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Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester May 2013 – October 2013; it is the tenth of a series produced biannually by our Institute with the aim of assisting the Commonwealth Department of Health in being constantly updated on new evidences from the scientific community. Compared to previous volumes, an increased number of examined materials have to be referred. In fact, during the current semester, the number of articles scrutinised has been the highest yet, with a progression that testifies a remarkably growing interest from scholars for the field of suicide research (718 articles for the first, 757 for the second, 892 for the third, 1,121 for the fourth, 1,276 for the fifth, 1,472 for the sixth, 1,515 for the seventh, 1,743 for the eighth, 1,751 for the ninth and 1,760 in the present volume).

As usual, the initial section of the volume collects a number of publications that could have particular relevance for the Australian people in terms of potential applicability. These publications are accompanied by a short comment from us, and an explanation of the motives that justify why we have considered of interest the implementation of studies’ findings in the Australian context. An introductory part provides the rationale and the methodology followed in the identification of papers.

The central part of the volume represents a selection of research articles of particular significance; their abstracts are reported in extenso, underlining our invitation at reading those papers in full text: they represent a remarkable advancement of suicide research knowledge.

The last section reports all items retrievable from major electronic databases. We have catalogued them on the basis of their prevailing reference to fatal and non-fatal suicidal behaviours, with various sub-headings (e.g. epidemiology, risk factors, etc). The deriving list guarantees a level of completeness superior to any individual system; it can constitute a useful tool for all those interested in a quick update of what is most recently published on the topic.

Our intent was to make suicide research more approachable to non-specialists, and in the meantime provide an opportunity for a vademecum of quotations credible also at the professional level. A compilation such as the one that we provide here is not easily obtainable from usual sources and can save a considerable amount of time to readers. We believe that our effort in this direction may be an appropriate interpretation of one of the technical support roles to the Government that the new status of National Centre of Excellence in Suicide Prevention — which has deeply honoured our commitment — entails for us.

The significant growth of our centre, the Australian Institute for Suicide Research and Prevention, and its influential function, both nationally and internationally, in the fight against suicide, could not happen without the constant support of Queensland Health and Griffith University. We hope that our passionate dedication to the cause of suicide prevention may compensate their continuing trust in our work.

Diego De Leo, DSc

Director, Australian Institute for Suicide Research and Prevention
Acknowledgments

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Introduction

Context
Suicide places a substantial burden on individuals, communities and society in terms of emotional, economic and health care costs. In Australia, about 2000 people die from suicide every year, a death rate well in excess of transport-related mortality. At the time of preparing this volume, the latest available statistics released by the Australian Bureau of Statistics\(^1\) indicated that, in 2011, 2,273 deaths by suicide were registered in Australia, representing an age-standardized rate of 9.9 per 100,000.

Further, a study on mortality in Australia for the years 1997–2001 found that suicide was the leading cause of avoidable mortality in the 25–44 year age group, for both males (29.5%) and females (16.7%), while in the age group 15–24 suicide accounted for almost a third of deaths due to avoidable mortality\(^2\). In 2003, self-inflicted injuries were responsible for 27% of the total injury burden in Australia, leading to an estimated 49,379 years of life lost (YLL) due to premature mortality, with the greatest burdens observed in men aged 25–64\(^3\).

Despite the estimated mortality, the prevalence of suicide and self-harming behaviour in particular remains difficult to gauge due to the often secretive nature of these acts. Indeed, ABS has acknowledged the difficulties in obtaining reliable data for suicides in the past few years\(^4\)\(^-\)\(^5\). Without a clear understanding of the scope of suicidal behaviours and the range of interventions available, the opportunity to implement effective initiatives is reduced. Further, it is important that suicide prevention policies are developed on the foundation of evidence-based empirical research, especially as the quality and validity of the available information may be misleading or inaccurate. Additionally, the social and economic impact of suicide underlines the importance of appropriate research-based prevention strategies, addressing not only significant direct costs on health system and lost productivity, but also the emotional suffering for families and communities.

The Australian Institute for Suicide Research and Prevention (AISRAP) has, through the years, gained an international reputation as one of the leading research institutions in the field of suicide prevention. The most important recognition came via the designation as a World Health Organization (WHO) Collaborating Centre in 2005. In 2008, the Commonwealth Department of Health appointed AISRAP as the National Centre of Excellence in Suicide Prevention. This latter recognition awards not only many years of high-quality research, but also of fruitful cooperation between the Institute and several different governmental agencies. The new role given to AISRAP will translate into an even deeper commitment to the cause of suicide prevention amongst community members of Australia.
As part of this initiative, AISRAP is committed to the creation of a databank of the recent scientific literature documenting the nature and extent of suicidal and self-harming behaviour and recommended practices in preventing and responding to these behaviours. The key output for the project is a critical bi-annual review of the national and international literature outlining recent advances and promising developments in research in suicide prevention, particularly where this can help to inform national activities. This task is not aimed at providing a critique of new researches, but rather at drawing attention to investigations that may have particular relevance to the Australian context. In doing so, we are committed to a user-friendly language, in order to render research outcomes and their interpretation accessible also to a non-expert audience.

In summary, these reviews serve three primary purposes:

1. To inform future State and Commonwealth suicide prevention policies;
2. To assist in the improvement of existing initiatives, and the development of new and innovative Australian projects for the prevention of suicidal and self-harming behaviours within the context of the Living is for Everyone (LIFE) Framework (2008);
3. To provide directions for Australian research priorities in suicidology.

The review is presented in three sections. The first contains a selection of the best articles published in the last six months internationally. For each article identified by us (see the method of choosing articles described below), the original abstract is accompanied by a brief comment explaining why we thought the study was providing an important contribution to research and why we considered its possible applicability to Australia. The second section presents the abstracts of the most relevant literature — following our criteria - collected between May 2013 and October 2013; while the final section presents a list of citations of all literature published over this time-period.

**Methodology**

The literature search was conducted in four phases.

**Phase 1**

Phase 1 consisted of weekly searches of the academic literature performed from May 2013 to October 2013. To ensure thorough coverage of the available published research, the literature was sourced using several scientific electronic databases including: Pubmed, Proquest, Scopus, Safetylit and Web of Knowledge, using the following key words: suicide OR suicidal OR self-harm OR self-injury OR parasuicide.

Results from the weekly searches were downloaded and combined into one database (deleting duplicates).

Specific inclusion criteria for Phase 1 included:

- **Timeliness:** the article was published (either electronically or in hard-copy) between May 2013 and October 2013.
- **Relevance:** the article explicitly referred to fatal and/or non-fatal suicidal behaviour and related issues and/or interventions directly targeted at preventing/treating these behaviours.
• The article was written in English.

Articles about euthanasia, assisted suicide, suicide terrorist attacks, and/or book reviews, abstracts and conference presentations were excluded.

Also, articles that have been published in electronic versions (ahead of print) and therefore included in the previous volume (Volumes 1 to 9 of Suicide Research: Selected Readings) were excluded to avoid duplication.

**Phase 2**

Following an initial reading of the abstracts (retrieved in Phase 1), the list of articles was refined down to the most relevant literature. In Phase 2 articles were only included if they were published in an international, peer-reviewed journal.

In Phase 2, articles were excluded when they:

• were not particularly instructive or original
• were of a descriptive nature (e.g. a case-report)
• consisted of historical/philosophical content
• were a description of surgical reconstruction/treatment of self-inflicted injuries
• concerned biological and/or genetic interpretations of suicidal behaviour, the results of which could not be easily adoptable in the context of the LIFE Framework.

In order to minimise the potential for biased evaluations, two researchers working independently read through the full text of all articles selected to create a list of most relevant papers. This process was then duplicated by a third researcher for any articles on which consensus could not be reached.

The strength and quality of the research evidence was evaluated, based on the Critical Appraisal Skills Programme (CASP) Appraisal Tools published by the Public Health Resource Unit, England (2006). These tools, publically available online, consist of checklists for critically appraising systematic reviews, randomized controlled trials (RCT), qualitative research, economic evaluation studies, cohort studies, diagnostic test studies and case control studies.

**Phase 3**

One of the aims of this review was to identify research that is both evidence-based and of potential relevance to the Australian context. Thus, the final stage of applied methodology focused on research conducted in countries with populations or health systems sufficiently comparable to Australia. Only articles in which the full-text was available were considered.

It is important to note that failure of an article to be selected for inclusion in Phase 3 does not entail any negative judgment on its ‘objective’ quality.

Specific inclusion criteria for Phase 3 included:

• applicability to Australia
• the paper met all criteria for scientificity (i.e., the methodology was considered sound)
• the paper represented a particularly compelling addition to the literature, which would be likely to stimulate suicide prevention initiatives and research
- inevitably, an important aspect was the importance of the journal in which the paper was published (because of the high standards that have to be met in order to obtain publication in that specific journal); priority was given to papers published in high impact factor journals
- particular attention has been paid to widen the literature horizon to include sociological and anthropological research that may have particular relevance to the Australian context.

