Suicide and suicide prevention in Northern Ireland: current status and future directions

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Summary
The rates of suicide and self-harm in Northern Ireland have increased markedly from 2004 to 2019, with a particularly striking increase from 143 registered suicides in 1996 to 305 in 2017. This review summarises the epidemiology of suicidal behaviour, as well as the evidence from a small number of studies that have identified risk factors associated with the high suicide rates here. These were mental illness, trauma, exposure to the conflict, deprivation, relationship problems, employment difficulties, financial difficulties, being LGBT, adversities and alcohol or drug use. It highlights key challenges and opportunities for suicide prevention, emphasising a lifespan approach. More needs to be done to address the relationship between substance misuse and suicide. Future research and prevention efforts should also focus on the transgenerational impact of the conflict, youth suicide, suicide prevention among minority groups and the criminal justice context. The delivery and access to suicide-specific psychosocial interventions need to be prioritised, more support for people in crisis is required, as well as interventions for mental illness. Protect Life 2, the national suicide prevention strategy, needs to be implemented in full. Given the legacy of conflict in Northern Ireland, all suicide prevention efforts should be trauma-informed.

Introduction
Northern Ireland (NI) is the region of the UK with the highest suicide rates, and the Northern Ireland rates are also higher than those in the Republic of Ireland. The rate for men in Northern Ireland (29.1 per 100,000) is over three times that for women (8.5 per 100,000) and the rate for men aged between 35 and 39 years is the highest of all age groups, 56.1 per 100,000[1]. The purpose of this review is to summarise the research literature on suicide and suicide prevention in Northern Ireland and identify the gaps in our knowledge and understanding, but it is not an exhaustive systematic review of the literature. Where appropriate, we have drawn from the international suicide prevention literature and earlier landmark studies. It is important to recognise NI's recent political history, in particular the civil conflict, known colloquially as "the Troubles". This conflict, which started in 1969, resulted in over 3,500 deaths, 34,000 shootings and 14,000 bombings[2,3]. The Troubles has also taken its toll on the mental health of the population[4] , with the Northern Ireland Study of Health and Stress finding that almost four in 10 people in the region had experienced a traumatic event related to the conflict[5]. Whilst there is ongoing paramilitary activity, including so-called punishment attacks, the worst of the violence ended with the signing of the Good Friday Agreement in 1998; therefore we have taken this as the starting point and examined the research on suicide and self-harm in Northern Ireland in the intervening 21 years (to March 2019). We describe trends in fatal and non-fatal suicidal behaviour (including self-harm) in Northern Ireland as well as outlining associated risk and protective factors. We propose a series of recommendations to enhance our understanding and prevention of suicide in the region.

Search strategy [this will be a panel]
We searched PsychInfo, Medline, and EMBASE from 01, Jan 1998, to 31st March 2019, to extract peer reviewed, published studies using the search terms; suicide or suicidal ideation or suicidality or self harm or self injury, and Northern Ireland. We selected those studies that reported on suicide or self-harm in the Northern Ireland population, there were no language restrictions.

The Troubles and suicide rates

The suicide rates in Northern Ireland have risen since the 1998 Good Friday Agreement, and the increase from 143 registered suicides in 1996 to 305 in 2017 was particularly sharp.[6] An inverse association exists between the numbers of deaths in the conflict and the number of suicide deaths.[7,8,9] Initially, in 1994, this was accounted for by additional suicides in young males aged under 35 years however the rates have remained high in this cohort as they have grown older.[9] Despite policy initiatives such as the "Promoting Mental Health" Strategy and Action Plan 2003–2008 which targeted a 10% reduction in suicides by 2008, and NI's first Suicide Prevention Strategy, "Protect Life A Shared Vision" in 2006, which aimed to reduce the suicide rate by 15% by 2011,[10] the suicide rate continued to rise. The rise was particularly marked between 2004 and 2006 when there was an increase from 146 to 291 following the delays in registrations resulting from the amalgamation of seven Coroners' districts into one centralised Coroner's Service[6].

