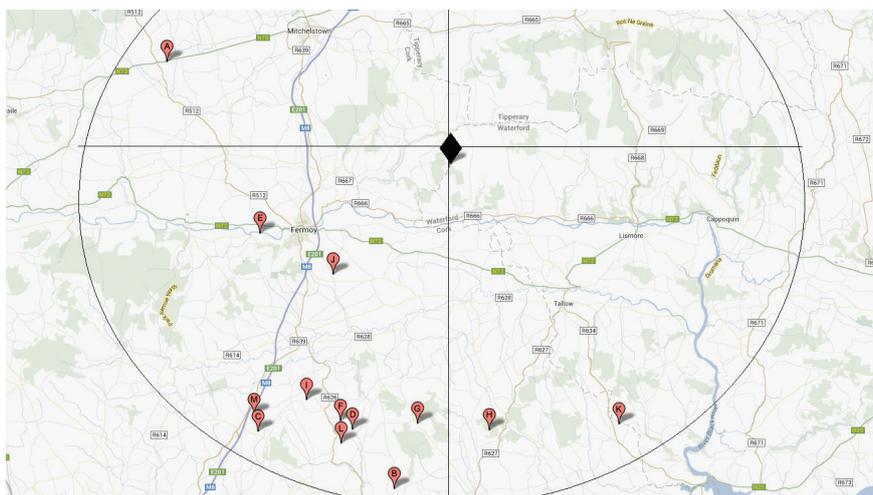


Figure 5.1: Suicide cluster 1, April-June 2011*.

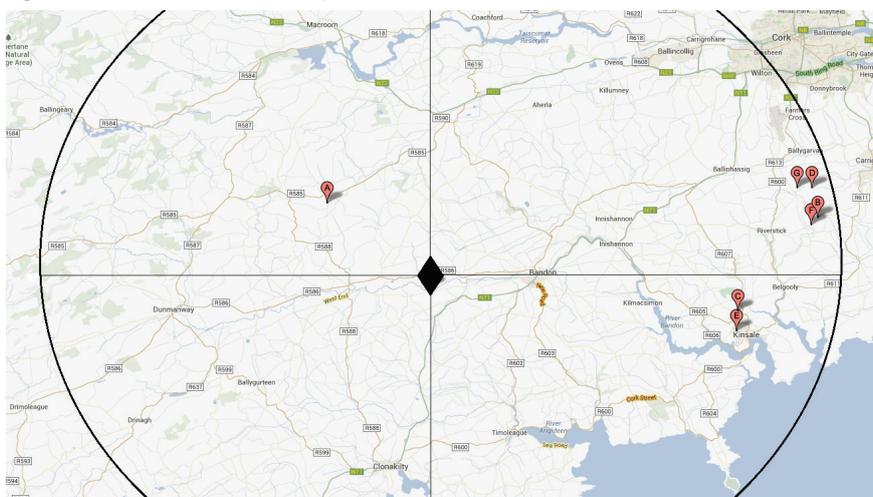


Figure 5.2: Suicide cluster 2, September-October 2011*.

*Above are the maps of Clusters 1 and 2. The pattern of each cluster and the proximity of cases have been preserved. However, the exact geographical location of each cluster has been modified in order to protect the confidentiality of the individuals involved in each case. Therefore, the areas depicted are not the exact areas in which the suicides happened.

Note: The maps were derived from <http://batchgeo.com/>

Cluster 2 involved 7 cases of suicide which occurred in County Cork over a 2-month period, from September to October 2011. The expected number of cases in the area for the time period of the cluster was 0.52. Thus, the observed cluster represents a 13.46 fold increase in suicide cases. The cluster had a radius of 28.06 km (Figure 5.1).

5.2 Characteristics of the individuals involved and the suicide act

Due to the contingency arrangement after July 2010, the main source of information accessed by the SSIS for the recent suicide cases was the coroners' verdict records and post mortem reports. Therefore, information on some data items, in particular in relation to psychosocial and psychiatric aspects could not be obtained.

Suicide cluster 1

Socio-demographic characteristics

The first suicide cluster included 12 men and 1 woman, with a median age of 47 years and the interquartile range (IQR) of 37.5–54 years. During the 3-month period, most of the deaths occurred in May and April. The majority of the people involved (69.2%) were married/co-habiting and nearly half (46.2%) were living with partner and children. In terms of employment status, 38.5% were unemployed, 30.8% were employed, and the remainder included people who were retired, long-term disabled and students. Nearly one third (30.8%) had worked in sales/business development, 15.4% in the construction/production sector, 15.4% in law/commerce, and the remainder had been working in the agricultural sector, military services, and taxi/transport services.

Characteristics of the suicide act

Nearly half of the people (46.2%) had died by hanging and 38.5% had taken an intentional overdose. The remainder had used a variety of lethal methods. At the time of death, 30.8% had used drugs, 23.1% had used alcohol and drugs, and 38.5% had a clear toxicology. A suicide note/message was left by 30.8%.

Psychiatric and physical illness

More than one third (38.5%) had been diagnosed with a psychiatric illness and nearly two thirds (61.5%) had been diagnosed with a physical illness.

Suicide cluster 2

Socio-demographic characteristics

The second suicide cluster included 3 men and 4 women, with a median age of 39 years and IQR between

32 and 50 years. The occurrence of the suicide deaths was spread over the 2-month period. Nearly half were married/co-habiting and live with partner/children, and just over half were single. All people involved were in paid employment at the time of death. Most of the people involved (42.9%) worked in the construction/production sector, followed by the agricultural sector (28.6%).

Characteristics of the suicide act

The majority of the people involved had died by hanging, followed by jumping from a height. At the time of death, the majority had drugs only in their toxicology results. The majority had left a suicide note/message.

History of self-harm

More than half of the people involved had a history of non-fatal self-harm.

Psychiatric and physical illness

The majority of the people involved were diagnosed with a psychiatric illness.

5.3 Advantages of applying geo-spatial techniques

Our approach to examining suicide clusters has moved from the exploratory to the systematic. This shift and in particular the utilisation of scan statistics, have allowed us to statistically verify suicide clusters across both space and time. The method tests whether the number of cases within any spatial/temporal window exceeds the number expected by random process. A spatial-temporal cluster, such as those identified here, refers to an outbreak in a small region of the Cork area within a short time frame, which is more related to the emergence of clustering and contagion. Detection of these types of clusters offers the potential to explore the factors underlying clustering and will facilitate the implementation of intervention and postvention strategies.

6. Contribution of current study to the area of suicide research and prevention

What is already known on this subject:

- Information on real-time suicide mortality data is lacking in Ireland. Annual suicide figures published by the Central Statistics Office are usually published with a delay of 2 years or longer, and information on characteristics of people who die by suicide is mostly limited to demographic information.
- Research shows consistency in relation to a number of risk factors associated with suicide, such as the presence of alcohol and drug abuse, psychiatric disorder, marital/relationship problems, unemployment, history of deliberate self-harm and adverse life events. However, information on specific patterns and subgroups is lacking in Ireland and risk factors may change in the context of socio-economic developments.
- There is a knowledge gap in determining suicide risk profiles in order to target high risk groups and situations when implementing suicide prevention programmes.
- Very few studies have been conducted in Ireland to date on clustering and contagion of suicide, and these involve mostly anecdotal information or exploratory techniques.
- There is no system, service or model that combines the objectives of pro-actively facilitating for people bereaved by suicide and obtaining detailed information on factors associated with suicide from multiple sources.

What this study adds:

- The SSIS has demonstrated that a pro-active approach in facilitating support for people bereaved by suicide significantly increases the uptake of support.
- In-depth investigation of the SSIS data revealed a number of distinct demographic and clinical subgroups associated with different risk factors, such as men versus women, men younger than 40 years versus men aged 40 years and older, people who were unemployed versus those who were employed, people with and without a history of non-fatal self-harm, and people diagnosed with depression versus those without this diagnosis.
- Alcohol/drug abuse was identified as a major risk factor for suicide across all identified subgroups.
- The SSIS provided evidence for the presence of a range of vulnerability and risk factors among people who died by suicide and who were unemployed, such as a history of non-fatal self-harm and psychiatric treatment, and alcohol and drug abuse.

- Among the people who had drugs in their toxicology at time of death, the majority had used prescribed medication.
- Among women who died by suicide, a relatively large proportion had worked in a healthcare setting.
- Among men, those who were working in the construction/production sector had a relatively high risk of suicide.
- Additional risk factors included history of substance abuse, diagnosis of a psychiatric disorder, in particular depression.
- Among women, those who were working in a healthcare setting had a relatively high risk of suicide. Additional risk factors included diagnosis of a psychiatric disorder, in particular depression, history of self-harm and history of substance abuse.