After a thorough reading of these articles (‘Key articles’ for the considered timeframe), a written comment was produced for each article detailing:
- methodological strengths and weaknesses (e.g., sample size, validity of measurement instruments, appropriateness of analysis performed)
- practical implications of the research results to the Australian context
- suggestions for integrating research findings within the domains of the LIFE framework suicide prevention activities.
 Phase 4

In the final phase of the search procedure all articles were divided into the following classifications:

- *Fatal suicidal behaviour* (epidemiology, risk and protective factors, prevention, postvention and bereavement)
- *Non-fatal suicidal/self-harming behaviours* (epidemiology, risk and protective factors, prevention, care and support)
- *Case reports* include reports of fatal and non-fatal suicidal behaviours
- *Miscellaneous* includes all research articles that could not be classified into any other category.

Allocation to these categories was not always straightforward, and where papers spanned more than one area, consensus of the research team determined which domain the article would be placed in. Within each section of the report (i.e., Key articles, Recommended readings, Citation list) articles are presented in alphabetical order by author.

Endnotes

Key Articles
Purpose: This paper reports the first prospective study of risk factors for continuation of nonsuicidal self-injury (NSSI) during adolescence.

Methods: We examined whether NSSI became more severe among those continuing to self-injure 1 year later, as well as characteristics and predictors of continuation, relative to cessation, drawn from a sample of 1,973 community-based adolescents from five states in Australia. Multiple sociodemographic and psychosocial factors were assessed in a series of sequential logistic regressions.

Results: Of those reporting NSSI at follow-up (12% total sample), 4.1% (95% CI: 3.3%-5.0%; n = 80) continued from baseline and an additional 4.1% had stopped this behavior by follow-up (95% CI: 3.3%-5.1%, n = 81; 3.8% new cases). Frequency, potential lethality and number of methods of NSSI increased among adolescents continuing to self-injure. These individuals also had overall higher frequency and more serious wounds compared with those who had stopped self-injuring, possibly providing parameters to differentiate these groups. Continuation of NSSI was associated with higher frequency (OR = 1.06; 95% CI: 1.06-1.13, p = .08), lower cognitive reappraisal (OR = .86; 95% CI: .78-.95, p = .004) and higher emotional suppression (OR = 1.10; 95% CI: .98-1.22, p = .09) relative to cessation at T1.

Conclusions: These findings may assist to better identify young people more likely to continue self-injuring and also highlight potentially modifiable factors to inform early intervention initiatives.

Comment

Main findings: Nonsuicidal self-injury (NSSI) has been associated with suicidal behaviour and psychosocial dysfunction1. Understanding the role of emotion regulation, social support and self-esteem in the continuation of NSSI may provide useful clinical information2. The authors explored sociodemographic and psychosocial factors that may be associated with continued NSSI relative to cessation of NSSI, as well as characteristics of NSSI behaviour such as severity and frequency. Adolescents from 41 schools across Australia participated in the study. At baseline (time 1) 2,640 students completed relevant measures (NSSI, sociodemographic factors, psychological distress, emotion regulation, coping, social support, and self-esteem) with 1,973 students returning for follow-up (time 2). Participants were categorised based on their responses to the NSSI measure. The two groups consisted of those reporting NSSI at baseline and follow-up (continuation) and those with a previous history of NSSI who had not self-injured for at least 12 months by follow-up (cessation). Those who had never engaged in NSSI were excluded from analyses (n = 1,686).
At baseline, the severity indicators of frequency and lethality were more prominent among participants within the continuation group. Frequency, lethality, and number of methods increased significantly over the 12-month period among adolescents who continued to self-injure. Those continuing to self-injure also engaged in more NSSI acts and were more likely to require first aid treatment. The main form of NSSI in the continuation group was cutting (78%), followed by self-battery (13.3%), burning (8.4%), and scratching (7.2%). A similar pattern of method-use was observed in the cessation group, except for the method of burning (1.2%). There was no observed relationship between sociodemographic variables and NSSI continuation, relative to cessation. However, low cognitive reappraisal (i.e., changing the way situations are assessed) and greater emotional suppression (i.e. poor emotion regulation) were related to the maintenance of NSSI behaviour.

**Implications:** Emotion regulation may be an important influence on NSSI behaviour. Individuals with a greater capacity to regulate their emotions may be less likely to continue engaging in NSSI. However, in the absence of such protective factors, individuals may be more likely to continue with NSSI behaviours, with potential increases in frequency and severity. Interventions for adolescents with NSSI may benefit from a focus on enhancing emotion regulation capacity, as well as providing adolescents with cognitive strategies that enable them to more effectively respond to stressful situations.

**Endnotes**


Factors that influence choice of methods of suicide include availability of the material or device that is being used. Certain drivers utilise motor vehicles to deliberately self-harm, although ascertaining what percentage of these deaths were intentional is difficult. The files of Forensic Science South Australia in Adelaide, Australia were examined over a 5-year period from January 2005 to December 2009 for cases of fatal single occupant, single motor vehicle collisions involving impacts with trees, and for comparison, all cases of suicide. Tree impacts were selected as these represented the largest group of clearly defined single motor vehicle and solid object impacts. A total of 73 cases were identified, with those aged 17–24 years accounting for the highest proportion of deaths, compared with suicide victims who were predominately aged 25–39 years. Suicides showed little seasonal variation in incidence whereas more fatal collisions occurred in winter. A significant number of the drivers had ingested alcohol. The lack of a seasonal similarity in the occurrence of fatal collisions and suicides, and differences in the most common ages would be supportive of these groups being aetiologically different. Other factors in favour of these crashes not being intentional include intoxication and winter conditions.

Comment

Main findings: The current study aimed to determine the demographic profile of suicide cases that occurred by single motor vehicle collision with a fixed object, and compare that to the demographic profile of all suicide cases occurring in South Australia, for the period January 2005 to December 2009. Data were gathered via a manual and electronic search within the Forensic Science South Australia pathology and medico-legal autopsy record databases of all suicide cases and those cases of fatal single occupant, single motor vehicle collisions involving impacts with trees. All cases identified as suicide included police and coronial investigation data, as well as clinical, social and family histories; and for 99% of vehicle suicides toxicology data were available. Out of 955 suicide cases examined over the study period, 73 were identified as due to single vehicle collisions with fixed objects. Analyses revealed that vehicle suicide cases were more likely to be younger (17-24 vs. 25-39) and male (4.2:1 vs. 3.4:1) compared to all suicide cases. Toxicology data revealed that around half of the vehicle suicide cases (36 cases) had an alcohol reading over the legal limit, and approximately a quarter (20 cases) had tested positive for cannabinoids. A higher proportion of vehicle suicides occurred during the winter (Jun-Aug) period in comparison to total suicides which were not affected by seasonality. The findings suggested that vehicle suicide cases had a different demographic profile to suicide cases in general.

Implications: Relatively little is known about the characteristics of fatal driver suicides in Australia, often due to difficulty in determining suicidal intent and
thereby confirming cases as suicide. The current study provides important demo-
graphic information regarding motor vehicle suicides and reveals the differing age, sex, and toxicology profile of these cases compared to the general population profile of suicide cases in South Australia. The finding that risk factors such as male gender and prior alcohol consumption characterise a high number of single motor vehicle collision suicide cases is consistent with previous Australian find-
ings in the state of Queensland\(^1\), suggesting some consistency among the profile of motor vehicle suicides between the two states. However, it is also recognised that there is considerable variation both nationally and internationally in the per-
centage of cases of driver fatalities coded as suicide. For example, international studies and literature reviews\(^2,3\) have reported rates of suicide by motor vehicle col-
losion between 1%-7%, as a proportion of total driver fatalities. Future research could examine the coding criteria for single motor vehicle collision suicide cases between Australian states, to work towards the possibility of generating statistical data which could allow interstate comparisons between single motor vehicle col-
losion suicide rates.

**Endnotes**

Repetitive traumatic brain injury, psychological symptoms, and suicide risk in a clinical sample of deployed military personnel

Bryan CJ, Clemans TA (USA)
JAMA Psychiatry 70, 686-691, 2013

Importance: Traumatic brain injury (TBI) is believed to be one factor contributing to rising suicide rates among military personnel and veterans. This study investigated the association of cumulative TBIs with suicide risk in a clinical sample of deployed military personnel referred for a TBI evaluation.

Objective: To determine whether suicide risk is more frequent and heightened among military personnel with multiple lifetime TBIs than among those with no TBIs or a single TBI.

Design: Patients completed standardized self-report measures of depression, post-traumatic stress disorder (PTSD), and suicidal thoughts and behaviors; clinical interview; and physical examination. Group comparisons of symptom scores according to number of lifetime TBIs were made, and generalized regression analyses were used to determine the association of cumulative TBIs with suicide risk.

Participants: Patients included 161 military personnel referred for evaluation and treatment of suspected head injury at a military hospital's TBI clinic in Iraq.

Main Outcomes and Measures: Behavioral Health Measure depression subscale, PTSD Checklist-Military Version, concussion symptoms, and Suicide Behaviors Questionnaire-Revised.