The lower rates of suicide during the conflict Northern Ireland has been linked to the social and political context, which Tomlinson[11] explains in terms of increased social integration as a result of the perceived need to protect families and neighborhoods from threat. Studies fom other post-conflict countries, for example Bosnia, also show that the negative effects on psychological wellbeing persist many years post-conflict.[12] However, some groups might be protected, as suicide rates among children and adolescents in Bosnia decreased after the conflict ended[13]. It is important, therefore, to understand the factors that protect against as well as increase suicide risk. Murphy et al. point to a consistent rise in suicides among those who were aged 5-24 years in the first decade of the Troubles and raised the possibility that method substitution may be a factor, highlighting the concurrent three-fold reduction in deaths in road traffic accidents. The suggestion was that during the Troubles people took their lives by causing road accidents which were not coded as suicides. However, UK legislation in 1998 limiting the availability of paracetamol over the counter did not appear to lead to method substitution in NI, and led to a reduction in the number of tablets taken in paracetamol overdoses. Furthermore, method substitution did not occur in Northern Ireland following the removal of toxic gases from household gas and car exhaust fumes[14].

The very strong association between deprivation and suicide in Northern Ireland is evident in area-level analyses[6,15]. The main recording agency for cause of death statistics in Northern Ireland, the Northern Ireland Statistics and Research Agency, suicide statistics show that the average number of deaths from 2015-2017 was over four times higher in the most deprived centile (60.67) compared with the least deprived centile (14.67)[6]. Moreover, the Northern Ireland Mortality Study showed that ward-level extrinsic mortality rate and crime were associated with preventable deaths (including suicide) for males, especially in low socioeconomic groups[16]. Urbanicity and deprivation are linked in Northern Ireland[15] and a recent study of suicide registrations confirmed a higher proportion of those who died by suicide lived in urban areas (72.8% of 1105 versus 63% of 5525)[17].

In the largest and most detailed study of suicide in Northern Ireland, more than 1600 suicides and undetermined deaths were examined, based on data extracted from coronial files from 2005 to 2011. The most commonly reported life events and problems were relationship crises, and employment or financial difficulties[18]. Conversely, the protective effects of having a partner and children were highlighted by Corocran and Nagar[19] and Uggla and Mace[20]. Only a third of those who died by suicide in Northern Ireland were known to be in employment[18] which is in marked contrast to Scotland, for example, where two thirds of those who die by suicide are in employment[21]. The rates of suicide in

students are generally lower than in the general population, and in this study 47.5% of the 40 females who died by suicide, who were under 20, were students (28.5% of 130 males). Among those under 20 years old who died by suicide, males were more likely to be unemployed than females (47.5% males, 46 ; 17.5% females, 7). In older people (aged 61 years plus) in Northern Ireland who died by suicide the most commonly reported life events prior to death were bereavement, a loved one's illness and physical illness. In males aged over 60 years, physical health and negative life events were more relevant than mental illness, however these data were based on witness testimonies and medical records, and undiagnosed mental illness might have been present[22].

Mental illness and suicide

Mental illness was very strongly associated with suicide deaths, as shown in a psychological autopsy study[23] and in the study of coronial records. In the coronial study of 1667 suicides, 57.6% had a recorded mental illness, and there were high rates of medication and health service use prior to death[24.] Consistent with other UK regions, the national confidential inquiry into suicide and safety in mental health found that around 27% (794) of the 2956 people who died by suicide had been in contact with mental health services in the 12 months before death.[25] In the study of coronial records, 30% of the 1667 who died had been contact with secondary care[24]. The likelihood of having a known mental illness increased with age group, with the exception of the oldest age group. This may be indicative of physical health problems and life events associated with suicidal behaviour later in life, or a reduced willingness to disclose symptoms[22]. Alcohol and drug problems were recorded in a minority of the deaths, in a higher proportion of women (9.7%, 25 out of 311 women, compared with 7.8%, 72 of 1160 men), particularly in the 21-40 age group (10.4% 43 of men, 15.4% 16 of women)[22]. However, in a landmark psychological autopsy study,[23] alcohol abuse and dependence (not depression) was the leading axis I mental disorder associated with suicide. In the coronial study around one third of those who died had a recorded physical health problem, and this was more common in the older age groups and in men (13.3%, 199 men, and 6.9%, 26 women). 45.2% out of 1371 cases had been prescribed medication for a physical health difficulty[26]. More than half of those who died by suicide died by hanging (60.5%), and 83.3% of these were male. A higher proportion of those who died following an overdose was female (31.6%, 118 out of 311). Suicide attempts were recorded for 37.3% of women (116 out of 311) and 49.9% of men (579 out of 1160), with a fifth of women and one in 10 men having 5 or more attempts. There was evidence of alcohol at the time of the suicide in 56% of cases (935 out of 1671)[18].

