POLICY BRIEF

Self-harm & suicide in Northern Ireland: New evidence from linked administrative data

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Key findings:

- **Living with a parent with mental ill-health increases a child's risk of death by suicide**
- **Almost a quarter of young people who died by suicide in Northern Ireland had presented to an emergency department with self-harm, suggesting emergency departments present a key opportunity for intervention**
- **Young adults with care experience are at a higher risk of self-harm and death by suicide**
- **Individuals who present to emergency departments with thoughts of self-harm or suicide are over 10 times more likely to die by suicide.**

Introduction

Across the globe, rates of death by suicide are increasing, with an estimated one death every 40 seconds. This makes it the tenth leading cause of death worldwide.[1] Despite suicide being deemed a preventable cause of death, almost every day in Northern Ireland a person takes their own life. Policies, strategies, and interventions aimed at reducing death by suicide have been introduced over the last few decades, with limited evidence on their efficacy.[2] Most national suicide prevention programmes aim to raise awareness, reduce stigma, improve education, identify vulnerable groups, and improve assessment, care, and research.[3] We see this in the Northern Ireland Protect Life 2 Strategy.[4] However, to improve care or target interventions, we need to be able to identify who is most at risk of death by suicide in our population.

Problem

The most significant predictor of death by suicide is previous self-harm or a suicide attempt.[5] In Northern Ireland, there are over 13,000 presentations to emergency departments annually with self-harm or self-harm/suicidal ideation (i.e. thoughts about harming oneself), placing significant strain on healthcare resources.[6] The economic cost of death by suicide in Northern Ireland each year is estimated to be over £473 million (including £3.5M in direct costs, £178M in indirect costs, and £291M in intangible costs).[7]

With such high numbers of presentations, a high economic cost to society, and limited resources, there is a critical need to understand which individuals within these groups are at greatest risk of subsequent death by suicide to enable more targeted and effective interventions. The information presented in this policy brief summarises findings from five published research papers by researchers based within the Administrative Data Research Centre Northern Ireland (ADRC NI, part of ADR Northern Ireland). These used whole population-wide linked administrative data to better understand who in Northern Ireland is most at risk of self-harm, self-harm/suicidal ideation, and death by suicide, in order to help inform policy and practice.

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Policy context

Protect Life 2 is Northern Ireland's long-term strategy (2019-2027) for reducing rates of death by suicide and incidence of self-harm, with action delivered across a range of government departments, agencies, and sectors.[4] The strategy aims to reduce the rate of death by suicide in Northern Ireland by 10% through evidence-based approaches. Within Protect Life 2, the "Towards Zero Suicide" model represents an aspirational goal for healthcare and community support systems to prevent all deaths by suicide. The strategy aims to be evidence-based, achieve measurable outcomes, be fully evaluated, and be informed through learning and collaboration with a range of sectors including academia.

This report hopes to add to that evidence base and proposes recommendations for self-harm and suicide reduction within the Northern Ireland population.

Messages from research

Over the last three years, researchers within ADRC NI have published a range of papers using linked, population-wide data exploring predictors and outcomes of self-harm, self-harm/suicidal ideation, and death by suicide, in an attempt to better understand who within the population is most at risk, and to inform targeting of both policy and practice interventions. The research presented here makes use of the Public Health Agency's Northern Ireland Registry of Self-Harm, the only population-wide registry of hospital-presenting self-harm and self-harm/suicidal ideation globally.[6] This resource, along with other linked population-wide data resources - such as social services data, dispensed prescription medication data, Census data and death data – was used in the research cited below. For further information about each study methodology and data resources, please consult the associated academic publication.[8-12]

Five key messages have been drawn out and summarised below:

1. **Living with a parent with mental ill-health increases a child's risk of death by suicide**
   This study linked 2011 Census returns to mortality records, identifying 618,970 individuals in Northern Ireland (NI) who lived with at least one parent, and followed them up for five years, examining mortality risk based on individual and parental mental health.[8] The research found that:

   - **1 in 8 children in NI were living with at least one parent who reported poor mental health** (11.6%).
   - **Children living with one parent with poor mental health were 76% more likely to die by suicide** compared to their peers living with parents with good mental health, even after adjusting for age, gender, physical illness, socio-economic status, and the child's own mental health status.
   - The effect was stronger for children under 24 years and when both parents reported poor mental health.

   These findings highlight the significant impact of parental mental health on offspring suicide risk, emphasising the need for a family-based approach in mental health interventions, particularly for families with children under 24 years old.

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2. **Almost a quarter of young people who died by suicide in NI had presented to an emergency department with self-harm**
   This study linked data for 390,740 young people in NI aged 10-24 years in 2015 to four years of the Northern Ireland Registry of Self-Harm data (2012 to 2015), and mortality data until the end of 2018.[9] The research found that:

   - **Young people presenting with self-harm were 19 times more likely to die by suicide** compared to peers who did not present with self-harm, after adjusting for sex, age, area-level deprivation and urbanicity.
   - **Almost a quarter of young people who died by suicide (23%) in NI during the study period had previously presented to emergency departments with self-harm.**

   These findings highlight the strong association between self-harm and risk of death by suicide in young people in NI but also highlight that many of the young people dying by suicide in NI are known to services in some manner, and that emergency departments may be a prime point for targeted interventions in a typically underserved population.