Results: Depression, PTSD, and TBI symptom severity significantly increased with the number of TBIs. An increased incidence of lifetime suicidal thoughts or behaviors was associated with the number of TBIs (no TBIs, 0%; single TBI, 6.9%; and multiple TBIs, 21.7%; P = .009), as was suicidal ideation within the past year (0%, 3.4%, and 12.0%, respectively; P = .04). The number of TBIs was associated with greater suicide risk (β [SE] = .214 [.098]; P = .03) when the effects of depression, PTSD, and TBI symptom severity were controlled for. A significant interaction between depression and cumulative TBIs was also found (β = .580 [.283]; P = .04).

Conclusions and Relevance: Suicide risk is higher among military personnel with more lifetime TBIs, even after controlling for clinical symptom severity. Results suggest that multiple TBIs, which are common among military personnel, may contribute to increased risk for suicide.

Comment

Main findings: Active duty military personnel may experience a number of known risk factors for suicide including post traumatic stress disorder (PTSD), depression and substance abuse. In addition, the nature of their occupation exposes individuals to an increased risk of suffering a traumatic brain injury (TBI); another suicide risk factor. This U.S. study sought to evaluate the effect of multiple TBI’s on suicide risk in deployed military personnel, hypothesising that suicide risk would increase when more than one TBI was suffered. Furthermore, individuals...
with a greater number of TBI’s were expected to show more severe psychiatric and concussive symptoms than those with a single TBI or with no TBI. A total of 157 military personnel and 4 civilian contractors participated in the study, resulting in a total of 161 participants. All participants had been referred to an Iraqi outpatient TBI clinic for evaluation and treatment during a 6-month period in 2009. After evaluation, individuals suffering from moderate to severe TBI were evacuated from Iraq, while those with mild, or no TBI after the most recent injury completed further assessments and were separated into three groups, those with no TBI, one TBI, or multiple past TBI’s. Participants were then assessed for suicide risk as well as depression, PTSD and concussive symptoms. The group with a history of multiple TBI’s showed significantly more symptoms of depression and PTSD and more concussive symptoms. Overall, 11.2% of participants had experienced past suicidal ideation, the risk of which was significantly increased with the number of TBI’s (no past ideation in patients without any TBI’s compared to ideation in over one-fifth (21.7%) of patients with multiple TBI’s). Further analysis suggested that multiple TBI’s increased suicide risk independent of psychological illness and that multiple TBI’s were also associated with increased severity of depressive symptoms.

Implications: Although previous research has demonstrated an increased risk of suicide in veterans with a diagnosis of TBI, this was the first study to demonstrate this effect among active duty military personnel. Furthermore, few past studies have evaluated the cumulative effect of TBI’s on risk of suicide, while also taking into account depression, PTSD and other psychological factors. The paper suggests that including an assessment of the number of TBI’s endured may play an important role in assessing the risk of suicide and depression.

The Australian Government has approved the deployment of approximately 3,300 defence force personnel to overseas operations. Understanding the factors which may increase suicide risk in these personnel is an essential part of suicide prevention. Currently, the Australian Defence Force (ADF) Suicide Prevention Program, a component of the larger ADF Mental Health Strategy, offers important suicide prevention training to ADF members. These, and similar suicide prevention efforts may benefit from ongoing research in this area.

Endnotes
Impact of 2008 global economic crisis on suicide: Time trend study in 54 countries

Chang SS, Stuckler D, Yip P, Gunnell D (China, UK, Taiwan)
British Medical Journal 347, f5239, 2013

Objective: To investigate the impact of the 2008 global economic crisis on international trends in suicide and to identify sex/age groups and countries most affected.

Design: Time trend analysis comparing the actual number of suicides in 2009 with the number that would be expected based on trends before the crisis (2000-07).

Setting: Suicide data from 54 countries; for 53 data were available in the World Health Organization mortality database and for one (the United States) data came the CDC online database.

Population: People aged 15 or above.

Main Outcome Measures: Suicide rate and number of excess suicides in 2009.

Results: There were an estimated 4884 (95% confidence interval 3907 to 5860) excess suicides in 2009 compared with the number expected based on previous trends (2000-07). The increases in suicide mainly occurred in men in the 27 European and 18 American countries; the suicide rates were 4.2% (3.4% to 5.1%) and 6.4% (5.4% to 7.5%) higher, respectively, in 2009 than expected if earlier trends had continued. For women, there was no change in European countries and the increase in the Americas was smaller than in men (2.3%). Rises in European men were highest in those aged 15-24 (11.7%), while in American countries men aged 45-64 showed the largest increase (5.2%). Rises in national suicide rates in men seemed to be associated with the magnitude of increases in unemployment, particularly in countries with low levels of unemployment before the crisis (Spearman’s rs = 0.48).

Conclusions: After the 2008 economic crisis, rates of suicide increased in the European and American countries studied, particularly in men and in countries with higher levels of job loss.

Comment

Main findings: Research has shown links between previous economic downturns, increased unemployment rates and an increased incidence of completed suicide. In light of these findings, there is reason to believe that the recent 2008 global economic crisis may have resulted in similar increases worldwide. To investigate the effect of the global financial crisis, the current paper used data from 27 European countries, 18 American countries, eight Asian countries and one African country to analyse changes in unemployment and suicide rates between 2000 and 2010. Overall, across the 54 countries, there was a 37% increase in unemployment during 2009, coupled with 3% falls in Gross Domestic Product (GDP) per capita. Alongside increased unemployment, suicide rates in men increased 3.3% in 2009,
with 5,124 more suicides than would be expected on the basis of past trends. Overall suicide rates in women did not show any similar increase. The largest increase in men (5.8%) was in those aged 15-24, while the 65 and over age group showed no significant increase. When broken down by region, the largest increases in suicide rates were seen in European men aged 15-24, while the greatest increase in American men was in the 45-64 age group. Unlike Europe, which saw no change in female suicide rates, the American countries showed a slight increase in rates for women. Suicide rates increased as the level of unemployment increased in various countries, especially in countries where the pre-crisis unemployment levels were low. As noted by the authors, the results of the current study may be an underestimation of the global impact, due to particular countries including Australia being omitted from the study.

**Implications:** The paper by Chang and colleagues supports previous findings of increased suicide risk during periods of economic downturn\(^1\). While the impact of the 2008 crisis has been demonstrated in previous studies analysing one country, or a small number of countries\(^2\); the current study is the first to systematically investigate the effect of economic downturn on suicide in a large number of countries in different parts of the world.

Although not included in the current analysis, Australia was not exempt from the negative impacts of the 2008 Global Financial Crisis. For example, a South Australian study indicated a significant increase in anxiety for some workers between 2008 and 2009, compared to 2005 and 2007\(^3\). However, it is evident that further research is needed to give a more extensive indication of the effects of the crisis in Australia. Despite this knowledge gap, the current study - which also suggests that increasing re-employment opportunities may play a notable role in reducing both the mental health effects associated with economic downturn and the likelihood of an increase in suicides following such events - may also be relevant in the Australian context.

**Endnotes**


Cost effectiveness of a community-based crisis intervention program for people bereaved by suicide.

Comans T, Visser V, Scuffham P (Australia)

Crisis. Published online: 13 August 2013. doi: 10.1027/0227-5910/a000210

Background: Postvention services aim to ameliorate distress and reduce future incidences of suicide. The StandBy Response Service is one such service operating in Australia for those bereaved through suicide. Few previous studies have reported estimates or evaluations of the economic impact and outcomes associated with the implementation of bereavement/grief interventions.

Aims: To estimate the cost-effectiveness of a postvention service from a societal perspective.

Method: A Markov model was constructed to estimate the health outcomes, quality-adjusted life years, and associated costs such as medical costs and time off work. Data were obtained from a prospective cross-sectional study comparing previous clients of the StandBy service with a control group of people bereaved by suicide who had not had contact with StandBy. Costs and outcomes were measured at 1 year after suicide bereavement and an incremental cost-effectiveness ratio was calculated.

Results: The base case found that the StandBy service dominated usual care with a cost saving from providing the StandBy service of AUS $803 and an increase in quality-adjusted life years of 0.02. Probabilistic sensitivity analysis indicates there is an 81% chance the service would be cost-effective given a range of possible scenarios.

Conclusion: Postvention services are a cost-effective strategy and may even be cost-saving if all costs to society from suicide are taken into account.

Comment

Main findings: The loss of a loved one may result in serious negative outcomes on both the physical and mental health of bereaved persons1, potentially leading to increased mortality2. The impact is not limited to the individual level, with significant costs of bereavement also falling on employers, healthcare systems and governments. The current paper evaluated the economic impact and effectiveness of the Australian StandBy Response Service which offers 24-hour crisis support, specifically to individuals bereaved by suicide. Participants included both current and previous StandBy clients, as well as matched controls from the Australian population, who had experienced suicide bereavement but had not accessed StandBy’s services. All participants were aged 18 years or older, and the majority were close relatives of someone who had died by suicide, although participants also included distant relatives, friends and work colleagues. The study evaluated the cost of the intervention, work performance indicators, and health-care costs as well as Quality-Adjusted Life Years (QALYs) to compare the cost of the service with the estimated benefits. Results of the study suggest that programs such as
StandBy may be a cost effective way of providing support for people bereaved by suicide, with the overall cost related to the StandBy participant group estimated at $13,255 per person relative to $14,058 for the control group receiving usual care. The QALYs gained for the participant group were 0.79, compared to 0.77 for the control group.