Trauma, the Northern Ireland conflict and suicide risk

The association between conflict exposure and suicidal behaviour was examined in a sample of 4,340 adults in the World Mental Health Survey Initiative's Northern Ireland study of Health and Stress[25]. The study found that rates of mental illness in Northern Ireland were among the top three countries internationally and the rates of post-traumatic stress disorder (PTSD) were the highest of the countries in the Initiative (8.8%[i])[27]. One in 10 women and 7%[i] of men had seriously considered suicide, and 41.4%[i] of women and one third of men who had suicidal ideation had also made a suicide attempt. People with experience of conflict-related trauma were more likely to report suicidal ideation and plans, but were less likely than those who endorsed other traumatic event types (e.g. sudden death, accidents, serious illness), to have attempted suicide. These patterns were not explained by the

presence of mental illness, and might represent a higher likelihood of death on first suicide attempt in this group[28]. This is consistent with theories of suicide that point to the effect of exposure to violence on the capability for suicidal behaviour and increased lethality of method[29]. These findings are concerning because of the high prevalence of exposure to conflict-related trauma in the general population (39%[i] in a 2005-2008 study)[27]. Similarly, in countries such as Lebanon and South Africa, 'exposure to war' also conferred a higher risk of suicide attempt than did other traumatic event types[30]. The nature of the association between suicide and political violence is illustrated in a study of 19 suicides where paramilitary involvement was described as linked to the crisis that preceded death. This study illustrated how entrapment (feeling that there is no way out of a situation), in particular, was perceived to be feature of the person's thought processes prior to death by suicide.[31]

Childhood adversity is the biggest cause of mental illness worldwide.[32] The NISHS analyses showed that 32% of 1986 respondents reported at least one childhood adversity, with economic adversity being the most common (8.6%[i]). Adverse childhood experiences were associated with negative psychological outcomes and suicidal behaviour in adulthood, and were associated with a greater risk of PTSD than were Troubles-related traumatic events[33]. Individuals with multiple adversities, especially parental maltreatment (neglect, physical, and sexual abuse) and parental maladjustment (parental mental illness, substance use disorder, criminality, and family violence) had an increased risk of both mental illness and suicidal behaviour[34]. A study of self-harm in school children in NI[35] showed that Troubles exposure was associated with self-harm, highlighting the transgenerational impact of the conflict. However, Troubles exposure was not an independent risk factor, illustrating again the connections between other risk factors (substance use, childhood adversities, anxiety and low self-esteem).

People who grew up during the Troubles were more likely to have experienced multiple traumas. The NISHS identified a "multi-risk" group, 4.3% of the population[i], who were more than fifteen times more likely to have suicidal ideation and behaviour. This group had high levels of childhood adversities, conflict-related traumas, and mental illness[36]. Childhood adversity also increased the likelihood that conflict exposure led to mental illness in adulthood; however, those in the lowest adversity group were more likely to develop mental illness following a conflict-related trauma than were those in the moderate adversity group. This shows that some adversity can be protective: when people encounter stressors early in life they might be more likely to develop adaptive coping strategies, that they can then draw upon throughout their lifetime, which protects them against the effects of stress[37]. Maltreatment was also associated with suicidal behaviour, and this was common in NI.[38] Parental mental illness and sexual abuse accounted for the highest proportions of mental illness and suicidal behaviour[39]. We highlighted the connections between the characteristics of post-conflict Northern Ireland that contribute to the increasing suicide rates[40], including the conflict's legacy of sectarianism, homophobia, and deprivation in the areas worst affected.

