Developing and Implementing a Real-Time Suicide Surveillance System: the Suicide and Self-Harm Observatory

Ella Arensman, Ruth Benson, Jan Rigby,

Chris Brunsdon, Martin Ryan, Paul Corcoran

National Suicide Research Foundation, School of Public Health, UCC, Australian Institute for Suicide Research and Prevention, Griffith University, National Centre for Geocomputation, Maynooth University, Health Service Executive

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Overview

- Existing surveillance systems for real-time suicide mortality data

- Rationale for establishing a real-time suicide surveillance system in Ireland

- Surveillance systems for real-time data – 'Building bridges'

- An integrative system for detecting emerging contagion/ clustering of suspected suicides

Systems for real-time surveillance of suicide/ suspected suicide

International comparison of real-time suicide surveillance systems:

▶ Interim Queensland Suicide Register (iQSR) – Queensland, Australia

▶ Suicide and Self-Harm Observatory, South of Ireland,

▶ Thames Valley Police Real Time Suicide Surveillance, England

▶ Victorian Suicide Register, Victoria, Australia

▶ Coronial Suspected Suicide Data Sharing Service (CDS),

New Zealand

	Ireland	Australia	England
Name of suicide surveillance system	Suicide and Self-Harm Observatory (SSHO)	Interim Queensland Suicide Register (iQSR)	Thames Valley Police Real Time Suicide Surveillance
Level of data	Regional, Cork county and city.	State of Queensland.	Regional, (Buckinghamshires, Berkshire & Oxfordshire).
Frequency of data collection	Fortnightly	As deaths occur	As deaths occur
Data sources	1.Coroners of Cork county and city & 2. Health Service Executive Patient Mortality Register.	1. Form 1 police report of a death to a coroner, completed by Queensland Police Service staff.	1.Police report of a death to Coroner, completed by Thames Valley Police and cross checked against 2. Coronial records.
Terminology, classification, and operational criteria.	Data related to cases of 'suspected suicide'; later validated following Coroner's inquest.	A decision-tree applied that classes deaths as 'possible' and 'suspected suicides'.	Data initially relates to cases of 'suspected suicide' ; later validated following Coroner's Inquest.
Use of data collected by system	Real-time anomaly detection in suspected suicide cases in Cork. Information is shared with the ROSP facilitate early response to linked suicides or clusters.	Cluster investigation, specific subgroups (e.g., small towns, missing people, frequently used locations etc.)	Real-time anomaly identification in suspected suicide cases. Information is shared with the Local Authority Leads to facilitate early response to linked suicides or clusters.

Suicide in Queensland

2019 Annual Report

Stuart Leske, David Crompton & Kairi Kõlves

Australian Institute for Suicide Research and Prevention

Implementation and evaluation of the Victorian Suicide Register

Georgina Sutherland,[1] Allison Milner,[1] Jeremy Dwyer,[2,1] Lyndal Bugeja,[2,3] Alan Woodward,[4] Jo Robinson,[5] Jane Pirkis[1]

The need for improved and expanded surveillance of suicide to strengthen the evidence base for prevention is well recognised. Internationally, there are a number of suicide information systems; the most well-known being the UK's National Confidential Inquiry into Suicide and Homicide[1] and the National Violent Death Reporting System in the US.[2] Other countries have also developed systems-based approaches for gathering and disseminating population-based information on suicide, including Scotland,[3] Wales,[4] Ireland[5] and Malaysia.[6] Until recently, only one state in Australia, Queensland, has systematically captured a wide range of contextual data on suicides. The Queensland Suicide Register (QSR) holds information on all suicides by Queensland residents since 1990.[7]

There are a number of published papers that describe the development, operations and case-ascertainment strategies of these suicide information systems.[3,5,6,7] Analysis of registers' data has contributed to an enhanced global epidemiological understanding of suicide.[1,8-10] In Australia, the QSR has been particularly useful for identifying a number of important issues relevant to state-based prevention policy.[11,12] In 2007, identified discrepancies in suicide data between the QSR and the Australia Bureau of Statistics (ABS) were the impetus for improvements in the way the ABS now codes and records suicide deaths.[13] Corresponding evaluations of these information systems, however, are lacking.