Implications: Research has suggested that the bereavement process following suicide may differ from the process following other causes of death and that some negative outcomes may be more severe in individuals experiencing a loss through a sudden and violent death (i.e. accidental death, suicide, homicide) than by natural causes (i.e. heart attack). Postvention services which directly target those impacted by suicide are imperative, and offer the chance to reduce the burden of grief in these individuals.

Despite the importance of support from such services, few studies have considered the economic impact and outcomes associated with their use. This paper provides initial evidence that certain types of postvention services may be more cost effective than ‘standard’ care, and may have economic benefits to society as a whole. However, given the comparatively small number of participants in the postvention service group, and degree of variability in the ranges of estimated costs and benefits used in the study’s modelling, it is important that further work on the estimated costs and benefits of postvention services be conducted, to extend the current results.

Endnotes
Contacts with health professionals before suicide: Missed opportunities for prevention?

De Leo D, Draper BM, Snowdon J, Kõlves K (Australia)

Comprehensive Psychiatry. Published online: 12 June 2013. doi:10.1016/j.comppsych.2013.05.007, 2013

Aim: This study aims to examine contacts with different health professionals in the three months prior to death in suicide cases compared to sudden death controls; and, to analyse contacts with health professionals among people who died by suicide having a diagnosable mental health disorder at the time of suicide compared to those who did not have such a diagnosis within four major groups of conditions.

Methods: The psychological autopsy method was utilised to investigate suicides of individuals over the age of 35 years. A case-control study design was applied using sudden death cases as controls. Odds ratios with a 95% confidence interval were calculated.

Results: In total, 261 suicides and 182 sudden deaths were involved. In terms of contacts during the last three months prior to death, 76.9% of suicides and 81.9% of sudden deaths visited a general practitioner (GP). Persons who died by suicide had significantly more frequently contacts with mental health professionals than sudden death controls did. People with a diagnosable mental health disorder at the time of suicide attended GP surgeries with approximately the same frequency of people without a diagnosis at GP level.

Conclusion: Similarly, approximately 90% of people who die by suicide and by sudden death seek for help from health care system, mainly from GPs in three months prior to their death. With reference to health care contacts, people who had or did not have a diagnosable psychiatric disorder are not distinguishable at the GP surgery level.

Comment

Main findings: An emphasis on the role of health professionals, particularly in the recognition of psychological conditions, has already emerged as an integral component in the prevention of suicide. In an effort to further understand the operation of this relationship, the authors employed a case-control design to assess differences in the frequency of contact that individuals had sought with various health professionals prior to their death (suicide versus sudden death). The contact period comprised health visits within the three months preceding the death of the individual. Obtained consent resulted in the inclusion of 261 suicide cases and 182 sudden death cases for analyses. Psychological Autopsy (PA) interviews were conducted with participating next-of-kin and healthcare professionals (between 2006 and 2008). This was done in order to assess the predictive factors for suicide among individuals aged 35 years and over. The presence of a psychiatric disorder(s) had been determined by psychiatric assessment using the Structured Clinical Interview for DSM-IV, Research Version (SCID). These assessments provided a distinction between no mental health diagnosis and existing mental health diagnosis within the four most frequent groups of conditions (Mood, Psy-
chotic, Substance Use, and Anxiety Disorders) in the current paper (please see more detailed analysis in De Leo et al, 2013). The data illustrates that 89.4% of people who died by suicide had at least one contact with a health professional in the preceding three months before their death; 76.9% of these cases had contact with a General Practitioner (GP). Individuals from both groups displayed a similar prevalence of assistance seeking to GPs. Cases due to sudden death contacted fewer mental health oriented sources as they had significantly less mental health problems (35.9% with a mental health diagnosis) compared to cases involving suicide (74.9% with a mental health diagnosis). Understandably, a greater proportion of individuals that died by suicide had contact with a psychiatrist compared to those cases involving sudden death (29.8% and 3.9% respectively). No differences were found for suicide cases (male and female) with and without a mental health diagnosis that had sought contact with a GP. This finding was the same for differences in age groups (35-59 years and 60+ years). Furthermore, a greater proportion of middle-aged suicide cases (35-59 years) with a diagnosed mood disorder had contact with a GP (within the three months preceding death) compared to the other major conditions considered.

**Implications:** Given the evident healthcare ‘assistance seeking’ among individuals on a path to suicide, a greater emphasis on the recognition of suicidal persons may ultimately avoid missed opportunities for prevention. More visits to mental health professionals (particularly psychiatrists) are observed for those cases involving suicide. This highlights mental health professionals as an indispensable opportunity to identify relevant caveats of suicidal ideation and behaviour. On a more primary level there is a need to provide more adequate training to GPs in the recognition and response to suicidal individuals. Many of these primary healthcare providers rate themselves as least competent on skills-based suicide prevention capabilities. This lack of attention toward suicide may result from insufficient training, restricted time availability, incomplete knowledge, and delegation to other healthcare providers. This promotes the importance of a multidisciplinary mindset to suicide prevention from those in contact with those at greater risk for suicide. The idea lends itself to the notion of improved risk assessment and treatment planning for patients presenting with possible suicidal intentions. Increasing attention to these issues, along with the provision of structured longitudinal follow-ups, may result in better patient engagement with treatment and ultimately a reduction in death by suicide.

**Endnotes**

Suicides in older adults: A case-control psychological autopsy study in Australia

De Leo D, Draper BM, Snowdon J, Kölves K (Australia)
Journal of Psychiatric Research. Published online: 21 March 2013. doi: 10.1016/j.jpsychires.2013.02.009,
2013

Aim: The present study aims to analyse predicting factors of suicide among older adults compared to sudden death controls and middle-aged suicides.

Methods: During the period 2006-2008, at two Australian sites, the psychological autopsy method was utilised to investigate suicides of individuals over the age of 35 by interviewing next-of-kin and healthcare professionals. A case-control study design was applied using sudden death cases as controls. Initial information was gathered from coroner’s offices. Potential informants were approached and interviews were conducted using a semi-structured format.

Results: In total, 261 suicides (73 aged 60+) and 182 sudden deaths (79 aged 60+) were involved. Older adult suicides showed a significantly lower prevalence of psychiatric diagnoses (62%) when compared to middle-aged suicide cases (80%). In both age groups, subjects who died by suicide were significantly more likely to present a psychiatric diagnosis, compared to controls; however, diagnosis did not remain in the final prediction model for older adults. Hopelessness and past suicide attempts remained in the final model for both age groups. In addition, living alone was an important predictor of suicide in older adults.

Conclusion: Although mood disorders represent an important target for suicide prevention in old age, there should be increased attention for other risk factors including psychosocial, environmental, and general health aspects of late life.

Comment

Main Findings: Suicides occur more often among the elderly, with suicide rates suggested to increase with age in many countries. The multifactorial and interrelated nature of the causes of suicide has prompted the authors to investigate the contribution of different psychosocial and psychiatric factors among older adult suicides. Suicides among older adults (60+ years of age) were compared with middle-aged (35-59 years of age) suicides and sudden death controls. Psychological Autopsy (PA) interviews had been conducted with participating next-of-kin between 2006 and 2008, resulting in the inclusion of 261 suicide cases (73 older adults) and 182 sudden death cases (79 older adults). Measures of personality, physical health status, physical self-maintenance and functioning, social support and interaction, and psychiatric diagnosis allowed for a thorough assessment of the various factors surrounding the events of each death.

Older adults that had died by suicide were more likely, than any other group, to have been living alone. A greater proportion of older adults that had suicided were also born overseas (34.2%) in comparison to middle-aged suicides (20.7%), and
were more frequently from a non-English speaking background. Psychiatric conditions were most frequently diagnosed among suicide cases and occurred significantly less in older adult suicides than in middle-aged suicides (61.6% versus 80.1%). Indications of suicidality (e.g. interest in suicide topic in media, and made statements of hopelessness) were also more frequent in suicides compared to sudden death cases. Specifically, older adults that had chosen to suicide, compared to the other groups, were more likely to have shown an interest in euthanasia and had held membership with a euthanasia group. Among cases involving suicide, this older age group was also seen to have visited a general practitioner (GP) more frequently in the 3 months leading up to their deaths and were found to be more conscientious than their middle-aged counterparts and more neurotic than their same-aged sudden death controls. Older aged suicide cases also received less emotional support from their family and friends compared to their sudden deaths controls.