In the past decade, there has been a considerable focus on the psychological factors associated with suicide risk[41,42]. Much of this research has been guided by theoretical models which illustrate the pathways to suicidal behaviour[40,41,42]. Such models tend to be diathesis-stress models[44,45,46] that describe the mental pain which usually precipitates suicide risk. For example, the integrated motivational-volitional model of suicidal behaviour posits that feelings of defeat or humiliation from which an individual cannot escape are the key drivers of suicidal behaviour[42]. No research studies have

directly tested these psychological models in NI. Two studies that focused on the psychology of suicide risk in Northern Ireland specifically, both of suicide notes, yielded complementary findings. In the first study of 45 notes, consistent with the theoretical models, there was evidence of unbearable psychological pain, cognitive constriction (tunnel vision), and desire to escape interpersonal pain in over 80% (45) of the notes[47]. In the second study which was part of a case control psychological autopsy study,[48] apology or shame were present in 70% (30) of 42 suicide notes. Contemporary models of suicidal behaviour also highlight the biological factors relevant to the development of mental illness and suicidal behaviour. Of particular relevance to the Northern Ireland context are the biological changes associated with trauma exposure and PTSD and the link with suicidal behaviour[49], however these have not yet been investigated in detail in this population.

Population subgroups

Hospital-treated self-harm

Presentations following suicide attempts, suicidal behaviour, and self-harm offer opportunities for intervention and the delivery of suicide prevention treatments. Hospital presentations for self-harm are recorded in the Northern Ireland Registry of self-harm[50] and a similar system exists in the Republic of Ireland. Between 2012/2013 and 2014/2015, the rate of self-harm in Northern Ireland increased by 12% from 334 per 100,000 to 373 per 100,000. Increases in self-harm were observed in particular among those aged 15-19 years, where the rates increased by 29% in the females and by 30% in males.[50] In 2014/2015, the rate for men was 377 per 100,000 and for women was 371 per 100,000[50]. Preliminary analysis of the Northern Ireland registry has shown that the incidence of hospital presentation for self-harm in Northern Ireland is 70% higher than in the Republic of Ireland (342 vs. 198 per 100,000)[51,52] and in keeping with other studies, the rates are higher in urban areas. These differences might in part be due to emergency department care being free at the point of delivery in NI, however, many people in the Republic of Ireland also receive free Emergency Department care. Rates of self harm in NI were highest among females in the 15-19 age group (837 per 100,000) and males in the 20-24 age group (809 per 100,000). Drug overdose was the most common method, used in around three quarters of all presentations, and presentations were more common on Sundays and Mondays in the early hours of the morning. There is a strong association between self-harm and social deprivation, particularly for males. In contrast to other UK studies of self-harm, the male self-harm rate was higher than the female rate and this difference appeared to be a result of the high male rate in Belfast[53].

The registry data also revealed that alcohol was involved in a higher proportion of self-harm presentations in Northern Ireland than in the Republic of Ireland (49.6% 7247 out of 14598, versus 37.3%, 7390 out of 19831)[54]. In keeping with national trends, alcohol use was more common among men who presented with self harm than among women who presented with self harm (46.6, 7634 out of 18053, versus 38.8%, 7003 out of 16376), among those in the 45-64 age group (52.7%, 4009), in cases of intentional drug overdose (42.5%, 11102), attempted drowning (47.2%, 350), and among those who left the Emergency Department without seeing a clinician (50.5%, 2427). People who presented with self harm who had taken alcohol in NI were less likely to be admitted to a psychiatric ward and were more likely to be discharged than in the Republic of Ireland, where the opposite was true. Men who had a previous history of self-harm were more likely to have consumed alcohol at the time of admission whereas females with repeat admissions were less likely to have taken alcohol[53].

The most commonly used type of drug in overdoses was minor tranquillisers, evident in 42% of 6100 cases in Northern Ireland (27% of 50394 in the Republic of Ireland). Opioid-based drugs were more common in Northern Ireland presentations than in the Republic of Ireland (20%, 1220 vs 13%, 6551). In Northern Ireland Antidepressants were used in one in five cases, and paracetamol was the most common drug used by young people[55].