Implications for suicide research and prevention:

- Through its systematic approach and access to multiple sources of information, the SSIS meets the requirement of a real-time register of suicide by monitoring patterns and risk factors associated with suicide to improve risk assessment and to identify emerging suicide clusters and contagion effects. In this regard the SSIS addresses the limitations of the suicide mortality data provided by the CSO, and fulfils similar objectives as the UK National Confidential Inquiry into Suicide and Homicide (Kapur *et al*, 2013; Appleby *et al*, 1999) and the Scottish Suicide Information Database (ScotSID, Information Service Division, 2012).
- The SSIS outcomes underline to need to intensify interventions to increase awareness about the harmful effects of alcohol abuse and reduce access to alcohol:
 - National strategies to increase awareness of the risks involved in the use and misuse of alcohol should be intensified, starting at pre-adolescent age
 - National strategies to reduce access to alcohol and drugs should be intensified
 - Active consultation and collaboration between the mental health services and addiction treatment services be arranged in the best interests of patients who present with dual diagnosis (psychiatric disorder and alcohol/drug abuse).
- The SSIS outcomes underline the need for proactive facilitation of bereavement support for services working with families bereaved by suicide.

- The outcomes of the SSIS in terms of specific risk factors associated with suicide clustering underline the need for intensive multi-level suicide prevention programmes whereby multiple interventions are implemented with key stakeholders at the same time.
- In areas with emerging suicide clusters, the HSE-NOSP guidelines for responding to suicide clusters should be implemented and supported by additional capacity and specialised expertise as a matter of priority.
- The outcome that 37 cases of open verdicts met the case finding criteria for probable suicide, underlines the need for further research into open verdict cases and other external causes of death.
- With regard to the identified subgroups representing different vulnerability and risk factors associated with suicide, it would be recommended to conduct further research into the co-occurrence of each of the risk factors.
- Based on the benefits of the SSIS in terms of its outcomes, it is recommended to maintain the SSIS in Cork and to expand to other regions, in particular those regions with high rates of suicide and a history of suicide clusters. Recommended options for expansion of the SSIS include:
 - a) Phased implementation in collaboration with the Department of Health and Children and the Department of Justice and Equality
 - b) Phased implementation in collaboration with suicide bereavement support services.

7. References

- Amitai M, Apter A. (2012). Social aspects of suicidal behavior and prevention in early life: a review. *International Journal of Environmental Research And Public Health*, 9(3):985-94. PubMed PMID: 22690178
- Appleby L, Shaw J, Amos T, McDonnell R. (1999). Safer Services. Report of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. London: Department of Health. Available online: http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4014505.pdf
- Arensman E, McAuliffe C, Corcoran P, Williamson E, O'Shea, Perry IJ. (2012). *First Report of the Suicide Support and Information System*. National Suicide Research Foundation, Cork. Available online: http://www.nsrfl.ie/reports/Reports_2012/SSISReport2012.pdf
- Bando DH, Brunoni AR, Bensenor IM, Lotufo PA. (2012). Suicide rates and income in Sao Paulo and Brazil: a temporal and spatial epidemiologic analysis from 1996 to 2008. *BMC Psychiatry*, 12:127. PubMed PMID: 22928689
- Beautrais A. (2005). Suicidality in pre-adolescence and early adulthood is associated with psychological and psychiatric problems in young adulthood. *Evidence-Based Mental Health*, 8(2):48. PubMed PMID: 15851811
- Boyce N. (2011). Suicide clusters: the undiscovered country. *Lancet*, 22;378(9801):1452. PubMed PMID: 22026016
- Centre of Disease Control. (2008). Preventing suicide: Programme activities guide. National centre for injury prevention and control-Division of violence control. Available at: <http://www.cdc.gov/violenceprevention/pdf/preventingsuicide-a.pdf>
- Cheung YT, Spittal MJ, Pirkis J, Yip PS. (1982). Spatial analysis of suicide mortality in Australia: investigation of metropolitan-rural-remote differentials of suicide risk across states/territories. *Social Science & Medicine*, 75(8):1460-8. PubMed PMID: 22771036
- Colucci E, Martin G. (2007). Ethnocultural aspects of suicide in young people: a systematic literature review part 2: Risk factors, precipitating agents, and attitudes toward suicide. *Suicide & Life-Threatening Behaviour*, 37(2):222-37. PubMed PMID: 17521274
- Cooper PN, Milroy CM. (1995). The coroner's system and under-reporting of suicide. *Medicine, Science and the Law*, 35(4): 319-26. PubMed PMID: 7500856
- Corcoran P, Arensman E. (2010). A study of the Irish system of recording suicide deaths. *Crisis*, 31(4):174-82. PubMed PMID: 20801747
- Coroners Review Group, Coroners Bill. (2007). Available online: <http://www.oireachtas.ie/documents/bills28/bills/2007/3307/b3307s.pdf>
- Haw C, Hawton K, Niedzwiedz C, Platt S. (2013). Suicide clusters: a review of risk factors and mechanisms. *Suicide & Life-Threatening Behaviour*, 43(1):97-108. PubMed PMID: 23356785
- Gould MS, Wallenstein S, Kleinman M. (1990). Time-space clustering of teenage suicide. *American Journal of Epidemiology*, 131(1):71-8. PubMed PMID: 2293755

Health Service Executive. (2005). Reach Out 2005-2014, National Strategy for Action on Suicide Prevention. Available online: http://www.hse.ie/eng/services/Publications/services/Mentalhealth/Reach_Out_.pdf

Health Service Executive. (2011). Responding to murder suicide and suicide clusters: Guidance document. Available online: <http://www.nosp.ie/ufiles/news0008/responding-to-murder-suicide-and-suicide-clusters.pdf>

Hegerl U, Koburger N, Rummel-Kluge C, Gravert C, Walden M, Mergl R. (2013). One followed by many?-Long-term effects of a celebrity suicide on the number of suicidal acts on the German railway net. *Journal of Affective Disorders*, 146(1):39-44. PubMed PMID: 23040873

Information Service Division (ISD) National Health Service, National Services Scotland. The Scottish Suicide Information Database Report 2012. Available online: <https://isdscotland.scot.nhs.uk/Health-Topics/Public-Health/Publications/2012-12-18/2012-12-18-ScotSID-2012-Report.pdf?10290163756>

Joiner TE. (1999). The clustering and contagion of suicide. *Current Directions in Psychological Science*, 8:89-92

Joint Committee on Health & Children, House of the Oireachtas. (2006). Seventh Report-The High Level of Suicide in Irish Society. Available online: http://www.nosp.ie/oireachtas_report.pdf

Joint Committee on Health & Children, House of the Oireachtas (2008) Incidence of Suicide: Discussion with Delegation from Northern Ireland Assembly. Available online: <http://debates.oireachtas.ie/HEJ/2008/02/21/00003.asp>

Kapur N, Gunnell D, Hawton K, Nadeem S, Khalil S, Longson D, *et al.* (2013). Messages from Manchester: pilot randomised controlled trial following self-harm. *The British Journal of Psychiatry: The Journal of Mental Science*, 203:73-4. PubMed PMID: 23818535

Kulldorff M. A spatial scan statistic. (1997). *Communications in Statistics: Theory and Methods*, 26:1481-1496

Ladwig KH, Kunrath S, Lukaschek K, Baumert J. (2012). The railway suicide death of a famous German football player: impact on the subsequent frequency of railway suicide acts in Germany. *Journal of Affective Disorders*, 136(1-2):194-8. PubMed PMID: 22036798

Larkin GL, Beautrais AL. (2012). Geospatial mapping of suicide clusters. The national centre of mental health research, information and workforce development. Available online: <http://www.tepou.co.nz/library/tepou/geospatial-mapping-of-suicide-clusters>

Linsley KR, Schapira K, Kelly TP. (2001). Open verdict v. suicide – importance to research. *The British Journal of Psychiatry*, 178: 465-68. PubMed PMID: 11331564

Logan J, Hall J, Karch D. (2011). Suicide categories by patterns of known risk factors: a latent class analysis. *Archives of General Psychiatry*, 68(9):935-41. PubMed PMID: 21893660

Malone K. Suicide in Ireland 2003-2008. (2013). Department of Psychiatry, Psychotherapy & Mental Health Research St. Vincent's University Hospital and School of Medicine & Medical Science University College Dublin. Available online: <http://www.3ts.ie/wp-content/uploads/2013/05/Suicide-in-Ireland-Survey-2003-2008-Report.pdf>

McGirr A, Seguin M, Renaud J, Benkelfat C, Alda M, Turecki G. (2006). Gender and risk factors for suicide: evidence for heterogeneity in predisposing mechanisms in a psychological autopsy study. *The Journal of Clinical Psychiatry*, 67(10):1612-7. PubMed PMID: 17107255

McLean J, Maxwell M, Platt S, Harris F, Jepson R. (2008). Risk and protective factors for suicide and suicidal behaviour: A literature review. Scottish Government Social Research. Available online: <http://www.scotland.gov.uk/Resource/Doc/251539/0073687.pdf>