Implications: Suicidality is a multifaceted and interrelated phenomenon that requires a holistic approach in its prevention. Although the psychological care of older adults is an important aspect of suicide prevention, the prevalence of a diagnosed psychiatric condition did not appear to increase with age. Older adults, in particular, require increased attention for other risk factors that encompass their psychosocial, environmental, and general health circumstances. Prevention strategies need to broaden in order to include the socio-environmental conditions that are relevant in later life. A greater awareness and understanding of these late-life conditions will allow for appropriate suicide-preventative measures for use by family members and carers. Further training of those specifically responsible for the care of older adults at risk of suicide (GPs, nursing home staff, hospital staff, family, and friends), may ultimately add greater opportunities to support these individuals and deter present and future suicidal behaviours.

Endnotes
The WHO START study: Suicidal behaviors across different areas of the world

Crisis 34, 156-163, 2013

**Background:** The World Health Organization (WHO) study entitled Suicide Trends in At-Risk Territories (START) is an international multisite initiative that aims to stimulate suicide research and prevention across different areas of the globe. A central component of the study is the development of registration systems for fatal and nonfatal suicidal behaviors.

**Aims:** This paper provides an overview of the data collected on suicidal behaviors from the participating locations in the START study.

**Method:** Descriptive statistics on the data are presented in terms of age, sex, and method.

**Results:** A greater proportion of suicide deaths occurred among males. In all areas except the Philippines more females than males engaged in nonfatal suicidal behaviors. Compared to Australia, Italy, New Zealand, the Philippines, and Hong Kong SAR, in the Pacific Islands suicide most often occurs in younger age groups. Results indicate notable variations between countries in choice of method. A greater proportion of suicides occurred by hanging in Pacific Islands, while inhalation of carbon monoxide, use of firearms, ingestion of chemicals and poisons, and drug overdose were the most frequent methods of choice in other areas.

**Conclusion:** The information drawn from this study demonstrates the enormous variation in suicidal behavior across the areas involved in the START Study. Further research is needed to assess the reliability of the established data-recording systems for suicidal behaviors. The baseline data established in START may allow the development of suicide prevention initiatives sensitive to variation in the profile of suicide across different locations.

**Comments**

**Main findings:** A key goal in the monitoring, awareness and prevention of fatal and non-fatal suicide behaviours is the establishment of national suicide registration systems. In acknowledging the difficulty of establishing baseline suicide data in low- and middle- income (LAMI) countries, the Suicide Trends in At-Risk Territories (START) study aims to promote the development of these systems and provide a common framework for analysing suicide trends (fatal and non-fatal) internationally. The first component of the study involves comparing descriptive data on age, sex and method (ICD-10) in Australia, New Zealand, Hong Kong, Italy, Philippines and a number of Pacific Island countries. Consistent with previously observed trends, comparisons revealed that males were more likely to engage in fatal suicide behaviours than females in the majority of countries. The
median age for fatal suicides was lower in Pacific Island countries (Tonga, Vanuatu, Guam) compared to countries such as Australia and New Zealand. Hanging (X70) was the most common method in all countries for fatal suicides, most notably in Tonga. Consistent with previous findings\(^1\), females were more likely than males to engage in non-fatal suicide behaviours (NFSB) in all countries except the Philippines. Psychotropic medicines (X61) and chemicals and poisons (X66-X69) were the major methods used for NFSB. Cutting was the second most common method for NFSB in Australia after psychotropic drugs.

**Implications:** The START study provides an important initial step for the development of baseline data in a number of countries with emergent or previously unestablished suicide registration data. This data is central for attempting to capture an accurate representation of suicide behaviour prevalence to allow for monitoring, increased awareness and preventative strategies\(^2\). A further aim of the study was to provide a common framework for comparing suicide behaviours internationally. This allows for better understanding the demographic and culturally specific attributes which are implicated in suicide behaviours, for example, method choice and availability\(^2\). This study is particularly relevant in the Australian context as it illuminates the high prevalence of fatal suicide by hanging (X70) and drug overdose (X60-64), despite the availability of other more lethal methods, such as firearms. An implication of this finding is that due to the difficulty of restricting access to common methods such as hanging, interventions that best address underlying psychological conditions are better placed to reduce suicide risk than interventions aim to restrict, for example, firearm availability\(^3\).

**Endnotes**

**Reward signals, attempted suicide, and impulsivity in late-life depression**

Dombrovski AY, Szanto K, Clark L, Reynolds CF, Siegle GJ (USA, UK)

*JAMA Psychiatry* 70, 1020-1030, 2013

**Importance:** Suicide can be viewed as an escape from unendurable punishment at the cost of any future rewards. Could faulty estimation of these outcomes predispose to suicidal behavior? In behavioral studies, many of those who have attempted suicide misestimate expected rewards on gambling and probabilistic learning tasks.

**Objectives:** To describe the neural circuit abnormalities that underlie disadvantageous choices in people at risk for suicide and to relate these abnormalities to impulsivity, which is one of the components of vulnerability to suicide.

**Design:** Case-control functional magnetic resonance imaging study of reward learning using a reinforcement learning model.

**Setting:** University hospital and outpatient clinic.

**Patients:** Fifty-three participants 60 years or older, including 15 depressed patients who had attempted suicide, 18 depressed patients who had never attempted suicide (depressed control subjects), and 20 psychiatrically healthy controls.

**Main Outcomes and Measures:** Components of the cortical blood oxygenation level-dependent response tracking expected and unpredicted rewards.

**Results:** Depressed elderly participants displayed 2 distinct disruptions of control over reward-guided behavior. First, impulsivity and a history of suicide attempts (particularly poorly planned ones) were associated with a weakened expected reward signal in the paralimbic cortex, which in turn predicted the behavioral insensitivity to contingency change. Second, depression was associated with disrupted corticostriatothalamic encoding of unpredicted rewards, which in turn predicted the behavioral oversensitivity to punishment. These results were robust to the effects of possible brain damage from suicide attempts, depressive severity, co-occurring substance use and anxiety disorders, antidepressant and anticholinergic exposure, lifetime exposure to electroconvulsive therapy, vascular illness, and incipient dementia.

**Conclusions and Relevance:** Altered paralimbic reward signals and impulsivity and/or carelessness may facilitate unplanned suicidal acts. This pattern, also seen in gambling and cocaine use, may reflect a primary deficit in the paralimbic cortex or in its mesolimbic input. The overreactivity to punishment in depression may be caused in part by a disruption of appetitive learning in the corticostriatothalamic circuits.
Comment

**Main Findings:** Suicidal behaviour may be associated with a propensity to make short-sighted choices\(^1\). Disruptions of neurological structures and pathways may ultimately impair the decision-making process linked to suicidal behaviours, with alterations of instrumental learning (reward/punishment) capabilities suggesting to skew perceptions of future outcomes (e.g. seeing suicide as unrealistically attractive relative to other options). The authors investigated disruptions in brain signals involved in reward prediction in older depressed suicide attempters, and whether impulsivity had an effect on these signals. Fifty-three participants aged 60 years and older (33 with depression – 15 suicide attempters and 18 with no history of suicidality, and 20 psychiatrically healthy controls) undertook measures of neural reward signals (under fMRI) and impulsivity.

The depressed/suicide attempters group of elderly persons showed neurological deficits in tracking reinforcing stimuli accurately. Depression was associated with neurological disruptions related to the processing involved in receiving an unanticipated reward. This disruption predicted a behavioural oversensitivity to receiving negative feedback (punishment). Weak neural response to an anticipated reward related to non-planning impulsivity, with poor attempt planning related to suicide attempters. This pathway was less reliable compared to the other groups in the study.

**Implications:** Deficits in neurological functioning among elderly depressed individuals may predispose those individuals to undertake impulsive suicidal behaviours. Depressed individuals may also experience punishments as uncontrollable and thus fail to operate on a level based on strategic choice and on previous reinforcement history. This suggests that these individuals are not able to update the value of an option that has no intrinsic reward. This type of functioning has also been associated with behaviours such as problem gambling\(^2\) and drug addiction\(^3\). Impulsive individuals appear to be ignoring key information relevant to their decisions and outcomes, which may facilitate unplanned suicidal acts. While more detailed study using a larger and more general sample is required, this information may nonetheless prove helpful for designing interventions for people who may engage in suicidal behaviours.

**Endnotes**
Prenatal and childhood antecedents of suicide: 50-year follow-up of the 1958 British birth cohort study

Geoffroy MC, Gunnell D, Power C (UK, Canada)
Psychological Medicine. Published online: 29 July 2013. doi: 10.1017/S003329171300189X, 2013

**Background:** We aimed to elucidate early antecedents of suicide including possible mediation by early child development.

**Method:** Using the 1958 birth cohort, based on British births in March 1958, individuals were followed up to adulthood. We used data collected at birth and at age 7 years from various informants. Suicides occurring up to 31 May 2009 were identified from linked national death certificates. Multivariable Cox proportional hazard models were used to investigate risk factors.