Evidence from elsewhere in the UK shows that those who present to clinical services following self-harm often report experiencing negative [56,57]. In a qualitative study involving people in Northern Ireland with a history of self-harm, participants highlighted the internalization of external stigma as a barrier to help-seeking[58]. A second theme endorsed by all participants identified the yearning to be treated like a person when they sought help. Barriers to access to treatment for mental illness more generally were also evident. For example, among Northern Ireland students with a mental illness, only 37.8% of 392 had received treatment, with this lack of treatment especially marked in males[59]. Only half of those with a mental illness and history of suicidal thoughts and behaviours had received treatment. Those with a history of suicidal thoughts and behaviours suicidal thoughts and behaviours were more likely to rate "wanting to handle things on their own" as a key barrier to accessing support. These findings are consistent with international findings (which included Northern Ireland data) which illustrate widespread unmet mental health needs in college students[60].

Young people in schools and colleges

In the the Northern Ireland Lifestyle and Coping Survey (NILCS, n=3596) at least 1 in 10 adolescents reported self-harm by the age of 16 years, with 6% reporting self-harm in the past 12 months. Consistent with other parts of the UK and the Republic of Ireland, females (15.5%, 261 out of 1686) were three times more likely than males (5.1%, 93 out of 1837) to report lifetime self-harm. However, the self-reported prevalence of self-harm was statistically significantly lower in Northern Ireland in comparison to in England (13.2%, 784 of 5923)[61], Scotland (277 out of 2008)[62] and Republic of Ireland (9.1%, 333 out of 4583)[63,35]. It is likely that given the legacy of the conflict in NI, young people are more reluctant to disclose personal information, and as a result the reported prevalence may be an under-estimate. Bullying, exposure to self-harm, abuse, and sexual orientation concerns were among the factors associated with self-harm, and these were also associated with exposure to the Troubles[64,66,66].

The NILCS study was among one of the first internationally to investigate the influence of the internet and social media on self harm among young people. Even though these data were collected in 2009, 15% of 1711 girls and 26% of 1882 boys reported that the internet or social media influenced their decision to self-harm[35] and this is consistent with recent reviews in the area[67]. However, the association between internet and social media use and wellbeing is likely to be weak, having its largest impact upon already vulnerable individuals, and social media use can be beneficial[68,69,70].

NI is included as a centre in the World Mental Health International College surveys initiative. The Ulster University Student Wellbeing Study (n=739), found that 31%[i] of respondents reported suicidal ideation in the year prior to attending university, and the 12 month suicide attempt rate was 7.7%[i] [71]. From these data, it appears that suicidal ideation and behaviour are higher in Northern Ireland compared to the composite international rates. This study also found an increased risk of suicidal behaviour (including self-harm) in those who identified as non-heterosexual, in those who have experienced moderate or high levels of childhood adversities, and among those who were classified

as being probably alcohol dependent. The relationship between sexual identity and suicidal behaviour is important to highlight, as until very recently, Northern Ireland was the only part of the British Isles where same sex marriage was not legal and there is evidence that discrimination against sexual minorities is higher in Northern Ireland than elsewhere in the UK[72]. In other countries, the introduction of same-sex equal marriage is associated with reduced suicide attempts among LGBT young people[73]. Although the Ulster University Student Wellbeing study found that 10% of new entry students sought help for emotional problems in previous 12 months, at least one in five (22.3%[i]) students with such problems said they would not seek help.[74]

Contact with clinical services

Primary care and medication use

In a case control study (comparing those who died by suicide to a matched control group who were alive), O'Neill et al.[75] found that 70% of 1105 who died by suicide in Northern Ireland had been prescribed mental health medications in the two years before death compared to approximately one quarter of 5525 in the control group. 57% of the 1105 who died by suicide had received medication within three months of death. This suggests that the people who died by suicide were likely to have a diagnosed mental illness, and there might have been an opportunity, at the time of prescribing, for a clinician to ask about suicidal thoughts. Pain medication was also commonly prescribed: double the proportion of those who died by suicide were prescribed such medication in the previous 24 months (50.8% of 1105 in the suicide group vs 27.7% of 5525 in the control group)[75]. This again points to an opportunity for suicide prevention interventions, with people who present with the symptoms of pain. In the study of coronial records poly-medication use is also a problem, with 30% of 1371 who died having been prescribed three or more medications[26]. In this case control study there was also evidence of medication non-adherence which requires further consideration, and direct comparisons of the rates of medication use in other countries requires closer inspection as the extant findings are inconclusive.