- Mesoudi A. (2009). The cultural dynamics of copycat suicide. *PLoS One*, 30;4(9). PubMed PMID: 19789643
- National Suicide Research Foundation. (2007). Inquested deaths in Ireland: A study of routine data and recording procedures. Cork: National Suicide Research Foundation. Available online: <http://www.nsrp.ie/reports/CompletedStudies/InquestStudyTechnical.pdf>
- Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S. (2008). Suicide and suicidal behavior. *Epidemiologic Reviews*, 30:133-54. PubMed PMID: 18653727. Pubmed Central PMCID: PMC2576496
- Owens C, Lloyd KR, & Cambell J. (2004). Access to health care prior to suicide: Findings from a psychological autopsy study. *British Journal of General Practitioners*, 54:279-281. PubMed PMID:15113495
- Robertson L, Skegg K, Poore M, Williams S, Taylor B. (2012). An adolescent suicide cluster and the possible role of electronic communication technology. *Crisis*. 33(4):239-45. PubMed PMID: 22562859
- Rosenberg ML, Davidson LE, Smith JC, Berman AL, Buzbee H, Gantner G, *et al.* (1988). Operational criteria for the determination of suicide. *Journal of Forensic Sciences*, 33(6):1445-56. PubMed PMID: 3204347
- Stack S. (2000). Media impacts on suicide: A quantitative review of 293 findings. *Social Science Quarterly*, 81, 957–971.
- Windfuhr K. (2010). A Review of the Suicide Support and Information System (SSIS). Available online within: http://www.nsrp.ie/reports/Reports_2012/SSISReport2012.pdf
- Windfuhr K, Kapur N. (2011). Suicide and mental illness: a clinical review of 15 years findings from the UK National Confidential Inquiry into Suicide. *British Medical Bulletin*, 100:101-21. PubMed PMID: 21948337

8. Appendices

Appendix 1: SSIS database screenshot items

Socio-demographic information page

SSIS Suicide Support and Information System National Suicide Research Foundation

Socio-demographic info **Cause of Death** Precipitants Previous Self Harm Models Psychiatric history Physical health Substance Abuse Treatment History

ID Number	Date of Birth	Date of Death	Age	Gender	Area	Geocode
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Nationality	Ethnic origin	Religion	Marital Status			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
Number of times divorced or separated	Number of children	Accommodation (inpatients prior to admission)				
<input type="text"/>	<input type="text"/>	<input type="text"/>				
Living arrangements	Was deceased providing care for child under 5					
<input type="text"/>	<input type="text"/>					
Employment status	Profession (please specify)					
<input type="text"/>	<input type="text"/>					
Highest level of education obtained	Any history of being in prison					
<input type="text"/>	<input type="text"/>					

Cause of death information page

SSIS Suicide Support and Information System National Suicide Research Foundation

Socio-demographic info **Cause of Death** Precipitants Previous Self Harm Models Psychiatric history Physical health Substance Abuse Treatment History

Cause of death from medical evidence	Cause of death (if more than 1 give direct cause)				
<input type="text"/>	<input type="text"/>				
If self-poisoning, specify substance	Where did substance come from	Did deceased commit homicide before dying	Was the death part of a pact		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Did the death occur in a woman who was pregnant or post-natal	Were any suicide notes or other messages left by deceased				
<input type="text"/>	<input type="text"/>				
Last seen alive by (define relationship)	Circumstances in which found				
<input type="text"/>	<input type="text"/>				
Date of inquest	Inquest held at	Name of Coroner	Coroner district	Name of pathologist	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Verdict	Details of narrative if verdict	Toxicology results in relation to levels of alcohol and drugs			
<input type="text"/>	<input type="text"/>	<input type="text"/>			

Precipitants to self harm

SSIS Suicide Support and Information System

National Suicide Research Foundation

Socio-demographic info Cause of Death **Precipitants** Previous Self Harm Models Psychiatric history Physical health Substance Abuse Treatment History

Had the deceased experienced or anticipated any of the following:

Significant loss or losses

Legal troubles or difficulties with the Gardai

Significant life changes either positive or negative

Anniversary of an important death or other significant loss

Did deceased express a wish to reunite or to be reborn

Were there any other major events prior to death

Deceased recently made preparations for death eg updating will

Significant (or perceived) disruption of a primary relationship

An event which was or was perceived as traumatic

The completed suicide or suicidal behaviour of someone close

Exposure to suicide of another through media or acquaintance

Details from previous question

Details if yes of major events prior to death including when

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Next >

Save and Close

Previous self harm

SSIS Suicide Support and Information System

National Suicide Research Foundation

Socio-demographic info Cause of Death Precipitants **Previous Self Harm** Models Psychiatric history Physical health Substance Abuse Treatment History

Did deceased previously selfharm

If yes, how many times?

Method of previous deliberate self harm

Time lapse between episode of deliberate self harm and death

Medical treatment following self harm

Psychiatric treatment following self harm

< Back

Next >

Save and Close

Has any of the deceased relatives or close friends self harmed

Model 1 Relationship to deceased of self harmer <input type="text"/>	Model 1 Type of behavioiur <input type="text"/>	Model 1 Time lapse between Model 1 event and death <input type="text"/>
Model 2 Relationship to deceased of self harmer <input type="text"/>	Model 2 Type of behavioiur <input type="text"/>	Model 2 Time lapse between event and death <input type="text"/>
Model 3 Relationship to deceased of self harmer <input type="text"/>	Model 3 Type of behavioiur <input type="text"/>	Model 3 Time lapse between event and death <input type="text"/>
Model 4 Relationship to deceased of self harmer <input type="text"/>	Model 4 Type of behavioiur <input type="text"/>	Model 4 Time lapse between event and death <input type="text"/>
Model 5 Relationship to deceased of self harmer <input type="text"/>	Model 5 Type of behavioiur <input type="text"/>	Model 5 Time lapse between event and death <input type="text"/>

Was deceased diagnosed with psychiatric illness

Name and location of diagnosing doctor

Date of psychiatric diagnosis

Primary diagnosis

Secondary diagnosis

Duration of history since onset of disorder in primary diagnosis

SSIS Suicide Support and Information System

Socio-demographic info Cause of Death Precipitants Previous Self Harm Models Psychiatric history Physical health **Substance Abuse** Treatment History

Did the deceased have a history of alcohol or drug abuse If Yes, please indicate history of abuse

Had deceased made any recent attempts to stop abusing substances If Yes, please give details of attempts to stop abusing substances

Was there a recent increase in the deceased's use of substances If Yes, please give details of recent increase

Was there evidence of alcohol or drugs in tox report

< Back Next > Save and Close

SSIS Suicide Support and Information System

Socio-demographic info Cause of Death Precipitants Previous Self Harm Models Psychiatric history Physical health Substance Abuse **Treatment History**

Was deceased ever treated as a psychiatric inpatient How many times ever How many times in last year

Date of last admission and length of stay Reason for admission Was deceased ever treated as an psychiatric outpatient

Drug Treatment History

Oral typical anti-psychotic (eg chlorpromazine, haloperidol) Oral atypical anti-psychotic (eg clozapine, risperidone)

Depot typical anti-psychotic (eg flupenthixol, zuclopenthixol) Depot atypical anti-psychotic (eg risperidone)

Lithium/mood stabilisers Tricyclic anti-depressants SSRI anti-depressants

SNRI anti-depressants Other anti-depressants Methadone

Other psychotropic drug (please specify) Did deceased complain of side effects of drugs

Reason for poor or non compliance with treatment Further details for poor or non compliance with treatment

< Back Save and Close

The Development of a Suicide Support and Information System in Ireland: A pilot-study

Interview Instrument for Informant (I- Family member or friend)

National Suicide Research Foundation

May 2009

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The study is commissioned by the National Office for Suicide Prevention

Background information

The National Office for Suicide Prevention (NOSP) has commissioned the National Suicide Research Foundation to establish a National Suicide Support and Information System (SSIS) which is currently being piloted in the Cork region. The main objectives are to improve access to bereavement support and to address major gaps in information about risk factors associated with sudden death, in line with Reach Out and the Seventh Report of the Houses of the Oireachtas Joint Committee on Health and Children. The NOSP has provided funding for an 18 month pilot-study in the Cork region.

The objectives of the Suicide Support and Information System are to:

1. Improve provision of support to the bereaved
2. Identify and better understand the causes of suicide
3. Identify and improve the response to clusters of suicide, filicide-suicide and familicide
4. Better define the incidence and pattern of suicide in Ireland

The SSIS is operating in close collaboration with the revised Irish coroner's system which is being legislated for in the new Coroner's Bill. The SSIS obtains data on **possible** suicide deaths shortly after they occur through notification by the coroners. It supports the provision of information on suitable support services to the bereaved. It obtains relevant data on factors associated with the death and the deceased in an appropriately sensitive and confidential manner from sources including coroners, the family, general practitioners and mental health professionals.