**Results:** Altogether 12399 participants (n = 44 suicides) had complete data. The strongest prenatal risk factors for suicide were: birth order, with risk increasing in later-born children [p trend = 0.063, adjusted hazard ratio (HR)], e.g. for fourth- or later-born children [HR = 2.27, 95% confidence interval (CI) 0.90-5.75]; young maternal age (HR = 1.18, 95% CI 0.34-4.13 for 19 years and HR = 0.41, 95% CI 0.19-0.91 for >29 years, p trend = 0.034); and low (<2.5 kg) birth weight (HR = 2.48, 95% CI 1.03-5.95). The strongest risk factors at 7 years were externalizing problems in males (HR = 2.96, 95% CI 1.03-8.47, p trend = 0.050) and number of emotional adversities (i.e. parental death, neglected appearance, domestic tension, institutional care, contact with social services, parental divorce/separation and bullying) for which there was a graded association with risk of suicide (p trend = 0.033); the highest (HR = 3.12, 95% CI 1.01-9.62) was for persons with three or more adversities.

**Conclusions:** Risk factors recorded at birth and at 7 years may influence an individual’s long-term risk of suicide, suggesting that trajectories leading to suicide have roots in early life. Some factors are amenable to intervention, but for others a better understanding of causal mechanisms may provide new insights for intervention to reduce suicide risk.

**Comment**

**Main findings:** Suicide is a complex phenomenon often involving the interaction of a number of different risk factors, including psychiatric illnesses and negative life events occurring throughout the life course. One area which has received comparably little attention in the literature is the impact of early life factors on the risk of suicide later in adulthood. The current paper addressed this gap in the literature by exploring the role of early life risk factors such as prenatal circumstances and developmental factors including bladder control, school results, behaviour problems, socio-economic adversity and emotional adversity. Univariate and multivariate analyses were conducted, with results indicating that low birth weight and increased birth order (fourth born or later) were associated with higher levels of adult suicide. A trend was observed whereby children born to
younger mothers appeared to be at greater suicide risk than those born to older mothers. Later in childhood, predictors of suicide included externalising behaviours, social class background, parental death, neglected appearance, domestic tension, institutional care, social service contact, bullying, and the overall number of emotional problems. Individuals with 3 or more of these factors present during early life were around 5 times more likely to die by suicide than their peers who did not have any of those factors present. On multivariable analysis, the role of childhood adversity and development factors reduced after controlling for prenatal and other factors, indicating that these associations may have been partly attributed to other coexisting circumstances.

**Implications:** The methodological strengths of the current study were the use of a large and nationally representative sample of British residents with birth data and detailed information on participants at age 7, received from multiple informants including mothers, medical practitioners and teachers. The study covered 50 years of life, allowing for the exploration of pathways linking early life circumstances and risk factors to later life suicide risk. The results of the paper highlight the importance of continuing to consider suicide risk factors other than mental illness and current life events which are the focus of the majority of research in this area. The authors note that certain risk factors identified in this paper, including earlier behavioural and school problems may be open to intervention and possible reduction of future suicide risk. Early interventions may also represent a cost-effective approach to reducing multiple long-term impacts of early adversity, including but not limited to suicide risk. Similar research with a more recent cohort may provide an indication of similar prevention possibilities in Australia. Datasets such as the Longitudinal Study of Australian Children (LSAC)\(^2\) may offer opportunities in this regard.

**Endnotes**

Suicidal ideation and behaviour are common among inmates. Anger is found at exaggerated levels and has been associated with suicidal ideation and behaviour in inmate samples suggesting its possible salience in the prediction of suicide. The study investigated relationships between anger, psychological distress, and self-harm/suicidal ideation among inmates. The principles of Ecological Momentary Assessment were considered and a structured self-assessment diary was utilised to examine relationships between the variables of interest. Participants completed a structured self-assessment diary for six consecutive days which included momentary ratings of items describing psychological states of concurrent affects, thoughts, and appraisals related to anger, psychological distress, and self-harm/suicidal ideation. Psychometric assessment measures were also conducted. Temporal associations between predictors and outcomes were investigated. Multilevel modelling analyses were performed. Increased anger was significantly associated with concurrent high levels of self-harm ideation in inmates, when controlling for depression and hopelessness. Temporal analyses also revealed that anger at one time point did not predict suicidal ideation at the next time point. Elucidating the temporal nature of the relationship between anger, psychological distress, and self-harm/suicidal ideation has advanced understanding of the mechanisms of suicidal behaviour, by demonstrating an increased risk of suicide when a male inmate is angry.

Comment

**Main findings:** Suicidality in prison is often the result of a unique and complex interaction between different social, personal and environmental risk factors present in the prison setting\(^1\); with inmates being at an increased risk of suicide compared to the general population\(^2\). The majority of inmates who die by suicide in prison have histories of violent offending\(^3\), which has led to the suggestion that anger may play a role in this increased propensity for suicide. The current English study examined the relationship between anger, psychological distress, and self-harm/suicidal ideation in a group of 21 male inmates aged from 22 to 58, who completed a diary and a number of psychometric assessments. The main findings of the study supported the first hypothesis that high levels of anger were associated with self-harm ideation and psychological distress. The second hypothesis, that increased anger experience or anger expression at one time point would predict increased levels of psychological distress, and self-harm/suicidal ideation at a later time point produced fewer significant results.

**Implications:** The identification of risk factors for suicide in prisons is imperative for the development of successful suicide prevention strategies and measures.
Based on the current findings, Australian risk assessment procedures may benefit from increased emphasis on the presence of violence and anger in inmates as possible predictors of psychological distress and self-harm ideation.

While supporting previous findings which suggest that anger may be associated with self-harm ideation and behaviour in inmate populations, the current study included a unique methodological design differing from those used in the previous studies. This was the first paper to look at the temporal association between anger, psychological distress and self-harm/suicidal behaviour in this population, with results suggesting that heightened risk may occur when the inmate is experiencing anger, rather than some time later. Again, this may hold practical significance when deciding how to prevent suicidal behaviour in inmates.

**Endnotes**


Non-cancer pain conditions and risk of suicide
Ilgen MA, Kleinberg F, Ignacio RV, Bohnert ASB, Valenstein M, McCarthy JF, Blow FC, Katz IR (USA)
JAMA Psychiatry 70, 692-697, 2013

**Importance:** There are limited data on the extent to which suicide mortality is associated with specific pain conditions.

**Objective:** To examine the associations between clinical diagnoses of noncancer pain conditions and suicide among individuals receiving services in the Department of Veterans Affairs Healthcare System.

**Design:** Retrospective data analysis.

**Setting:** Data were extracted from National Death Index and treatment records from the Department of Veterans Healthcare System.

**Participants:** Individuals receiving services in fiscal year 2005 who remained alive at the start of fiscal year 2006 (N = 4 863 086).

**Main Outcome Measures:** Analyses examined the association between baseline clinical diagnoses of pain-related conditions (arthritis, back pain, migraine, neuropathy, headache or tension headache, fibromyalgia, and psychogenic pain) and subsequent suicide death (assessed in fiscal years 2006-2008).

**Results:** Controlling for demographic and contextual factors (age, sex, and Charlson score), elevated suicide risks were observed for each pain condition except arthritis and neuropathy (hazard ratios ranging from 1.33 [99% CI, 1.22-1.45] for back pain to 2.61 [1.82-3.74] for psychogenic pain). When analyses controlled for concomitant psychiatric conditions, the associations between pain conditions and suicide death were reduced; however, significant associations remained for back pain (hazard ratio, 1.13 [99% CI, 1.03-1.24]), migraine (1.34 [1.02-1.77]), and psychogenic pain (1.58 [1.11-2.26]).

**Conclusions and Relevance:** There is a need for increased awareness of suicide risk in individuals with certain noncancer pain diagnoses, in particular back pain, migraine, and psychogenic pain.

**Comment**

**Main findings:** People suffering from non-malignant chronic pain are a high-risk group for suicidality due to the many negative effects resulting from pain conditions. Negative outcomes of pain include, but are not limited to, lowered quality of life and an increased chance of developing depression. The aim of this U.S. paper was to explore the possible links between non-cancer pain conditions and completed suicide. The population included all individuals who accessed the Department of Veterans Affairs Healthcare System between October 2004 and the end of September 2005. The number of individuals dying by suicide over the next 3 years was recorded (4,823 of 4,863,086 individuals) as well as clinical diagnoses of chronic pain conditions, with the most common pain conditions in the sample.
being arthritis and back pain. Results indicated that suicide risk was increased in individuals suffering from back pain, migraine, headache or tension headache, fibromyalgia, and psychogenic pain. After controlling for the possible confounding effects of psychiatric conditions, only back pain, migraine and psychogenic pain continued to be associated with a statistically significant increased risk of suicide. There was no significant relationship between the number of pain conditions and the risk of suicide. Overall, participants with chronic pain were most likely to die by firearms (67.9%) or poisoning (16.6%) than other methods of suicide.

**Implications:** The majority of research regarding illness as a risk factor for suicide or suicidal behaviour focuses on mental illness; however research is increasingly suggesting that physical illness is also associated with suicidal behaviour\(^1\). Despite this, few studies have examined and compared the suicide risk involved with multiple, specific pain conditions, with a number of studies focussing solely on single pain conditions. This study used a large national cohort of patients, and to the author’s knowledge is the largest and most comprehensive study in this area to date.