There is debate about the effectiveness of antidepressants in suicide prevention[76,77,78]. In a data linkage study covering 1989-1999 inclusive, Kelly and colleagues found that for adults aged 30 years and above, there was an inverse relationship between antidepressant prescribing and suicide[79]. There was no such association for those aged under 30 years. Primary care is the most common service used prior to death by suicide, as evidenced by the proportions who accessed their GP. In the 12 months before death, 82% (of 361) attended their GP practice, usually for mental health problems (70% of 361 cases); indeed 39% had at least one GP consultation in the 30 days before death. 39% had been to the Emergency Department (indicative of crisis, or injury); one third had been seen by a psychiatrist, and 28% had been in contact with community mental health services[80]. The study of coronial files showed that one in five suicide cases presented to services in the fortnight prior to death. Half of those who died had received primary care but no secondary care services. Only 30% (504 of 1667) of the people who died by suicide were in receipt of mental health services beyond primary care[24]. Both these studies also revealed that women have increased health service use compared to men prior to death, and men tended to disengage from service use[24,80]. Men also appear to be less likely to progress from primary (i.e., GP) through to secondary (i.e., outpatient mental health treatments), and tertiary (i.e., psychiatric care) services. It is important to note, though, that a higher proportion of men (52.6%, 682 of 1291) than women (41.8%, 157 of 376) were in contact with primary care prior to death[24].

Emergency Department and crisis line contacts

Using administrative data and employing a case control methodology, a detailed exploration of the relationship between Emergency Department attendances, hospital admissions, and suicides over a three-year period reported that 32.5% of 1105 people who had died by suicide attended the Emergency Department in the 24 months prior to death,[17] Although marginally lower than the proportion found by Leavey and colleagues,[80] this was almost twice as high as the proportion of the control group (16.9% of 5525). The difference was most marked within three months of death, with 12.9% in the suicide group attending the Emergency Department compared to 3.3% in the control group. Hospital admissions were also higher in those who died by suicide in the 24 months before death (41.9%, 463 of 1105, and 14.3%, 791 of 5525) in the suicide and control groups, respectively)[17].

Employing a retrospective study design of suicides in Northern Ireland over two years, Mallon et al.[81] investigated the patterns of clinical presentation for attempted suicide prior to death. At least 44% had contact with a medical professional (GP or hospital) for at least one suicide attempt before death. The youngest and oldest age group (under 25 years, and 65+ years) were less likely to have a history of a suicide attempt compared to those in mid-life. Among those who attempted suicide previously, there was a shift from less lethal to more lethal methods when the immediately previous suicide attempt method was compared to the method of death. Men were also more likely to use more lethal methods on initial suicide attempts and switch to them earlier than women.

In 2008, Lifeline, a national crisis line service was launched in Northern Ireland and has since supported over 40,000 people. Despite their widespread implementation, the evidence for effectiveness of crisis lines remains limited[82]. In a novel study, Ramsey, Ennis, and O'Neill[83] investigated the characteristics of callers and call patterns in those who had died by suicide compared with a matched control group of callers who had not died by suicide. Increased check-in calls (whereby staff pro-actively contact callers as part of a care plan) and longer service use duration were associated with reduced likelihood of death by suicide. Consistent with other studies,[82] substance dependence was also strongly associated with suicide.

Key challenges and opportunities for suicide prevention in Northern Ireland

Based on this Review, we have identified key suicide prevention challenges and opportunities specific to Northern Ireland (panel). Across the UK, suicide prevention research is under-funded[81], and given the unique situation in NI, it is vital that suicide prevention research is prioritised. It is crucial that suicide prevention actions in Northern Ireland are delivered across the lifespan; embracing the early years and the school context, championing resilience and emotional literacy[85,86]. In particular, the Troubles' legacy and the transgenerational transmission of trauma need further research to understand ongoing risk. Also, there is a dearth of research into the biological factors associated with suicidal behaviour in NI. This is an important gap, given the emerging evidence of the biological transgenerational transmission of trauma[87]. There are also huge gaps in knowledge with respect to minority groups, including Travellers and minority ethnic groups, and those in contact with the criminal justice system and drug and alcohol services.