Functions and elements of the SSIS are in line with existing international systems, such as the National Confidential Inquiry into Suicide and Homicide, which was established in the UK in 1995 and which provides an evidence base for the development of suicide intervention and prevention programmes. Based on routine data on suicide cases through the inquiry in the UK, specific information has been obtained on the ecological association between suicide and deprivation (Rezaeian *et al*, 2006; 2007), precipitants of suicide in the three months prior to suicide (Hunt *et al* 2008) and factors associated with frequently used methods of suicide, such as hanging (Gunnell *et al*, 2005). The outcomes of the UK inquiry form a major evidence base for intervention and prevention programmes in preventing suicide.

Instructions semi-structured interview

For each case of possible suicide, one key informant from the family or friends (in the situation where family members are unknown) of the deceased who had been in closest contact with the deceased in the year before death, will be invited to participate in a psychological autopsy interview. A letter explaining the study will be given/sent to each bereaved family. The letter will explain that the Senior Researcher (SR) will contact them by telephone ten days after receipt of the letter to address their need for bereavement support and to inform them about the possibility of participating in an interview. The SR will not approach family members close to the anniversary of the death, the birthday of the deceased and family occasions such as Christmas. This procedure is in accordance with recommendations by Hawton *et al* (1998) and Isometsa (2001). At the second/third telephone contact the SR will explain the purpose and content of the interview part of the study and will propose to send a written summary of the interview by post after the telephone contact.

The semi-structured interview covers themes which are in line with a standardised protocol recommended by Snider *et al* (2006) and themes considered relevant for the target group of the proposed study. The maximum duration of the interview will be 3 hours, with the option to complete the interview over two sessions on separate days if this is more convenient for the informant. With the consent of the informants the interview will be tape-recorded. Informants will also be asked for their consent to be contacted again by the SR three weeks after the interview to ascertain the impact of the interview.

Instructions assessment instruments

For the purposes of standardisation, all interviews will follow the same order of semi-structured sections and sections including validated questionnaires. In order to assess negative life events at different stages in life, a modified version of the Stressful and Traumatic Events Questionnaire (STEQ) (Kerkhof *et al*, 1989) will be used. The STEQ covers

three different periods: 1) childhood and early adolescence (0-15 years), 2) late adolescence and adulthood (> 15 years), and 3) 12 months prior to the death.

INSTRUCTIONS FOR CONTACTING INFORMANTS (I- Family member or friend)

Below are instructions for introducing yourself to the informants and for giving them information regarding the content and aims of the interview part of the study. All bereaved families receive a letter from the NSRF introducing the study. The most important aspect of all contacts with family members is to establish rapport, to gain his/her trust in you and to make him/her feel at ease. Be polite, but not too formal. In introducing your request, give complete information on what you are requesting, but do it clearly and in terms that are easy to understand.

Following conclusion of the inquest in first and subsequent contacts with the bereaved family, you mention the possibility to be invited to participate in an interview at a later stage. Tell informant that you would like to talk with him/her about the deceased's life course and situation around the time of death. Offer to send a written summary of the interview part of the project by post after the telephone contact. Let the informant know the estimated time duration and contents of the interview: maximum of 3 hours. Explain that there will be an option to complete the interview over two sessions on separate days if this is more convenient for the informant. Also inform the participants that with their consent the interview will be tape-recorded.

If during these telephone contacts the relative expresses a wish to participate in the interview, you will ask the relative for options for a date and time which is convenient for him/her. You will also ask the relative for his/her preference with regard to the venue of the interview (in their home, NSRF offices, other preferred venue). You will send a letter confirming the date-time-venue of interview including a summary of the interview part of the project. If during this telephone contact the relative indicates that he/she would like to reflect on this invitation and make a decision at a later stage, you will ask the relative to indicate when he/she would like to be contacted again by telephone to hear about his/her decision. You will confirm with the relative the date and time to contact him/her again by telephone.

At the interview you will explain to the participant that the objective of the interview is to improve understanding of factors related to sudden death and or suicide and that the information they give in the interview will help to improve treatment and prevention programmes for those who may be at risk in the future.

- Emphasise that if he/she agrees to be interviewed, this does not imply that he/she is obliged to answer each and every question, that if he/she finds some topics too private or embarrassing to discuss, he/she will not be pressed to do so, and that he/she can decide to finish the interview at any time.
- Emphasise that the contents of the interview are strictly confidential, that no information from the interview will be made known to other persons.
- Emphasise that his/her name will not be recorded anywhere, except for a consent form which has to be signed before the interview. Explain that this consent form is necessary for legal reasons, so that others can see that the co-operation is voluntary, that no financial or other awards have been promised and that he/she has been informed about the aims and contents of the interview and about its confidentiality.

Following this introduction you will ask the relative to sign the consent form prior to the interview. Ask informant if he/she has understood what you have said, and whether he/she has any questions before starting the interview.

- If required you will propose a second appointment to complete the interview.
- At the end of the interview, you will ask the relative if he/she agrees that you will contact one or more health care professionals who had been in contact with the deceased family member within 12 months prior to his/her death.
- After completion of the interview, you will verify again with the relative the need for bereavement related support. You will ask the family member if he/she agrees with a final follow-up contact 3 weeks after completion of the interview in order to verify if he/she would like to discuss any reflections following from the interview and if there may be any needs for bereavement related support.

GENERAL INTERVIEW INFORMATION

Place of interview.....

Date of interview ____/____/____
 Day Month Year

Time of interview ____ ____
 Hour Min

First session

date started: ____/____/____
 Day Month Year

time started & ended ____ ____ ____ ____
 Hour Min Hour Min

If interview completed in two sessions

Second session

date started: ____/____/____
 Day Month Year

time started & ended ____ ____ ____ ____
 Hour Min Hour Min

6. Special observations or remarks: reason for refusal or interview not taking place or interview partially completed

- 1. Completed
- 2. Partially completed
- 3. Not completed

TO BE FILLED IN WHEN THE INTERVIEW IS COMPLETED

STANDARD SOCIO-DEMOGRAPHIC INFORMATION AT TIME OF DEATH

Now that you know what this interview is for and have signed the consent form, let us start with some general questions about yourself and then similar questions about the deceased (*name*) (age, gender, occupation etc). If on any question you either cannot or don't want to give an answer, please say so. I would like to emphasise again that participating in this interview is completely voluntary. Now before we start, do YOU have any questions?

Interviewee

1. **Gender**

- 1. Male
- 2. Female

2. **Relationship to the deceased:**.....

Deceased

1. **Date of birth** _____/_____/_____

2. **Gender**
 - 1. Male
 - 2. Female

3. **Nationality** (please specify).....

4. **Ethnic Origin**
 - A White Irish
 - Irish Traveller
 - White Other

 - B Black or Black Irish African
 - Any other background

 - C Asian or Asian Irish Chinese
 - Any other Asian background

 - D Other including mixed background (Please specify).....

 - E Not known 99.

5. **Religion** Roman Catholic Other (Please specify).....

6. **Marital status**
 - 1. Single
 - 2. Married/co-habiting
 - 3. Widowed
 - 4. Divorced..... if yes, how many times:
 - 5. Separated....if yes, how many times:

7. **Accommodation** (for inpatients give accommodation prior to admission)
 - 1. Homeless/no fixed abode 2. Supervised hostel
 - 3. Unsupervised hostel 4. House or flat
 - 5. Prison
 - 8. Other (please specify).....

8. **Living arrangements**
 - 1. Alone
 - 2. With family of origin
 - 3. With partner/wife only
 - 4. With partner and children
 - 5. With child(ren) only
 - 6. Other shared (e.g.friends)
 - 8. Other (please specify).....

9. **Number of children** (please specify)
 -

10. **Was the deceased providing care for any children under the age of five years?**
 - 1. No 2. Yes.

11. **Employment status**

- 1. In paid employment (including part-time and self-employed)
- 2. Unemployed
- 3. Housewife/husband
- 4. Full-time student
- 5. Long term disability
- 6. Retired
- 8. Other (please specify)

12. **Profession** (please specify).....

13. **Medical card** 1. No 2. Yes

14. **Highest level of education obtained**

- 1. Primary
- 2. Secondary
 - Junior/Inter Cert*
 - Senior/Leaving Cert*
- 3. Third level
- 4. Other course e.g. PLC, apprenticeship

15. **History of residence in an industrial school, orphanage or foster care as a child?**

- 1. No
- 2. Yes

16. **History of being in prison at any time before death** (includes being a remand prisoner)

- 1. No
- 2. Yes.

SITUATION AT TIME OF DEATH.

Can you tell me in your own words what you know about how the deceased (name) died? Do you know what caused his/her death?