The results of the study emphasise the importance for practitioners treating individuals with chronic pain to remain aware of the potential need for suicide risk assessment and possible referral to suicide prevention services. While the results suggest that some pain conditions may increase suicide risk more than others, further research in this area could provide more insight into which specific types of pain conditions may be particularly associated with suicide risk.

**Endnotes**

Various temporal patterns of suicide events, according to time of day, day of week, month and season, have been identified. However, whether different dimensions of time interact has not been investigated. Using suicide data from Queensland, Australia, this study aims to verify if there is an interaction effect between seasonal and day-of-the-week distribution. Computerized suicide data from the Queensland Suicide Register for those aged 15+ years were analyzed according to date of death, age, sex and geographic location for the period 1996-2007. To examine seasonal differences in day-of-the-week pattern of suicide, Poisson regressions were used. A total of 6,555 suicides were recorded over the whole study period. Regardless of the season, male residents of Brisbane had a significantly marked day-of-the-week pattern of suicide, with higher rates between Mondays and Thursdays. When seasonal differences were considered, male residents in Brisbane showed a Monday peak in summer and a wave-shape pattern with a peak on Thursday and a nadir on Saturdays in winter. Whilst males have distinctive peaks in terms of days of the week for summer and winter, females do not show similar patterns.

Comment

Main findings: A number of past studies have shown that the incidence of suicide and suicidal behaviour does not stay consistent throughout the year, with temporal patterns being observed depending on month or season, day of the week, and even the time of day\(^1\). This Australian study used data from the Queensland Suicide Register (QSR), which holds data on all suicides in Queensland from 1990 onwards, to analyse the relationship between seasonal and day-of-the-week patterns of suicide. The study included suicide cases occurring during the years 1996-2007 (\(n = 6,555\)). All cases were aged over 15 years of age, and grouped by residential location into either the greater Brisbane region (42% of cases), or the rest of Queensland (58% of cases). Results indicated that suicides in Queensland peaked during summer and lowered in autumn and winter. The day-of-the-week pattern differed across various subgroups of the population, with only male residents of Brisbane showing a distinct day-of-the-week pattern of increased suicides on Mondays, Tuesdays, Wednesdays and Thursdays when compared to Saturdays. When considering the seasonal differences in day-of-the-week patterns, male Brisbane residents took their lives significantly more often on Mondays during summer, and on Thursdays during winter, with fewer suicides in winter occurring on Saturdays. Findings of a Monday suicide peak in spring for female residents of the rest of QLD came close to significance; however, no significant seasonal differences in day-of-the-week were found for women.
Implications: This study adds to the current literature by providing an analysis of the seasonal and day-of-the-week pattern of suicide in an Australia context, with results indicating that risk of suicide in male Brisbane residents may be higher on weekdays, particularly Mondays. This information may be useful when planning suicide prevention initiatives, and for family members and mental health workers to know when extra support may be required for this group.

The current paper uses sound statistical methods, and is the first known paper to use these particular methods to assess seasonal differences in the day-of-the-week patterns. In this way, the results of the analysis contribute to a broader understanding of the temporal patterns of completed suicide.

Endnote

Which suicides are reported in the media – And what makes them “newsworthy”?
Machlin A, Pirkis J, Spittal MJ (Australia)
Crisis 34, 305-313, 2013

**Background:** Media reporting of suicide has attracted public health attention because of its potential to trigger “copycat” acts.

**Aims:** To determine the factors associated with an individual suicide featuring in the media.

**Method:** We identified from the National Coroners Information System (NCIS) all suicides that occurred in Australia over a 1-year period and established those that were reported in the Australian media using data from our earlier Media Monitoring Project. Available variables were used to examine factors associated with a suicide being reported in the media.

**Results:** Of the 2,161 suicides, 29 were reported in the media. Suicides by younger individuals were particularly likely to be reported, as were suicides by gunshot and other violent methods, suicides in commercial areas (e.g., office buildings and hotels) and medical/residential facilities and other institutions (e.g., detention centers), and suicides that occurred in the context of multiple fatality events (e.g., homicide-suicides and suicide pacts).

**Conclusions:** Striking the right balance in terms of media reporting of suicide is crucial. The current study suggests that the reported suicides tend to be those that may either heighten the risk of lethal imitative behaviors or serve to distort public perceptions about suicide.

**Comment**

**Main findings:** A number of previous studies have suggested that the media reporting of suicide events may lead to “copycat” acts – a phenomenon known as the “Werther-effect”\(^1\). The likelihood of negative effects may depend on the way that information is presented, with reports situated on the front page of newspapers, mentioning the term “suicide” in the headline, outlining specific details on the event and the suicide method used, and including a photograph of the victim being more likely to result in unfavourable outcomes\(^2\). Conversely, the inclusion of available help services and information on suicide and suicide prevention may limit any possible negative effects\(^2\). The current paper used the National Coroners Information System (NCIS) to determine which of the 2,161 suicides occurring in Australia between 2006 and 2007 had been reported in the media, finding that only 1.3% of suicides had been reported. The majority of the reports were in newspapers (70%) followed by radio (23%) and television (7%). A number of significant differences were found between suicides which were and were not reported. Those which were reported were significantly more likely to involve a person under the age of 20 or between 20-29 years of age, a firearm or other less common and highly violent means (relative to suicides by hanging), to occur in a
public place or institution rather than a private home and involve multiple fatalities rather than a single death. Non-significant factors included personal stress, mental illness, previous suicide attempts and alcohol intoxication at the time of death.

**Implications:** While it has been well documented that media reporting of suicides may have negative outcomes, this paper is one of the few published studies which provides an indication of why some incidents are featured in the media while others are not. The use of detailed NCIS data allowed the authors to address the limitations of a previous study^3^, and to include the examination of a greater range of factors related to reporting.

Studies such as the current paper demonstrate the importance of the Australian Federal Government’s MindFrame National Media Initiative, which exists to encourage the responsible reporting of suicide events^4^. The paper found that one particular youth suicide resulted in 100 subsequent media reports. As noted by the authors, the fact that suicides in young people are more likely to be reported, and involve a group who may be more susceptible to influence by such reports^5^, may suggest the need for extra caution in these instances.

**Endnotes**

Miseries suffered, unvoiced, unknown? Communication of suicidal intent by men in “rural” Queensland, Australia

McPhedran S, De Leo D (Australia)

Suicide and Life-Threatening Behavior. Published online: 8 July 2013. doi: 10.1111/sltb.12041

It has long been argued that suicide prevention efforts in rural locations face not only structural barriers, such as a lack of accessible health care and specialized mental health services, but also a range of cultural barriers. A commonly discussed cultural factor that may contribute to higher rural suicide rates is low levels of help-seeking behavior, which in turn act as a barrier to accessing and receiving care. However, the assumption that suicide by rural men is more likely to be accompanied by low help-seeking behavior, relative to urban men, has not been well tested. Using data from the Queensland Suicide Register, this study evaluates one form of help-seeking behavior—communication of suicidal intent—among men who died by suicide. Contrary to the expectation that suicide in rural areas would be associated with lower levels of help-seeking behavior than suicide in urban areas, it was found that communication of suicidal intent was broadly comparable across rural and urban settings. The implications for suicide prevention policies and service delivery strategies are discussed.

Comment

Main findings: Reducing the higher rates of suicide among rural men, relative to their urban counterparts, remains a significant challenge. It is commonly thought that rural men are less likely to seek help than urban men, however past studies have typically looked at ‘formal’ help-seeking (accessing services), rather than ‘informal’ help-seeking behaviours such as communication of suicidal intent. The current study compared men from urban and rural Queensland, Australia, to determine whether the percentage of completed suicides accompanied by a past expression of suicidal intent differed by location.

The study looked at 3,202 men (1,785 from urban locations and 1,418 from rural locations) who had died by suicide, and for whom communication of intent data were available.

Among urban men, 57.1% had communicated suicidal intent before death, relative to 59.9% of rural men. There was no significant association between location and communication of intent. When age, demographic factors, and psychiatric history were held constant, men in rural locations were around 1.3 times as likely as urban men to have communicated suicidal intent prior to death. Adjusted analyses also showed that contact with a mental health professional in the three months prior to death was comparable between men in urban and rural locations.