The Centers for Disease Control and Prevention (CDC) guidelines for evaluating public health surveillance systems set out a number of agreed-upon central questions that such evaluations should seek to answer.[14] For example: Is the system meeting its stated aims and objectives? Is the system useful? Should the system be continued? These types of questions can be addressed by examining key system components including timeliness, acceptability, flexibility or simplicity. To our knowledge, no suicide information system has been evaluated according to these criteria to ensure it is providing the essential elements to inform decision making and appropriate public health action on suicide prevention.

In 2009, the Coroners Prevention Unit (CPU), a specialist investigative service of the Coroners Court of Victoria, developed and implemented the Victorian Suicide Register (VSR). Its overarching aim is to store detailed and up-to-date information on all people who die by suicide in Victoria, Australia. The VSR is uniquely placed within a coroner's court: a legal jurisdiction that is recognised as playing a vital role in suicide prevention both in terms of scrutiny of deaths and through making

Abstract

Objective: The Victorian Suicide Register (VSR) is a state-based suicide surveillance system that contains detailed information on people who die by suicide and the circumstances surrounding their death. In this paper, we provide an overview of the VSR and then describe the evaluation, which used the Centres for Disease Control and Prevention guidelines for surveillance system evaluation as a framework.

Methods: The evaluation drew on three data sources to assess whether the VSR: i) embodies the attributes of a good public health surveillance system; and ii) can be used to inform community-based suicide prevention efforts.

Results: There was a high level of acceptability and enthusiasm for having an accessible data collection that can stimulate local action on suicide prevention planning. One of the key challenges identified was data quality, particularly around those data collected in the course of death investigations that are not designed for surveillance purposes.

Conclusion: The VSR fills an important gap in the sustained and systematic collection of comprehensive information on suicide, with some key challenges identified.

Implications for public health: Findings from the evaluation provide important strategic information for national and international jurisdictions seeking to establish their own suicide registers.

Key words: suicide, data, surveillance, evaluation

1. Melbourne School of Population and Global Health, University of Melbourne, Victoria
2. Coroners Prevention Unit, Coroners Court of Victoria
3. Department of Forensic Medicine, Monash University, Victoria
4. Lifeline Research Foundation, Australian Capital Territory
5. Orygen, The National Centre of Excellence in Youth Mental Health, Victoria
Correspondence to: Dr Georgina Sutherland, Centre for Mental Health, Melbourne School of Population and Global Health, University of Melbourne, Level 4, 207 Bouverie Street, Carlton, Victoria 3053; e-mail: georgina.sutherland@unimelb.edu.au

# Rationale for developing the Suicide and Self-Harm Observatory (SSHO) in Ireland

- Ongoing delay in access to suicide mortality data (2 years or longer).

- As a consequence, there are delays of reviews and modifications to suicide prevention plans.

- Limitations regarding the accuracy of published suicide figures due to late registered suicide deaths

- Absence of real-time suicide mortality data will delay early identification of suicide contagion and emerging suicide clusters as well as a timely response

Goal 7: To improve surveillance, evaluation and high quality research relating to suicidal behaviour

7.2: Improve access to timely and high quality data on suicide and self-harm
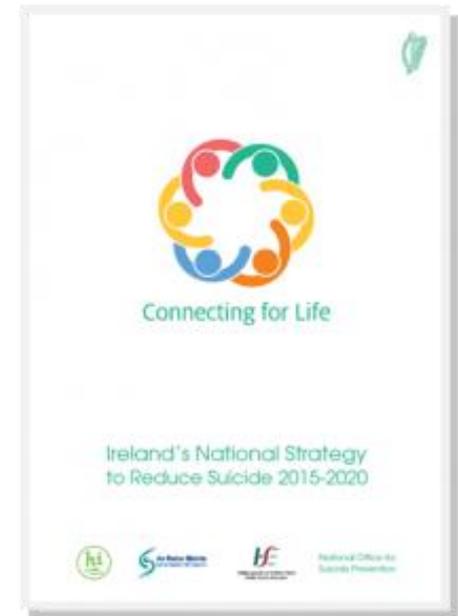
The importance of Real-time surveillance data

- Timely support for bereaved families and affected communities

- Identification & appropriate response to emerging suicide clusters & contagion

- Identification of locations where people frequently take their lives, patterns, i.e. emerging trends

- Response to increasing rates of suicide within institutions

- Verification of anecdotal evidence or public statements on suicide statistics

Background of the
Suicide and Self-Harm Observatory

- Reports of unsubstantiated figures of suicide within the media can contribute to community concern about emerging suicide clusters; Growing concerns about fast dissemination of incorrect information on social media.

