Institution: Ulster University

Unit of Assessment: Psychology, Psychiatry and Neuroscience (4)

Title of case study: Changing Policy and Practice in Suicide Prevention

Period when the underpinning research was undertaken: 2007 - 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Brendan Bunting	Professor	1983 - present
Finola Ferry	Research Fellow	2006 - present
Siobhan O'Neill	Professor	2000 - present
Colette Corry	Research Associate	2010 - present
Sam Murphy	Lecturer	2003 - 2016
Cherie Armour	Professor	2013 - 2019
Edel Ennis	Lecturer	2006 - present
Maurice Mulvenna	Professor	1990 - present
Raymond Bond	Reader	2010 - present
Alexander Grigorash	Research Associate	1999 - 2017

Period when the claimed impact occurred: August 2013 - December 2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact

Ulster University (UU) research on suicide deaths and unique features of suicidal behaviour in Northern Ireland (NI) has significantly shaped NI's suicide prevention strategies. These include the **refreshed Protect Life Strategy** and the **Protect Life 2 Strategy** (I1) with **GBP9,000,000 annual funding** and the **Towards Zero Suicide** (TZS) programme in mental health services (I2). UU's research with Samaritans Ireland led to **optimisation of call management systems** resulting in a **"significant increase" in successful call attempts** (I3). This research also led to **changes in national volunteer training, service coordination**, and the **delivery of services** during the **COVID-19 pandemic** (I3).

2. Underpinning research

From 2005-2015 the rates of suicide in NI were persistently high, whilst other regions of the UK saw a decline. UU research established the unique features of suicide in NI and has been instrumental in shaping suicide prevention policy and practice in the region.

Bunting and O'Neill examined coronial data on over 1,600 suicides in NI from 2010-14 **(G1, G2).** This study was commissioned as part of a 2006 suicide prevention strategy, Protect Life, to provide the first comprehensive insight into the factors affecting suicide in NI specifically. For the first time in a sample of this size, the research answered key questions about suicide in NI. A summary of the study's findings was published in a report to the Department of Health and a series of peer-reviewed outputs (inc. **R1, R2**). The study illustrated area level differences, employment profiles and the gender and age breakdown of those who died by suicide. A key paper based on these data reported that only 30% of those who died by suicide were known to mental health services beyond primary care **(R1).** This research was also the first to highlight how patterns of suicide in NI differed from other regions, with strong associations with deprivation, and the use of multiple medications. The study also highlighted the very high mental health medication (prescription psychotrophic medication) non-adherence rates (62.1%) in NI among those who had died by suicide **(R2).**

Additional UU research also demonstrated for the first time, links between Troubles-related trauma exposure and suicidal behaviour in NI, based on data from the NI Study of Health and Stress **(G3)** undertaken in 2008 as part of the World Mental Health Survey Initiative. The section of the study on suicidal behaviour quantified the rates of suicidal thoughts, plans and behaviour in the NI general population. The research showed clear links between suicidal behaviour and exposure to trauma related to the NI Troubles **(R3).**

Further research was funded by an "Enabling Research" award from the Public Health Agency's Research and Development Division to examine sources of data on suicide in NI **(G4).** This study led to two papers examining medication use **(R4)** and hospital Emergency Department use prior to death by suicide, indicating that prescribing of pain medication in conjunction with diagnosis of mental health problems was a predictor of death by suicide. This research suggested that clinicians may have an opportunity for assessment of suicidal risk and intervention at the time of assessment for prescription.

A separate series of studies was led by O'Neill and undertaken in collaboration with colleagues from Computer Sciences. Samaritans' and Lifeline (UK and Ireland), crisis line caller behaviour was analysed, including the period of the COVID19 pandemic and accompanying restrictions **(G5).** From 3.5million records of anonymised helpline caller data, five different caller types were identified, and established profiles of service use for these caller types **(R5).** This research also illustrated the changes in caller behaviour resulting from the pandemic, and recommended different response behaviours to callers within the different groups in order to optimise the service **(R6).**

3. References to the research Outputs can be provided by Ulster University on request.

All research references have been subject to blind peer review by international editorial boards.

(R1) Corry, C. V., Murphy, S., Brady, S., & Bunting, B. P. (2014). Characteristics of deaths by suicide in Northern Ireland from 2005 to 2011 and use of health services prior to death. *Journal of Affective Disorders, 168*, 466-471.