(Interviewer completes this section based on the interviewee’s response)

1. Cause(s) of death (if more than one please give direct cause)

- 01 Self-poisoning
- 02 Carbon monoxide poisoning
- 03 Hanging
- 04 Drowning
- 05 Firearms
- 06 Cutting or stabbing
- 07 Jumping from a height
- 08 Jumping/lying before a train
- 09 Jumping/lying before a road vehicle
- 10 Suffocation
- 11 Burning
- 12 Electrocution
- 13 Jumping/lying before an unspecified object
- 14 Strangulation
- 88 Other (please specify)
- 99 Not known

.....

2. If self-poisoning, specify substance.

Can you recall the prescription name(s) of the drug(s)?.....

.....

(If interviewee is unsure of the prescription name ask them to select from the following categories)

- 00 Method not self-poisoning
- 01 Anti-psychotic drug
- 02 Tricyclic anti-depressant
- 03 SSRI/SNRI anti-depressant
- 04 Lithium/Mood stabiliser
- 05 Other anti-depressant
- 06 Benzodiazepine/Hypnotic
- 07 Paracetamol

- 08 Paracetamol/Opiate compound
 - 09 Salicylate
 - 10 Other analgesic
 - 11 Opiate (heroin, methadone)
 - 12 Insulin
 - 13 Other poisons (eg weedkiller)
 - 14 Unspecified psychotropic drug
 - 88 Other drug (please specify)
 - 99 Not known
-

3. If self-poisoning where did the substance come from?

- 1. Prescribed for the deceased
- 2. Prescribed for someone else
- 3. Not prescribed
- 7. Method not self-poisoning

4. Was alcohol consumed as part of the act?

- 1. No
- 2. Yes

FOR CASES OF SUICIDE OR POSSIBLE SUICIDE:

5. Was the death part of a pact?

- 1. No
- 2. Yes

6. Are you aware of any suicide notes or other messages including text messages left by the deceased?

- 1. No
 - 2. Yes (If yes please give details)
-
-

FOR CASES OF SUICIDE OR POSSIBLE SUICIDE:

EVENTS LEADING TO DEATH

I would like to ask you some questions now regarding the situation of the deceased (*name*) in the month prior to his/her death. I will start by listing some possible life events and you can tell me if any of these were relevant to the deceased (*name*).

1. In the month prior to his/her death, had the deceased (*name*) experienced or was the deceased anticipating:

- Significant loss or losses (relationships, job, finances, prestige, self-concept, family member, moving, anything of importance to the person)?
- Significant (or perceived significant) disruption of a primary relationship?
- Legal troubles or difficulties with the Gardai?
- An event which was or was perceived as traumatic?
- Significant life changes (positive and negative, e.g. marriage, birth of a child, promotion, etc)?
- The completed suicide or suicidal behaviour of a family member or loved one?
- The anniversary of an important death, an important other loss or another significant anniversary?
- Exposure to the suicide of another person through media or personal acquaintance?
- His or her death as evidenced by recently making preparations for death (e.g. updating will, insurance policies, etc)?

2. Had the deceased (*name*) expressed a wish to reunite with a deceased loved one or to be reborn?

- 1. No
 - 2. Yes (please give details)
-
-

3. Were there any other major events that had occurred prior to the deceased's (*name*) death, which I have not yet mentioned?

1. No 2. Yes (If yes, ask informant about the details of the event(s) and time of occurrence before the deceased's death)
-

RECENT SYMPTOMS/ BEHAVIOURS

Although the Depression Symptom Checklist is a self-report questionnaire, the items will be read out to the informant to allow for possible literacy problems.

1. The next part concerns a number of questions about feelings of depression, fatigue, quality of sleep, etc. Please read through the following list of depressive symptoms and tick any of those which were relevant to the situation of the deceased (*name*) in the 3 months prior to his/her death:

Depression Symptom Checklist

Symptoms of Depression

- A persistent sad, anxious or "empty" mood
- Loss of interest or pleasure in ordinary activities
- Decreased energy, fatigue, feeling "slowed down"
- Sleep problems (insomnia, oversleeping, early morning waking)
- Eating problems (loss of appetite or weight, weight gain)
- Difficulty concentrating, remembering, or making decisions
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Thoughts of death or suicide; a suicide attempt
- Irritability
- Excessive crying
- Recurring aches and pains that don't respond to medical treatment

Symptoms of Mania

- Excessively "high" mood
- Irritability
- Decreased need for sleep
- Increased energy
- Increased talking, moving, and sexual activity
- Racing thoughts
- Disturbed ability to make decisions
- Grandiose notions
- Being easily distracted

FAMILY AND PERSONAL HISTORY

Now I would like to ask some questions regarding the family and personal history of the deceased (*name*). Please try to recall as best you can.

1. Did the deceased have a sibling or parent who died a non-natural death, such as suicide, homicide, or accident?

1. No 2. Yes (please give details)

.....

.....

.....

2. How would you describe the level of support and closeness of both immediate and extended family?
(Please give details)

.....
.....

3. Was there a personal (with regard to the deceased?) or family history of significant physical, sexual or emotional abuse?

1. No 2. Yes (please give details)

.....
.....
.....

4. Was there a personal (with regard to the deceased?) or family history of substance abuse?

1. No 2. Yes (please give details)

.....
.....
.....

5. Was there a family history of suicide or a personal history (with regard to the deceased?) of deliberate self-harm?

1. No 2. Yes (please give details)

.....
.....
.....

6. Was there a personal (with regard to the deceased?) or family history of violent behaviour?

1. No 2. Yes (please give details)

.....
.....
.....

7. Was there a history of mental illness/disorder in the family?

1. No 2. Yes (please give details)

.....
.....
.....

8. Had either of the deceased's parents resided in an orphanage, industrial school or in foster care?

1. No 2. Yes (please give details)

.....
.....
.....

LIFE EVENTS AND HISTORY

Now I would like to continue with another set of questions, which will focus on the kinds of events and problems the deceased (*name*) experienced in life. There will be questions relating to the deceased (*name*), to people who were important to him/her, and to life events. You will be asked if events occurred in his/her childhood, later in life or last year. Please answer all questions as best you can and let me know if you need any help.

Parents

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
01.	Did his/her father die?						
02.	Did his/her mother die?						
03.	Was he/she ever seriously beaten up or otherwise physically mistreated by those responsible for his/her upbringing?						
(a)							
(b)							
(c)							
04.	Has he/she ever been mentally mistreated by those responsible for his/her upbringing; by means of teasing, humiliating, etc over prolonged periods of time?						
05.	Has his/her father or mother ever attempted suicide (without fatal outcome)?						
06.	Is there any other problem or event in relation to his/her parents that influenced his/her life and that is not mentioned on the previous pages? (Please specify below)						

Brothers and sisters

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
07.	Did (one of) his/her brother(s) or sister(s) die?						
08.	Did (one of) his/her brother(s) or sister(s) die because of suicide?						
09.	Did (one of) his/her brother(s) or sister(s) ever attempt suicide (without fatal outcome)?						
10.	Are there any other problems or events in relation to his/her brother(s) or sister(s) that influenced his/her life and that were not mentioned yet? (Please specify below)						
(a)							
(b)							
(c)							

Partner(s)

THE NEXT SECTION IS ONLY RELEVANT IF THE DECEASED (NAME) WAS MARRIED, OR HAD BEEN LIVING WITH A PARTNER FOR AT LEAST THREE MONTHS. IF HE/SHE HAD NOT EVER LIVED WITH A PARTNER, WE CAN MOVE ON TO THE NEXT SECTION.

	Later in life		Last year	
	Yes	No	Yes	No
11. Did he/she ever have rows or arguments with a partner(s), or hostility that made his/her relationship(s) bad for a long time? (over a year)				
12. Was his/her partner(s) addicted to alcohol, drugs or medicines for one year or longer?				
13. Did he/she and his/her partner(s) ever have serious relationship problems?				
14. Did he/she ever have any sexual problems with his/her partner(s)?				
15. Did his/her partner(s) ever beat him/her up or physically mistreat him/her?				
16. Did his/her partner(s) ever mentally mistreat him/her by teasing, nagging, yelling, etc?				
17. Did he/she and his/her partner ever have financial problems?				
18. Did he/she and his/her partner ever have housing problems?				
19. Did his/her partner ever prevent him/her from achieving or becoming what he/she wanted?				
20. Did his/her partner ever attempt suicide (without fatal outcome)?				
21. Was his/her partner(s) ever admitted to a psychiatric hospital during the relationship?				
22. Did he/she and his/her partner ever suffer difficulties in conceiving children?				
23. Did his/her partner(s) ever force him/her to have sexual intercourse against his/her will?				
24. Did his/her partner(s) ever force him/her to do or to endure sexual activities against his/her will?				
25. Did his/her partner ever force him/her into prostitution?				
26. Did (one of) his/her partner(s) die? (During the relationship). Please specify cause of death:				
27. Did (one of) his/her partner(s) die because of suicide?				
28. Did he/she have a divorce from (one of) his/her partner(s)?				
29. Did (one of) his/her partner(s) suffer from a physical disease?				
30. Was (one of) his/her partner(s) ever sentenced to jail, or to any other correctional institution? (During the relationship)				
31. Is there any other problem or event in relation to his/her partner(s) that influenced his/her life and was not mentioned yet? (Please specify below)				
(a)				
(b)				
(c)				