- Unnecessary referrals for screening of mental health issues, particularly by concerned parents, are likely to occur as a result of misinformation reported in the media.

- The public may develop negative views on the efficacy of mental health services.

Mental health and suicide crisis 'a national emergency'

f 992 y 8+ +

Thursday, November 24, 2016

The Government is under pressure to make mental health and suicide prevention a national emergency after the Dáil heard concerns about 16 people taking their own lives in two weeks in Cork.

Main objectives of the SSHO

- To access real-time data on <u>suspected suicide</u> in advance of coroner's inquest.

- To maintain a live database containing data on cases of suicide that have occurred as recent as 2 weeks previously.

- To prevent contagion and clustering of suicide or self-harm

- To identify frequently used methods and specific locations

- To facilitate timely support for people bereaved by suicide

Establishment of an Advisory Panel

- Inform the development of the SSHO for recording and verifying real-time statistics on cases of suicide and self-harm.

- Identify areas for improvement in access to real-time data on suicide.

- Support and monitor the implementation of the SSHO.

- Contribute to suicide and self-harm prevention efforts.

Data sources for suspected suicide cases

The Coroners of Cork city and county

- Only information that can be provided prior to coronial request will be made available by the coroner for entry to the minimal dataset.

- Information provided by the coroners will not be used by the NSRF/UCC to approach family members directly.

Minimal Dataset

Ethical approval and data sharing agreements
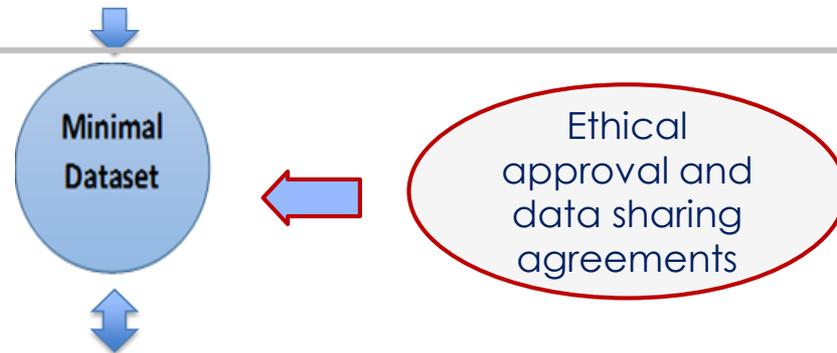
Health Service Executive

- A two way pathway will exist between the NSRF and the HSE:
1. Information relating to the suspected suicide of a service user will be obtained from the HSE patient mortality register.
2. Information from the minimal dataset will be shared with the Suicide Resource Officer (SRO) in order to facilitate early response to emerging suicide clusters.

Data collection

- Systematic approach

- Minimal dataset

- Telephone communication or screening of recent Coroner's records

- Data collected on a fortnightly basis

- Cross-check feature

- Internationally validated screening criteria

SSHO Data Items

| |
|---|
| **Name/names (encrypted)** |
| **Age** |
| **Gender** |
| **Marital status** |
| **Address/addresses (including educational institution)** |
| **Date of Death** |
| **Location of death** |
| **Manner and cause of death, and method(s) used** |
| **In the care of the HSE** |

Data analysis

- All data will be input into a live database including mapping and time series features.

- Geospatial analysis will be conducted utilising a Geographic Information System, such as QGIS, to determine the proximity of suspected suicide and self-harm in terms of space and time.

- Trend analysis will be carried out on data to identify trends in methods of suicide, where people take their own lives, at risk areas and populations.