(R2) Benson, T., Corry, C., O'Neill, S., Murphy, S., & Bunting, B. (2018). Use of prescription medication by individuals who died by suicide in Northern Ireland. *Archives of Suicide Research, 22*(1), 139-152.

(R3) O'Neill, S., Ferry, F., Murphy, S., Corry, C., Bolton, D., Devine, B., & Bunting, B. (2014). Patterns of suicidal ideation and behavior in Northern Ireland and associations with conflict related trauma. *PLoS one, 9*(3), e91532.

(R4) O'Neill, S., Graham, B., & Ennis, E. (2019). Prescribed pain and mental health medication prior to suicide: a population based case control study. *Journal of Affective Disorders, 246*, 195-200.

(R5) Grigorash, A., O'Neill, S., Bond, R., Ramsey, C., Armour, C., & Mulvenna, M. D. (2018). Predicting caller type from a mental health and well-being helpline: Analysis of call log data. *JMIR Mental Health, 5*(2), e47.

(R6) Turkington, R., Mulvenna, M., Bond, R., Ennis, E., Potts, C., Moore, C., & O'Neill, S. (2020). An Analysis of Caller Behaviour to a Crisis Helpline Before and During the COVID-19 Pandemic. *JMIR Mental Health*. https://doi.org/10.2196/22984

Grants

(G1) Geo-demographic factors associated with deliberate self-harm and death by suicide: a within and between neighbourhoods' analysis. Funding sources: Health and Social Care Trust: Research and Development and Public Health Agency. Total amount of award: GBP199,399. Dates: 2010-2014. Grant holders: Prof Brendan Bunting, Dr John Mallett, Prof Maurice Stringer, Prof Siobhan O'Neill, Prof Adrian Moore.

(G2) Supplementary analysis of suicide database. Funding sources: Health and Social Care Trust: Research and Development and Public Health Agency. Total amount of award: GBP147,126. Dates: 2012-2014. Grant holders: Prof Brendan Bunting, Dr Sam Murphy, Prof Siobhan O'Neill.

(G3) Individual and family differences in mental health: An epidemiological study. Funding source: Department of Health and Public Health Agency, Research and Development Division. Total amount of award: GBP896,399. Dates: 2007-2010. Grant holder: Prof Brendan Bunting.

(G4) The development and pilot testing of a systematic recording system for deaths by suicide in NI. Funding source: Health and Social Care Trust: Research and Development Division Enabling Research Awards. Total amount of award: GBP39,413. Dates: 2016-2019. Grant holders: Prof Siobhan O'Neill, Prof Brendan Bunting, Prof Cherie Armour, Prof Deirdre Heenan.

(G5) An analysis of the Samaritans Ireland helpline data to identify caller models. Funding source: Samaritans Ireland. Total amount of award: GBP25,396. Dates: 2016-2017. Grant holders: Prof Siobhan O'Neill, Prof Cherie Armour, Dr Raymond Bond, Prof Maurice Mulvenna.

4. Details of the impact

(**I1**) UU's research has been at the forefront of Northern Ireland's **suicide prevention strategies**. Results from the NI suicide study (**R1, R2**) and the NISHS (**R3**) were shared widely with policy makers, politicians, service providers and those who deliver care. O'Neill developed a policy and practice briefing based on the research (**R1 - R4**), met with the Department of Health, and led several knowledge exchange events for policy makers, elected representatives, and practitioners, including KESS (Stormont Knowledge Exchange) seminars and presentations at the Stormont All Party Group on suicide prevention. These engagement activities led to **UU's research shaping a refreshed version of Protect Life Strategy** (**I1**), NI's suicide prevention strategy for the period 2012-2014 (**C1**). The research on the link between the trauma of the Troubles and suicide (**R3**) also prompted policy makers to highlight in the refreshed strategy **a need for improved public awareness of PTSD, service pathways for people with trauma-related needs, enhanced mental health services to identify, assess and treat PTSD, and the screening for PTSD among those with depressive disorders** (**C1**).