3. **Almost two fifths (39.7%) of people who die by suicide in NI were known to social services in childhood**
   This population-wide, longitudinal cohort study followed 437,008 individuals in NI born between 1985 and 1997 from when they turned 18 years until July 2021 linking primary care registration data to social services data and mortality data, quantifying contact with social services in childhood and examining adult mortality risk.[10] The research found that:

   - **Individuals with childhood social care contact (n=51,097) comprised 11.7% of the cohort yet accounted for 39.7% of all recorded deaths by suicide.**
   - Individuals with any level of childhood social services contact had an increased risk of death by suicide compared to those without contact.
   - Children referred to social services and deemed "**not in need**" are still **four times more likely to die by suicide** than those never known to social services.

   These findings highlight that childhood contact with social services is a risk marker for death by suicide well into adulthood, and may suggest that mental health and suicide prevention interventions would benefit this subset of the population.

   Individuals who did not meet the threshold for children's social care services are still at risk of poor outcomes and may benefit from targeted interventions.

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4. **Young adults who are care-experienced are at a higher risk of self-harm and self-harm/suicidal ideation**
   This study looked cross-sectionally at 497,269 children alive and resident in NI in 2015, linking primary care registration data to dispensed prescription medication data, social services data and the NI Registry of Self-Harm data.[11] The research found that:

   - **Children known to social services** account for ~4.8% of the population, but **represent almost one in five (18.6%) of all children who experience mental ill-health in NI.**
   - **Children in care were 52 times more likely to present to emergency departments with self-harm/ideation** compared to children with no contact with social services.

   These findings reinforce that childhood contact with social services is a risk marker for mental ill-health and likelihood of self-harm and self-harm/ideation, especially for care experienced young people.

5. **Individuals who present to emergency departments with thoughts of self-harm or suicide are over 10 times more likely to die by suicide**
   This retrospective cohort study linked primary care registration data to the NI Registry of Self-Harm data and mortality data between the years 2012-2019, for all 1,662,118 individuals aged 10+ years and alive and resident in NI. It explored the association between emergency department presentations for self-harm or suicidal ideation and subsequent mortality risk.[12] The research found that:

   - **Those presenting with thoughts of self-harm or suicide ("ideation") were 10 times more likely to die by suicide** compared to peers who did not present with ideation, with half of these deaths occurring within 12 months of presentation.
   - Unlike self-harm, **there are no NICE (National Institute for Health and Care Excellence)/clinical guidelines for the management and recommended best practice and care of individuals who present with ideation.**

   The findings highlight emergency department presentations for self-harm/suicidal thoughts as critical intervention opportunities. Given that half of the observed deaths occurred within 12 months of presentation, these findings suggest an urgent need for immediate, comprehensive follow-up care to address suicide risk.

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Recommendations for policy and practice

The five key messages above shine a light on some sub-groups of the population who we know from the evidence are at an increased risk of self-harm, self-harm/suicidal ideation, and/or death by suicide. In response to these findings, the researchers have made **five** recommendations for policy/practice, which align with the objectives of the Protect Life 2 Strategy.

These are listed below for consideration:

1. **Strengthen evidence-based interventions in emergency departments [Objectives 8.1 and 10]**
   Recognise emergency departments as crucial intervention points for self-harm and suicide prevention and develop targeted, evidence-based strategies. All individuals presenting to emergency departments with self-harm or suicidal ideation should be offered mental health assessments by specialised mental health teams at the time of presentation, with follow-up care plans established before discharge. Risk screening tools should not be used as no scale has sufficient positive predictive value for death by suicide.[13] The responsibility for delivery of these interventions should not necessarily lie with emergency department staff. This comprehensive approach is crucial as almost a quarter of young people who died by suicide had previously presented to emergency departments with self-harm, and half of all suicide deaths among those presenting with suicidal ideation occurred within 12 months of presentation.

2. **Enhance support for at-risk groups [Objectives 8.1 and 10.1]**
   Develop and implement enhanced mental health support across all settings for groups showing increased risk of self-harm, self-harm/suicidal ideation, and suicide risk. Prioritise groups most at risk, including: (i) those with a history of social care contact, who comprise 11.7% of the population but account for 39.7% of suicide deaths, (ii) children (especially those aged <24 years) living with a parent(s) with poor mental health, who are 76% more likely to die by suicide, even after adjusting for their own mental health status, and (iii) individuals with a history of self-harm or suicidal ideation, particularly in the 12 months following emergency department presentation.

3. **Develop guidelines for the clinical management and recommended best practice for individuals presenting to emergency departments with self-harm/suicidal ideation [Objective 8.1]**
   Establish comprehensive guidelines for managing patients presenting with self-harm/suicidal ideation at emergency departments, complementing existing NICE guidance on self-harm management, addressing a crucial gap.

UKRI Economic and Social Research Council

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4. **Maximise the impact of the NI Registry of Self-Harm [Objectives 8.2 and 10]** Continue funding the Northern Ireland Registry of Self-Harm, and improve access and utilisation of this resource by integrating it within the Regional Data Warehouse. Currently, the process for access is protracted, resulting in time delays in accessing data and difficulty in completing real-time research. Better access will allow for better understanding of self-harming behaviour and enable more proactive interventions to prevent deaths. Unlike the National Confidential Inquiry which explores deaths after they occur, the registry provides a unique opportunity to identify and intervene with at-risk individuals before deaths occur. This aligns directly with Objective 8.2 to improve understanding of self-harming behaviour, and Objective 10.1 to identify priorities for local research into suicide and self-harm prevention.

5. **Advocate for better legislation for data linkage and analysis [Objective 10.1]**
Advocate for better legislation around the utilisation of health data resources, such as the NI Registry of Self-Harm, to inform policy and practice and ultimately improve the health and well-being of the NI population.

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