Children

IF THE DECEASED (NAME) NEVER HAD CHILDREN, WE WILL MOVE ONTO THE NEXT SECTION ON 'OTHER PERSONS IMPORTANT TO THE DECEASED'

		Later in life		Last year	
		Yes	No	Yes	No
32.	Did he/she ever have any problems in bringing up his/her children?				
33.	Did he/she ever have any children adopted, or brought up by other relatives or ex-partner, or taken into care?				
34.	Did (one of) his/her child(ren) become addicted to alcohol, drugs or medicines?				
35.	Has (one of) his/her child(ren) been admitted to a psychiatric hospital?				
36.	Has (one of) his/her child(ren) been arrested, or in contact with the police regularly?				
37.	Did (one of) his/her child(ren) ever attempt suicide (without fatal outcome)?				
38.	Did (one of) his/her child(ren) suffer from a chronic or threatening physical disease?				
39.	Did (one of) his/her child(ren) die? Please specify cause of death:				
40.	Is there any other problem or event in relation to his/her child(ren) that influenced his/her life, and has not been mentioned yet? Please specify below:				
(a)					
(b)					
(c)					

Other persons important to the deceased

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
41.	Did he/she ever have a long lasting bad relationship with somebody important to him/her?						
42.	Did he/she ever lose anybody to death to whom they were close? Who was that? (Please specify below)						
43.	Did he/she ever have serious problems with superiors at his/her work or somewhere else (e.g. in the army)?						
44.	Did he/she ever have problems in finding a life companion (because he/she did not know how to make a contact, how to date)?						
45.	Did he/she ever have problems with a boy/girlfriend (quarrels, rows, etc)?						

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
46.	Was he/she ever physically mistreated by someone who was important to him/her?						
(a)							
(b)							
(c)							
47.	Was there ever somebody important to him/her who took advantage of him/her?						
48.	Was he/she ever mentally mistreated, teased or pestered by somebody important to him/her?						
49.	Is there any other problem or event in relation to somebody important to him/her that influenced his/her life and that has not been mentioned yet? Please specify below:						
(a)							
(b)							
(c)							

The deceased him/herself

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
50.	Did he/she ever have troubles that, as far as you know, were caused by complications at the time of birth?						
51.	Did he/she ever suffer from any physical illness that (might have) meant serious deformity or incapacity or that was life-threatening?						
52.	Did he/she ever have to stay home for prolonged periods of time (for three months or more) or have to stay in a hospital because of physical illness?						
53.	Did he/she ever have to stay in a psychiatric hospital for a prolonged period of time (for three months or more)?						
54.	Did he/she ever experience a failure to achieve an important goal? (e.g. an important examination, or to be accepted for a career)?						
55.	Did he/she ever have any difficulties on a job, like being fired, quarrels with co-workers or superiors?						
56.	Had he/she ever been without a job against his/her will for long periods of time (for six months or more)?						
57.	Had he/she ever had serious worries about money, like having no money at all, having too much debts, having to ask for social welfare?						

	Childhood		Later in life		Last year	
	Yes	No	Yes	No	Yes	No
58. Had he/she ever moved to another city or country and because of that lost touch with relatives or friends?						
59. Did he/she ever experience serious housing problems (like not being able to find a suitable house, problems with landlord, too much rent, etc.)?						
60. Did he/she ever witness a serious crime or offence involving violence (even if the victim was a stranger)?						
61. Did he/she ever have problems with school or study?						
62. Did he/she ever have problems with religion?						
63. Had he/she ever experienced problems in making contact with other people (because of shyness, inability to start conversations, etc.)?						
64. Did he/she ever have any problems in making friends?						
65. Did he/she ever experience loneliness over a long period (having no one to talk to, no friends or visitors, lonely even when people visit)?						
66. Did he/she ever experience problems in sexuality (like inability to enjoy, problems in making love or cuddling, to other problems)?						
67. Did she (or his partner) ever have any miscarriages, or have any pregnancy terminated or suffered any stillbirths?						
68. Did he/she ever have caring responsibilities, like nursing and attending to an elderly or a sick relative over a prolonged period of time (for three months or more)?						
69. Did he/she ever suffer from anxiety for things or places in such a way that it hindered his/her life?						
70. Was he/she ever addicted to alcohol, drugs or medicines for one year or longer? Please specify when that was: From: To:						
71. Had he/she ever been convicted for a criminal offence, or had he/she ever been sentenced to jail or any other correctional institution?						
72. Did he/she ever have problems with eating, like not eating enough and losing weight, or eating too much?						
73. Was he/she ever obsessed with food and eating, in such a way that it handicapped him/her?						
74. Was there any other problem or event in his/her life that influenced him/her, and that has not yet been mentioned? Please specify below:						
(a)						
(b)						
(c)						

Other events

		Childhood		Later in life		Last year	
		Yes	No	Yes	No	Yes	No
75.	Did he/she ever experience a crime in which he/she was personally a victim (including theft of property, physical assault or any other crime)?						
76.	Did he/she ever experience a sudden and unexpected emergency, like fire, flood, war or natural disasters, car or train accident?						
77.	Did he/she ever (have to) make money by selling his/her body (prostitution)?						
78.	Was there any other event or problem that influenced his/her life suddenly, and that is not mentioned in previous questions? (TAKE SOME TIME TO THINK). Please specify below.						
(a)							
(b)							
79.	From all events and circumstances mentioned (or recorded by you yourself), which were the three most important, i.e. which three events have most strongly influenced the life of the deceased?						
(a)	Most important:						
(b)	Second most important:						
(c)	Third most important:						

HISTORY OF NON-FATAL SUICIDAL BEHAVIOUR

This part of the interview deals with questions about self-harm that may have occurred before the deceased (*name*) died. Examples of this behaviour are self-cutting and taking an overdose of medication.

1. (a) Prior to his/her death, did the deceased (*name*) ever before deliberately harm him/herself? For example, by taking an overdose of medication or drugs, by attempting to hang or drown him/herself?

- 1. Yes
- 2. No

1. (b) If yes, how many times?

- 1. One
- 2. Two
- 3. Three
- 4. Four
- 5. Five
- 6. Six
- 7. Seven
- 8. Eight
- 9. Nine
- 10. Ten
- 11. More than ten
- 99. Unknown

2. Can you tell me what you know of the last previous episode of deliberate self-harm?

A. Method

- 1. Poisoning
- 2. Hanging
- 3. Drowning
- 4. Cutting
- 5. Jumping from height
- 6. Jumping in front of moving vehicle
- 7. Burning
- 8. Other

B. Time lapse between episode of deliberate self harm and death by suicide

- 1. less than 1 day
- 2. less than 1 week
- 3. less than 1 month
- 4. less than 3 months
- 5. less than 12 months
- 6. 12 months or more

C. Medical treatment following deliberate self-harm

- 1. None
- 2. General Practitioner
- 3. General hospital
- 4. Other

D. Psychiatric treatment following deliberate self-harm

- 1. None
- 2. Inpatient
- 3. Outpatient

PRECIPITATING FACTORS FOR THE DECEASED’S LAST PREVIOUS EPISODE OF DELIBERATE SELF-HARM

1. Now I would like to ask you about the last time when the deceased (*name*) harmed him/herself, prior to his/her actual death. At that time, were there any particular events or circumstances which lead to that act? (Narrative)

.....

2. There may be many reasons why people try to harm themselves. Please let me know whether you think the problems that I will mention had a major influence, a minor influence or no influence at all on the deceased’s (*name*) last previous attempt at deliberate self harm.

	1. No	2. Minor	3. Major	4. Don't Know
1. Problems with partner				
2. Problems with parents				
3. Problems with children				
4. Feelings of loneliness				
5. Problems in making or maintaining friendships and social relationships				
6. Rejection by a lover				
7. Physical illness or disability				
8. Mental illness and psychiatric symptoms				
9. Unemployment				
10. Addiction (to alcohol, drugs, medicines, gambling, etc)				

3. Were there any other events or circumstances that had an influence on the deceased (*name*) harming him/herself? (If informant mentions one or more events or circumstances, specify:)

	1. Minor	2. Major	3. Don't Know
1.....			
2.....			
3.....			

SUICIDAL BEHAVIOUR BY PERSON'S KNOWN TO THE DECEASED (MODELS).

To your knowledge, has any of the deceased's relatives or close friends ever deliberately harmed him or herself?
 Can you tell me about the circumstances of this?