UU's research also forms the **evidence base for NI's new suicide prevention strategy, Protect Life 2** (**C3**), which was launched in September 2019. The draft Protect Life 2 consultation (**C2**) provided the evidence base for the strategy and cites UU's research based on Coronial data (citing **R1**: contained within the final report to the funder of the research; citing **R2**: research that recommends specifically targeting medication use; and, citing **R3**: contained within a report chapter written by O'Neill discussing intergenerational trauma). The **budget** for the implementation of **Protect Life 2 is GBP8,700,000 annually** (**C3**). Therefore, from Sep 2019 to Sep 2020, the **strategy resulted in the delivery of suicide prevention services to the value of almost GBP9,000,000.** UU research specifically highlighted two risk factors for suicidal behaviour that are specifically targeted in the strategy as particular to NI: psychotrophic medication use (**R2**) and the legacy of the Troubles conflict (**R3**).

(**I2**) In response partly to UU's suicide study (**R1, R2**), and to address the persistently high levels of suicide in NI, **all five of the region's Health and Social Care Trusts (HSCTs) formed the mental health patient safety collaborative project "Towards Zero Suicide" (TZS). TZS** promotes a system-wide commitment to best practice in suicide prevention at all levels of HSCT care delivery. The NI suicide study (**R1, R2**) showed that 30% of those who died by suicide were under the care of mental health services; this **UU research is cited in the TZS project initiation document** (**R1, R2, R3**, cited in **C4**) along with evidence from the National Confidential Inquiry into Suicide and Homicide. Whilst both studies investigated suicides in health care settings, the NI-specific study also reported on life events and service use prior to

these deaths (**R1**). The TZS initiatives are based on similar projects in Detroit, USA (which led to a reduction in suicide by 75%, **C5**) and more recently, Mersey Care in the UK. **O'Neill is the academic advisor to the collaboration.** The **TZS collaboration** has received **funding of over GBP1,300,000 to date** which has allowed the **appointment of dedicated service improvement coordinators in each of NI's HSCTs.** As evidenced by the testimonial from the TZS Regional coordinator, this has led to **regional and local action plans to improve specific areas of practice and services, and the selection and feasibility testing of a Collaborative Safety Plan Intervention**. In addition, a **Minimising Restrictive Practice Quality Improvement Project** is integrating Trauma-Informed Practice with a suite of local changes to reduce the incidence of Restrictive Practices in inpatient settings (**C4**).

(**I3**) The analysis of crisis line data (**R5**) by a multidisciplinary team headed by O'Neill led to the **introduction of a computer-mediated and telephony-based management system in Samaritans Ireland** in 2017. This call management system using Automatic Call Distributor (CAD) **resulted in a 50% growth in the answered call rate and a ten-fold reduction in the percentage of calls receiving the engaged message, leading to a "*significant increase*" in successful call attempts** (**C6**). As a result, these **callers received an intervention that has been shown to significantly reduce their level of distress, and support in the self-management of their own distress** (**C6, C7**). The analysis of caller behaviour through the pandemic (**R6**) demonstrated that Samaritans was receiving longer calls and peak numbers of calls after specific events (e.g. government lockdown announcements). UU research led to **changes in volunteer scheduling to meet demands and an advertising campaign to promote Samaritans as a source of support for people affected by the COVID-19 pandemic** (**C6**). Overall, as the Chief Executive Officer of Samaritans Ireland states, UU research has had considerable impact on the service on multiple levels:

"The research has influenced volunteer training and the thinking of senior volunteers on how to structure the service."

"The Ulster University research programme has also shaped our response to the pandemic and … informed outreach and partnership strategies, for example with Alone who support older people."

"By identifying the times and external events associated with an increase in calls the analysis also informed volunteer rotas."

5. Sources to corroborate the impact

(C1) Refreshed Protect Life strategy.

(C2) Protect Life 2 draft strategy for public consultation.

(C3) Protect Life 2 Strategy.

(C4) TZS Project Initiation Document; and, testimonial from Towards Zero Suicide Regional Coordinator.

(C5) Evidence of the effectiveness of TZS in Detroit: Coffey CE. Building a system of perfect depression care in behavioral health. Jt Comm J Qual Patient Saf. 2007 Apr;33(4):193-9.

(C6) Testimonial from Chief Executive Officer of Samaritans Ireland.

(C7) MEL Research (2020) Samaritans Helpline Caller Outcomes Survey.