SSHO Live Interactive Database
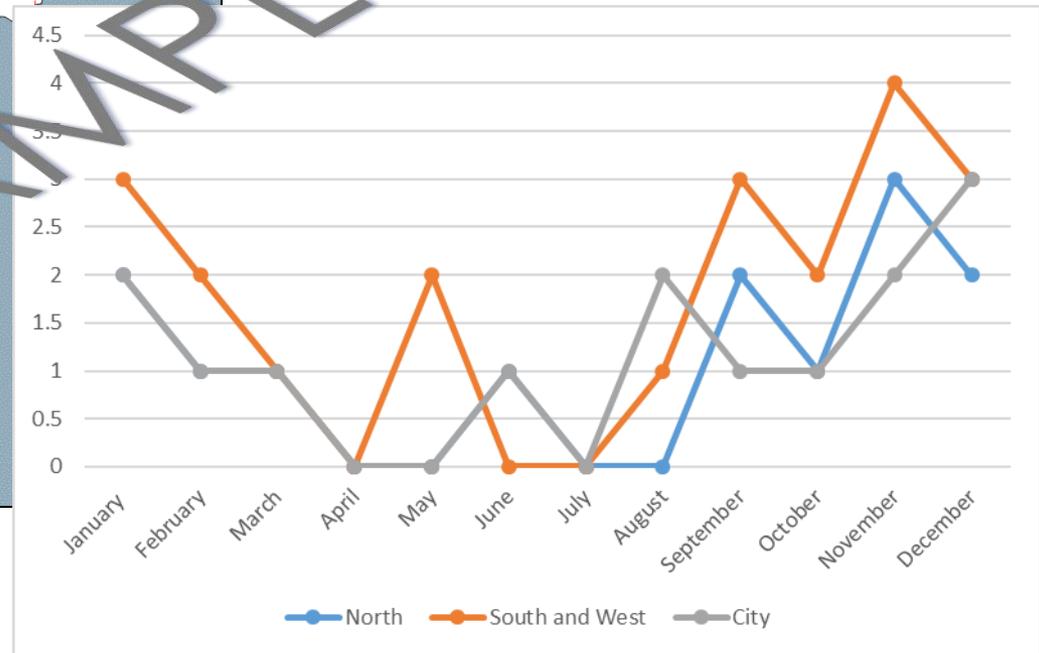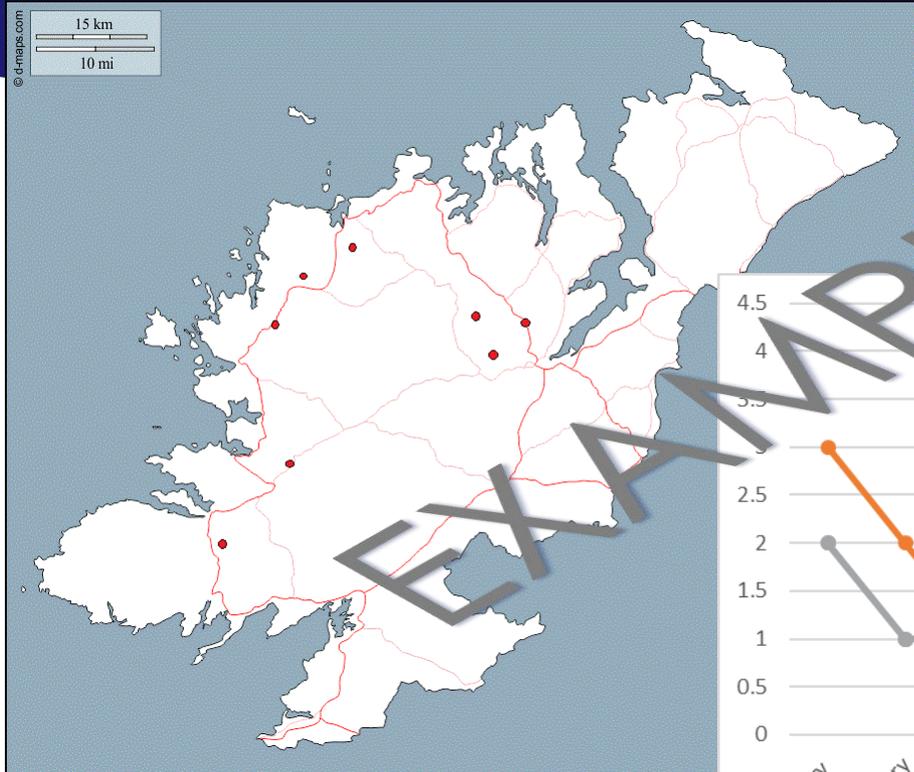
4. Identification of suicide contagion and emerging suicide clusters

► An increase in number of suspected suicide cases within a geographical area or time period, as detected by the SSHO, will involve liaison with the Resource Officer for Suicide Prevention regarding the implementation or activation of a local plan to respond to an emerging cluster.