A. Relationship of model to subject (model was/is subject's.....)

	MODEL NUMBER				
	1.	2.	3.	4.	5.
1. Wife					
2. Husband					
3. Cohabitee					
4. Daughter					
5. Son					
6. Mother					
7. Father					
8. Sister					
9. Brother					
10. Grandmother					
11. Grandfather					
12. Other relative					
13. Close friend					

B. Type of behaviour

	MODEL NUMBER				
	1.	2.	3.	4.	5.
1. Deliberate self-harm					
2. Suicide					

C. Time lapse between model event and death (in order of which family members appear in A)

	MODEL NUMBER				
	1.	2.	3.	4.	5.
1. less than 1 day					
2. less than 1 week					
3. less than 1 month					
4. less than 3 months					
5. less than 12 months					
6. 12 months or more					

CONTACT WITH HEALTH CARE SERVICES

I would now like to ask some questions about the contact the deceased (*name*) had with the health care services, both with his/her GP and with mental health care professionals. Please try to recall as best you can.

1. (a) In the year prior to death, did the deceased (*name*) have contact with his/her GP or other mental health services?

- 1. No
- 2. Yes (please give details)

.....
.....

(b) Do you know the (approximate) date of the last contact with the GP or other mental health services?

...../...../.....
Day Month Year

(c) If the deceased (*name*) contacted their GP, how many times was this?

- 1. no contact
- 2. 1 time
- 3. 2-3 times
- 4. 4 or more times

2. (a) Was the deceased (*name*) ever treated as an inpatient at a psychiatric hospital or on the psychiatric ward of a general hospital?

- 1. No
- 2. Yes

(b) How many times in the year prior to death?

- 1. never
- 2. 1 time
- 3. 2-3 times
- 4. 4 times or more

(c) If the deceased (*name*) received inpatient psychiatric treatment in the year prior to death, do you know for how many weeks?

number of weeks

If informant cannot remember the exact number of weeks, ask to indicate if the duration was:

- less than 4 weeks
- between 4 and 16 weeks
- between 16 and 52 weeks
- other

3. If the deceased (*name*) died following discharge from inpatient psychiatric treatment do you know the date of discharge?

...../...../.....
Day Month Year

4. (a) Was the deceased (*name*) offered outpatient appointments with the mental health services in the year before death?

- 1. No
- 2. Yes

(b) If yes, please indicate to the best of your knowledge if the deceased (*name*) had any difficulty attending these appointments?

- 1. No
- 2. Yes

(c) To the best of your knowledge did the deceased (*name*) feel they benefited from the services?

1. No 2. Yes

5. Was the deceased (*name*) on prescribed medication for mental illness in the year prior to death?

1. No 2. Yes

6. Do you know the name of the medication?

1. No 2. Yes (please specify)

.....
.....

7. To the best of your knowledge, did he/she comply with the instructions on the medication?

1. No 2. Yes (please give details)

.....
.....

8. Do you know of any difficulties which the deceased (*name*) faced in accessing health care services?

1. No 2. Yes (please specify below) 3. Don't know

.....
.....

9. Name and contact details (if known) of health care professional to be contacted

.....
.....

PHYSICAL HEALTH

Now I would like to ask you about the deceased's (*name*) physical well being. Please try to recall your knowledge of any physical illnesses or pain which the deceased (*name*) may have suffered from.

1. Had the deceased (*name*) been diagnosed with any illness or disease? (Include conditions even if well controlled by treatment)

1. No 2. Yes (please specify which physical illness(es))

.....
.....

2. Was the deceased (*name*) in physical pain in the year prior to death?

1. No 2. Yes (please give details)

.....
.....

3. Was this physical illness chronic? (i.e. duration over 12 months)

1. No 2. Yes 3. Not applicable

4. Did the deceased (*name*) experience a reduction in his/her physical capabilities in the month prior to his/her death?

1. No 2. Yes (please give details)

.....
.....

5. Was the deceased (*name*) on prescribed medication for a physical illness?

1. No 2. Yes

If **yes** to the best of your knowledge, did he/she adhere to the instructions on the medication?

1. No 2. Yes

(please give details).....
.....

SUBSTANCE ABUSE

I would now like to ask you about the deceased's (*name*) use, if relevant, of alcohol and drugs and about any recent changes in this behaviour in the year prior to death.

1. Did the deceased have a history of alcohol or drug abuse?

1. No 2. Yes (please give details)

.....
.....

2. Had the deceased made any recent attempts, (in the year prior to death) to stop abusing alcohol or drugs **for example, abstinence or addiction treatment?**

1. No 2. Yes (please give details)

.....
.....

3. Was there a recent increase in the deceased's abuse of alcohol or drugs?

1. No 2. Yes (please give details)

.....
.....

4. Was there any evidence that the deceased had been drinking or taking drugs at the time of death?

1. No 2. Yes (please give details)

.....
.....

SOCIAL NETWORK

This part of the interview covers the social network of the deceased (*name*) and any changes in relationships with significant people in his/her life during the year prior to death.

1. Was the deceased (*name*) in a marital/cohabiting relationship prior to his/her death?

1. No 2. Yes (please give details)

.....
.....

2. Was the deceased (*name*) able to form and maintain relationships or close friendships?

1. No 2. Yes (please give details)

.....
.....

3. Did the deceased (*name*) have children? How would you describe his/her relationship with his/her children?

1. No 2. Yes (please give details)

.....
.....

4. Did the deceased (*name*) have contact with any support group?

1. No 2. Yes (please give details)

.....
.....

5. Did the deceased (*name*) have any hobbies or was he/she a member of any special interest groups?

1. No 2. Yes (please give details)

.....
.....

6. Were there any changes in the deceased's (*name*) close relationships or social network in the year prior to his/her death?

1. No 2. Yes (please give details)

.....
.....

THANK YOU FOR COMPLETING THIS INTERVIEW

ADDITIONAL INFORMATION

You may have important additional information that has not already been covered in the interview. Would you like to add anything else?

(Please use this section to record any additional information the informant wishes to share).

Contact with one or more healthcare professionals

You mentioned one or more healthcare professionals who were in contact with the deceased (*name*) within 12 months prior to his/her death. If you agree I would like to contact him/her them.

Do you agree?

1. No 2. Yes

Bereavement Support

I would now like to ask if you are currently receiving or have received bereavement support. If not, would you like to access bereavement support at this time? If yes, are you satisfied with the support you have received?

Appendix 3: Healthcare professional semi-structured questionnaire

ID number □□□

The Development of a Suicide Support and Information System in Ireland: A pilot-study Self-Report Questionnaire for Informant (II- Health Care Professional) National Suicide Research Foundation October 2009

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The study is commissioned by the National Office for Suicide Prevention

A number of items in this questionnaire have been adapted from the Suicide Questionnaire Version: 04/2005 of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, Centre for Suicide Prevention, Jean McFarlane Building, University of Manchester.

CAUSE(S) OF DEATH

Prior to sending you this form, we have usually been informed that the death has been classified as suicide or undetermined (open verdict, possible suicide).

If self-poisoning, specify substance
(If more than one substance, select most likely cause of death)

- 00 Method not self-poisoning
 - 01 Anti-psychotic drug
 - 02 Tricyclic anti-depressant
 - 03 SSRI/SNRI anti-depressant
 - 04 Lithium/Mood stabiliser
 - 05 Other anti-depressant
 - 06 Benzodiazepine/Hypnotic
 - 07 Paracetamol
 - 08 Paracetamol/Opiate compound
 - 09 Salicylate
 - 10 Other analgesic
 - 11 Opiate (heroin, methadone)
 - 12 Insulin
 - 13 Other poisons (eg weedkiller)
 - 14 Unspecified psychotropic drug
 - 88 Other drug (please specify)
 - 99 Not known
-

Where did the substance referred to above come from?

- 1. Prescribed for the subject
- 2. Prescribed for someone else
- 3. Not prescribed
- 7. Method not self-poisoning

PRECIPITANTS TO DEATH

As far as you are aware of the situation of the deceased in the year prior to his/her death, had the deceased recently experienced or was he/she anticipating any significant event or experience?

Examples can include a significant loss (job loss, financial loss), relationship problem, legal trouble, traumatic event, major life change (positive and negative), anniversary, suicide or suicidal behaviour among significant others or other events

Please complete in the space provided below. If not known please enter 99

.....

.....

.....

.....

Enter what you consider to be the most accurate answer in the space provided. If not known, please enter or tick 99 as appropriate. Please answer ALL questions.

HISTORY OF NON-FATAL SUICIDAL BEHAVIOUR

1. (a) Prior to his/her death, did the deceased ever before deliberately harm him/herself? For example, by taking an overdose of medication or drugs, by attempting to hang or drown him/herself?

- 1. Yes
- 2. No

1. (b) If yes, how many times?