It is vital that we identify the interventions that work best in the Northern Ireland context where inequality, the Troubles' legacy, the absence of a devolved government (since January 2017), and the proposed withdrawal from the European Union are prominent concerns. The extant worldwide evidence supports the delivery of suicide-specific psychosocial interventions which involve screening and collaborative monitoring of suicidal thoughts, in parallel with interventions that address the mental illness and life events associated with those thoughts[41]. These interventions should be delivered by a highly trained, trauma-informed, workforce within a system where patient safety and suicide prevention is a priority. These approaches have been shown to offer promise internationally and plans to adopt them within NI's statutory, and non-statutory, community and voluntary sectors as part of a Towards Zero Suicide initiative are in progress. Novel interventions to address suicide risk in so-called difficult-to-reach populations (such as Travellers) should also be tested for effectiveness, and implemented, where appropriate[88]. People with lived experience must be involved in the development of such interventions.

Given the role of alcohol and drugs in suicide risk, it is vital that we have a regional alcohol and drugs strategy and a strategy to ensure that young people are identified, and receive interventions at the earliest possible stage. There is also a dearth of research on suicidal behaviour in Northern Ireland criminal justice settings and little is known about the factors that are relevant for ex-prisoners and their families. Implementation of the updated regional suicide prevention strategy, Protect Life 2[89], must be adequately resourced. The availability of psychological therapies should be improved, particularly to children and young people, who have known vulnerability to mental illness and suicidal thoughts. It is important to continue to work with the media to ensure the appropriate reporting of suicide[90].

Conclusion

In conclusion, the evidence shows that the high suicide rates in NI are connected not only to the Troubles, but also the legacy of the violence, inclusing substance use and deprivation. A lifespan approach is necessary to target this issue; in particular, suicidal behaviour in young people needs to be addressed. Protect Life 2, the updated suicide prevention strategy, should be fully implemented; and interventions should be trauma-informed, in recognition of the effects of transgenerational impact of the conflict. Suicide-specific interventions and psychosocial interventions should be delivered alongside crisis intervention services and treatments for mental illness.

Competing interests statement

Author contributions

Panel 1. Key challenges and opportunities for suicide prevention in Northern Ireland

Understanding

- Examine the interactions between the social and community context and the risk factors for suicidal behaviour in young people in NI.
- Examine the associations between biological, psychological and social factors and suicidal behaviour particularly in relation to trauma exposure and transgenerational trauma.

- Evaluate impact of regionally variant social policies on suicidal behaviour in Northern Ireland (e.g. same sex marriage and abortion availability).
- Better describe suicide risk profiles in minority groups such as Travellers, LGB and transgender people, and in minority ethnic groups.
- Evaluate the extent of the impact of political and economic instability on suicidal behaviour, and identify best practice to mitigate the effects.
- Determine the impact of justice and legacy issues relating to the conflict on suicidal behaviour.
- Better understand characteristics of suicidal behaviour in prisons, in criminal justice settings and among ex-prisoner and their families.

Intervention

- Improve the accessibility of psychological therapies and fully implement the Northern Ireland psychological therapies' strategy.
- Enhance the response to self-harm in emergency departments through the assessment of suicidal thoughts and delivery of suicide specific interventions. Develop and test interventions that take account of transgenerational trauma and community divisions, and the role of alcohol in coping.
- Involve people with lived experience in the design and delivery of suicide interventions.

Prevention

- Tailor, deliver and evaluate innovative psychosocial suicide prevention interventions, particularly for young people.and those who struggle with drugs and alcohol.
- Implement a data-driven programme of quality improvements in mental health services to ensure that the practices and processes that are known to reduce suicide risk are implemented.
- Provide suicide risk assessments and deliver suicide prevention services in primary care.
- Deliver suicide prevention interventions in criminal justice settings.
- Provide targeted suicide prevention support at a community level in the areas most affected by the Troubles.
- Involve people with lived experience in the design and delivery of suicide prevention services.
- Allocate sufficient funding to, and implement Protect Life 2, the Northern Ireland suicide prevention strategy in full.
- Adopt trauma- and adversities- informed interventions to address risk in young people in communities, schools, colleges and early years settings.
- Provide parenting and resilience interventions to vulnerable families.
- Develop and publish a strategy to support mental health in young people in schools.
- Increase availability of community training to promote suicide safer communities and workplaces.
- Continue to work with the regional media to ensure the safe reporting of suicides.

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[i] Numerator not given as data were weighted for representativeness.