► Information provided by the SSHO will also be utilized to assist with optimising resource allocation and location to inform health service responses in geographical areas with ongoing clustering or recurring clusters.

5. Exceptional circumstances

▶ Circumstances prior to the fortnightly phone call whereby the SSHO receives a request to verify potential suicide contagion or clustering.

▶ The proposed action is to contact the designated coroner to verify the reported cases in advance of the fortnightly check-in.

Benefits of the SSHO

- SSHO has been effective in crosschecking incomplete data provided by the HSE Resource Officer for Suicide Prevention. The crosschecking feature of the SSHO ensures that support can be provided indirectly by the HSE in effected communities.

- Communication between the primary researcher and the data providers has been good overall.
  One Coroner has proposed that the researcher accesses the coronial records directly; One coroner has reported capacity issues in providing the data on a fortnightly basis.

- The SSHO has been used in two instances within the first six months of its existence to validate unverified reports of contagion within two areas of Cork in December 2018 and May 2019.

- This validation feature has also been effective in fulfilling a request from the media for verification of information, hence preventing the spread of misinformation relating to perceived contagion/clustering in the area of Cork.

Fake reports of farmer suicides show problem of social media 'news'

HANNAH QUINN-MULLIGAN
NEWS CORRESPONDENT
hqmulligan@farmersjournal.ie

Concerns are growing that social media was used to drive false reports of farm suicides.

A Facebook post by a page called Farm Safety Ireland reported the death of five farmers in north Cork in the space of four days on 13 May. The post was shared 796 times and received 341 reactions on Facebook. However, it has now been confirmed that there was just one case of suspected suicide in that time frame in north Cork. It was not connected to farming.

"We received many calls about the social media post and in the first instance we took it as real," Prof Ella Arensman of National Suicide Research Foundation told the *Irish Farmers Journal*.

"We contacted the chief north Cork coroner and got the response that there had been one suspected suicide in that time frame, but it was not linked to farming."

Prof Arensman said that a similar false report surfaced on social media in 2016, when it was reported that 16 people had taken their own lives in 16 days in the Cork region.

Although the report was proven to be false, it led to a 30% rise in the number of children referred to mental health services by concerned parents.

While suicide and mental health remains a serious issue for the farming community, false reports can be unhelpful and serve to add to hysteria, and could potentially sow the idea into the minds of vulnerable people.

The farming community also faces a complicated uphill battle against the stigma surrounding mental health issues.

"There is a slightly different profile between older and younger farmers, with a higher level of stigma with older farmers," Prof Arensman explained.

"In older farmers we see high levels of depression, anxiety and substance abuse.

"There's an idea that they can't talk to their GP and usually cuts in funding or farm payments are a trigger, but not a causal factor.

"The opposite can be true for younger farmers, where financial issues at the beginning of their farm career can cause the start of mental health problems."

Helpline contacts

There are several organisations which can help people discuss mental health issues.
➲ Samaritans: 116-123.
➲ Aware: 1800-804848.
➲ Pieta House: 1800-247247.

Next steps

- Complete and review pilot implementation of the SSHO in Cork City and County

- Implement any required improvements

- Wider implementation in interested regions, e.g. Kerry, Donegal, Cavan, Kildare, Dublin North City and County

- Completion of comparative research into real-time suicide surveillance systems with Kent (England), Queensland (Australia), Dunedin (New Zealand).
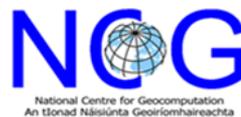
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Supervisors:
Prof Ella Arensman, Prof Jan Rigby & Prof Chris Brunsdon

Advisory Panel:
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Mr. Frank O'Connell, Dr. Michael Kennedy, Mr. Philip Comyn, The Coroners Society of Ireland
Prof. Eugene Cassidy, Dr. James Kinehan, Mr. Martin Ryan &
Ms. Sinead Glennon, Cork Mental Health Services, Health Service Executive
Mr Keith McSweeney, Central Statistics Office
Prof. Colin Bradley, Dept. of General Practice, UCC
C. Supt. McPolin, An Garda Síochana