- 1. One
- 2. Two
- 3. Three
- 4. Four
- 5. Five
- 6. Six
- 7. Seven
- 8. Eight
- 9. Nine
- 10. Ten
- 11. More than ten
- 99. Unknown

2. Please indicate below what you know of the ***last previous episode*** of deliberate self-harm

Method

- 1. Poisoning
- 2. Hanging
- 3. Drowning
- 4. Cutting
- 5. Jumping from height
- 6. Jumping in front of moving vehicle
- 7. Burning
- 8. Other

B. Time lapse between episode of deliberate self harm and death

- 1. Less than 1 day
- 2. Less than 1 week
- 3. Less than 1 month
- 4. Less than 3 months
- 5. Less than 12 months
- 6. 12 months or more

C. Medical treatment following self harm

- 1. None
- 2. General Practitioner
- 3. General hospital
- 4. Other

Enter what you consider to be the most accurate answer in the space provided. If not known, please enter or tick 99 as appropriate. Please answer ALL questions.

D. Psychiatric treatment following self harm

- 1. None
- 2. In-patient
- 3. Out-patient

FAMILY AND PERSONAL HISTORY

1. Was there a personal (with regard to the deceased) or family history of significant physical, sexual or emotional abuse?

- 1. No
- 2. Yes (please give details)

.....

.....

.....

2. Was there a personal (with regard to the deceased) or family history of violent behaviour?

- 1. No
- 2. Yes (please give details)

.....

.....

.....

3. Had either of the deceased's parents resided in an orphanage, industrial school, or in foster care?

- 1. No
- 2. Yes (please give details)

.....

.....

.....

PSYCHIATRIC HISTORY

In relation to any psychiatric illnesses with which the deceased was diagnosed:

1. If the deceased was diagnosed with a psychiatric illness, who made this diagnosis?

(doctor's name?).....

2. Date of psychiatric diagnosis:

_____/_____
Month Year

3. Psychiatric diagnosis (please indicate whether it was in accordance with ICD-10 or DSM IV, depending on which diagnostic classification was used by yourself or another health care professional):

.....

.....

Primary Diagnosis

- 01 Schizophrenia and/or other psychotic disorders
- 02 Bipolar affective disorder
- 03 Depressive illness
- 04 Anxiety/phobia/panic disorder/OCD
- 05 Eating disorder
- 06 Dementia
- 07 Alcohol dependence
- 08 Drug dependence
- 09 Personality disorder
- 10 Adjustment disorder/reaction
- 11 Organic disorder
- 12 Alcohol misuse, but not dependence
- 13 Drug misuse, but not dependence
- 77 No mental disorder
- 88 Other (please specify)
- 99 Not known

Secondary Diagnosis (Maximum of 2, coding as above)

-
-

Duration of History (since clear onset of disorder coded under primary diagnosis above)

- 1. Less than 12 months
- 2. 1-5 years
- 3. More than 5 years
- 4. No mental disorder

RECENT SYMPTOMS/ BEHAVIOURS

1. Please read through the following list of depressive symptoms and tick any of those which were relevant to the situation of the deceased in the 12 months prior to his/her death.

Depression Symptom Checklist

Symptoms of Depression

- A persistent sad, anxious or “empty” mood
- Loss of interest or pleasure in ordinary activities
- Decreased energy, fatigue, feeling “slowed down”
- Sleep problems (insomnia, oversleeping, early morning waking)
- Eating problems (loss of appetite or weight, weight gain)
- Difficulty concentrating, remembering, or making decisions
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Thoughts of death or suicide; a suicide attempt
- Irritability
- Excessive crying
- Recurring aches and pains that don't respond to medical treatment
- Symptoms of Mania
- Excessively “high” mood
- Irritability
- Decreased need for sleep
- Increased energy
- Increased talking, moving, and sexual activity
- Racing thoughts
- Disturbed ability to make decisions
- Grandiose notions
- Being easily distracted

PHYSICAL HEALTH

This section examines the deceased's physical well-being.

1. Had the deceased been diagnosed with any physical illness or disease? (Include conditions even if well controlled by treatment)

1. No 2. Yes (please specify which physical illness(es))

.....
.....

2. Was the deceased in physical pain in the year prior to death?

1. No 2. Yes (Please give details)

.....
.....

3. Was this physical illness chronic? (i.e. duration over 12 months)

1. No 2. Yes 3. Not applicable

4. Did the deceased experience a reduction in his/her physical capabilities in the month prior to his/her death?

- 1. No 2. Yes (please give details)

.....
.....

5. Was the deceased on prescribed medication for a physical illness?

- 1. No 2. Yes

If yes: To the best of your knowledge, did he/she adhere to the instructions on the medication?

- 1. No 2. Yes

.....
.....

SUBSTANCE ABUSE

This section explores the deceased’s use, if relevant, of alcohol and drugs and asks about any recent changes in this behaviour in the year prior to death.

1. Did the deceased have a history of alcohol or drug abuse?

- 1. No 2. Yes (please give details)

.....
.....

2. Had the deceased made any recent attempts (in the year prior to death) to stop abusing alcohol or drugs?

- 1. No 2. Yes (please give details)

.....
.....

3. Was there a recent increase in the deceased’s abuse of alcohol or drugs?

- 1. No 2. Yes (please give details)

.....
.....

4. Was there any evidence that the deceased had been drinking or taking drugs at the time of death?

- 1. No 2. Yes (please give details)

.....
.....

TREATMENT HISTORY

1. How many times did the deceased attend your practice during the last year?

- 1. Never in the past year
- 2. 1 time
- 3. 2-3 times
- 4. 4 or more times

2. Please indicate in the spaces provided below when the deceased last attended your practice? What was his/her reason? Did you prescribe any medicines?

Date of last contact:

_____/_____/_____
Day Month Year

Reason:

- 1. Physical
- 2. Psychological
- 3. Both physical and psychological

Medicines prescribed:

- 1. Yes
- 2. No

If medicines were prescribed did the deceased use any of the medicines prescribed in that contact for self-poisoning/overdose?

- 1. Yes
- 2. No

3. At the time of the deceased's last contact with you, did he/she mention any thoughts of harming him/herself?

- 1. Yes
- 2. Vaguely referred to
- 3. No

4. Was the deceased ever treated as an inpatient at a psychiatric hospital or on the psychiatric ward of a general hospital? How often in the year prior to death?

- 1. Never
- 2. 1 time
- 3. 2-3 times
- 4. 4 times or more

PSYCHIATRIC TREATMENT

1. Psychiatric admissions (if one or more times in inpatient treatment):

Total number of admissions to psychiatric in-patient ward (including any current admission)

- None
- 1-5 admissions
- More than 5 admissions

2. Out-patient psychiatric treatment and day care

Was the deceased ever in contact with any of the following professional services for treatment or advice, to the best of your knowledge?

- 1. Psychiatric service - public
- 2. Private psychologist/psychiatrist
- 3. Community mental health nurse
- 4. Alcohol/Drug Addiction services
- 5. Consultation service for relationship/sexual problems

	1. YES	2. NO
1. Psychiatric service - public		
2. Private psychologist/psychiatrist		
3. Community mental health nurse		
4. Alcohol/Drug Addiction services		
5. Consultation service for relationship/sexual problems		

3. Other treatment of emotional problems

Did the deceased ever receive treatment or assistance for emotional problems from anyone else as far as you know? For example, Alcoholics Anonymous, helplines, etc.

- 1. No
- 2. Yes

If yes, please specify:.....
.....

PSYCHOTROPIC MEDICATION

For each of the following drugs please specify whether the drugs were prescribed and whether the patient was compliant (i.e. taking drug(s) as prescribed)

1. Not prescribed
2. Prescribed and thought to be compliant
3. Prescribed and thought not to be compliant
4. Information not available as patient not currently in mental health service

- 1. Oral typical anti-psychotic drugs (e.g. chlorpromazine, haloperidol)
- 2. Oral atypical anti-psychotic drugs (e.g. clozapine, risperidone)
- 3. Depot typical anti-psychotic drugs (e.g. flupenthixol, zuclopenthixol)
- 4. Depot atypical anti-psychotic drugs (e.g. risperidone)
- 5. Lithium/mood stabilisers
- 6. Tricyclic anti-depressants
- 7. SSRI anti-depressants
- 8. SNRI anti-depressants
- 9. Other anti-depressants
- 10. Methadone
- 11. Other psychotropic drug (please specify)

Did the patient complain of distressing psychotropic drug side-effects?

- 1. No
- 2. Yes

Reason for incomplete compliance with treatment

- 1. Side effects
- 2. Lack of insight into illness
- 3. Dependence (e.g. persistent benzodiazepine use against medical advice)
- 4. Side effects and lack of insight
- 5. Not applicable as patient was compliant with drug treatment
- 6. Other (please specify).....

ADDITIONAL INFORMATION

Please use this section to give us any additional information that has not already been covered

Thank you for completing this questionnaire. We sincerely appreciate your time and input in this important study

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