Implications: Where information was available, a substantial proportion of rural men who died by suicide – around 6 out of every 10 – had communicated suicidal intent prior to their death. This suggests that there may have been possibilities to intervene and assist those men. However, it also raises questions about whether
issues such as lack of awareness of how to help people at risk, or insufficient access to formal help services, may have impeded prevention activities. Regarding formal help, around 40% of rural men who died by suicide had seen a mental health professional in the three months prior to their death. The fact that many men had contact with a mental health professional but nonetheless went on to take their own lives indicates a need to consider factors such as the adequacy and appropriateness of available mental health services, the type of support provided, the intensity and level of care, and whether available services match well to rural men’s specific characteristics and needs. Suicide prevention efforts should also take into account underlying factors that may contribute to an individual’s suicidality (for example, relationship breakdown or financial stress), as well as the full spectrum of experiences that may lead to, or occur independently of mental illness. These factors are likely to differ across urban and rural settings, and it is important to gain a better understanding of such differences in order to develop more effective and tailored rural suicide prevention programs.
A recent study indicated a suicide attempt rate of 41% among trans (e.g., trans, transgender, transexual/transsexual, genderqueer, two-spirit) individuals. Although this rate is alarming, there is a dearth of literature regarding suicide prevention for trans individuals. A vital step in developing suicide prevention models is the identification of protective factors. It was hypothesized that social support from friends, social support from family, optimism, reasons for living, and suicide resilience, which are known to protect cis (non-trans) individuals, also protect trans individuals. A sample of self-identified trans Canadian adults (N = 133) was recruited from LGBT and trans LISTSERVs. Data were collected online using a secure survey platform. A three block hierarchical multiple regression model was used to predict suicidal behavior from protective factors. Social support from friends, social support from family, and optimism significantly and negatively predicted 33% of variance in participants’ suicidal behavior after controlling for age. Reasons for living and suicide resilience accounted for an additional 19% of the variance in participants’ suicidal behavior after controlling for age, social support from friends, social support from family, and optimism. Of the factors mentioned above, perceived social support from family, one of three suicide resilience factors (emotional stability), and one of six reasons for living (child-related concerns) significantly and negatively predicted participants’ suicidal behavior. Overall, these findings can be used to inform the practices of mental health workers, medical doctors, and suicide prevention workers working with trans clients.

Comment

Main findings: A small number of studies have shown an increased risk for suicidal behaviours in sexual and gender minority groups\cite{1,2}. The majority of research in this area to date has focused on suicide in Lesbian, Gay and Bisexual (LGB) individuals, while suicide prevention research focusing on Trans individuals is scarce. The current study aimed to identify protective factors against suicide in 133 Trans Canadian adults (aged between 18 and 75), the majority of who identified as Transgender (51%), who completed an online survey between September 2010 and February 2011. More specifically, the authors sought to identify whether the same protective factors seen in the general population (social support from friends and family, optimism, reasons for living and suicide resilience), would also apply to Trans individuals.

Moody and Smith (2013) found that although participants reported much more social support from friends than family, it was the perceived social support of family members which acted as a significant protective factor against suicide. Emotional stability and child-related concerns were also significant protective factors. The authors confirmed their initial hypothesis that some of the same...
factors which lower suicide risk in the general population can also apply to this minority group.

**Implications:** The current study was the first published paper analysing protective factors in a Trans population, with past research being limited to risk factors. Considering protective factors as well as risk factors is imperative for the development of comprehensive suicide prevention programs for this vulnerable group. The finding that social support from family was rarer, but a greater protective factor, than social support from friends indicates that programs aiming to increase acceptance and support in the families of Trans people may have the potential to be effective suicide prevention strategies.

While presenting some important findings, the current paper highlights the significant lack of research in this area. It is important that further, longitudinal research is conducted particularly in the Australian context. AISRAP is currently conducting a study into fatal suicidal behaviours in LGBT populations, the first of its kind in Australia. The research receives funding from beyondblue and includes an analysis of LGBT suicides recorded in the Queensland Suicide Register and a series of psychological autopsy interviews.

**Endnotes**

Emergency department recognition of mental disorders and short-term outcome of deliberate self-harm

Olfson M, Marcus SC, Bridge JA (USA)

Objective: The authors sought to characterize the short-term risks of repeat self-harm and psychiatric hospital admission for deliberate self-harm patients discharged from emergency departments to the community, focusing on recognition of mental disorders in the emergency department.

Method: A retrospective longitudinal cohort analysis of national Medicaid claims data was conducted of adults 21-64 years of age with deliberate self-harm who were discharged from emergency departments (N = 5,567). Rates and adjusted risk ratios are presented of repeat self-harm visits and inpatient psychiatric admission during the 30 days following the initial emergency visit.

Results: Approximately 9.7% of self-harm visits were followed by repeat self-harm visits and 13.6% by inpatient psychiatric admissions within 30 days after the initial emergency visit. The rate of repeat self-harm visits was inversely related to recognition of a mental disorder in the emergency department (adjusted risk ratio [ARR] = 0.66, 95% CI = 0.55-0.79) and directly related to recent diagnosis of anxiety disorders (ARR = 1.56, 95% CI = 1.30-1.86) or personality disorders (ARR = 1.67, 95% CI = 1.19-2.34). Recognition of a mental disorder in the emergency department was inversely related to repeat self-harm among patients with no recent mental disorder diagnosis (ARR = 0.57, 95% CI = 0.41-0.79); any recent mental disorder diagnosis (ARR = 0.70, 95% = 0.51-0.94); and depressive (ARR = 0.71, 95% CI = 0.53-0.96) disorder diagnoses. Recognition of a mental disorder was also inversely related to subsequent inpatient psychiatric admission (ARR = 0.81, 95% CI = 0.71-0.93).

Conclusions: Adults who are discharged to the community after emergency visits for deliberate self-harm are at high short-term risk of repeat deliberate self-harm and hospital admission, although these risks may be attenuated by clinical recognition of a mental disorder in the emergency department.

Comment

Main findings: Patients who present to emergency departments (EDs) following a deliberate self-harm event are at risk of repeat deliberate self-harm and suicide. Using medical claims taken from the 2005 Medicaid files from all 50 American states and districts, the authors evaluated relationships between ED recognition of a mental disorder and short-term outcomes following discharge, as well as repeat deliberate self-harm visits and admission for inpatient psychiatric care during a 30-day follow-up period, for a sample of 4,866 eligible cases (5,567 self-harm ED visits).

Slightly fewer than one in ten ED self-harm visits were followed by a repeat self-harm visit during the 30-day follow-up period. Subsequent admission into a psy-
Chiatric hospital was seen among 13.6% of ED self-harm visits, following discharge. Younger (21-34 years) patients were less likely to experience a subsequent psychiatric hospital admission compared to older (45-64 years) patients. Diagnosis of a mental disorder (through a recent outpatient, inpatient, or ED diagnosis) was associated with a risk of psychiatric hospital admission during the follow-up period. However, recognition of a mental disorder in an ED setting was related to fewer psychiatric hospital admissions for self-harm visits for those who had not received a previous recent diagnosis of a mental disorder. ED recognition of a mental disorder related to fewer repeat self-harm visits regardless of whether the individual had or had not received a recent diagnosis of a mental disorder.

**Implications:** The ability of health professionals to recognise mental disorders within an ED setting may be a protective factor to repeat self-harm visits of patients who had not previously received a mental health diagnosis. Expanding access to mental health evaluations for patients treated in the ED after deliberate self-harm may reduce the risk of repeated self-harm following discharge, as well as the likelihood of a subsequent psychiatric hospital admission. Methods to assist this process may include training ED staff in the assessment of acute self-harm, close liaison between ED units and mental health services, and integrating mental health teams into the ED. Immediately following a deliberate self-harm event, mental health evaluations may provide opportunities to evaluate various risk factors for suicidal behaviour (for example, hopelessness, impulsivity, aggression) and assess the need for ongoing mental health care. In addition, given that many patients may be discharged directly from the ED back into the community3, strengthening linkages between ED care and community-based care may play an important role in reducing repeat self-harm.

**Endnotes**

High suicide rates evident in Australian young adults during an epidemic period in the 1990s appear to have been sustained in older age-groups in the subsequent decade. This period also coincides with changes in employment patterns in Australia. This study investigates age, period, and birth cohort effects in Australian suicide over the 20th century, with particular reference to the period subsequent to the 1990s youth suicide epidemic in young males. Period- and cohort-specific trends in suicide were examined for 1907-2010 based on descriptive analysis of age-specific suicide rates and a series of age-period-cohort (APC) models using Poisson regression. Under-employment rates (those employed part-time seeking additional hours of work) and unemployment rates (those currently seeking employment) for the latter part of this time series (1978-2010) were also examined and compared with period- and cohort-specific trends in suicide. A significant increasing birth cohort effect in male suicide rates was evident in birth cohorts born after 1970-74, after adjusting for the effects age and period. An increasing birth cohort effect was also evident in female suicide rates, but was of a lesser magnitude. Increases in male cohort-specific suicide rates were significantly correlated with increases in cohort-specific under-employment and unemployment rates. Birth cohorts that experienced the peak of the suicide epidemic during the 1990s have continued to have higher suicide rates than cohorts born in earlier epochs. This increase coincides with changes to a labour force characterised by greater ‘flexibility’ and ‘casualised’ employment, especially in younger aged cohorts.

Comment

**Main findings:** The rate of suicide has been found to vary between historical epochs, for example during periods of economic hardship. Within a particular time period, the entire population may experience the effects of this hardship equally (period effects) or particular age groups may be affected more than others (cohort effects). The current study investigated whether changing employment patterns in Australia, in terms of unemployment and under-employment, contributed to the patterns of elevated suicide rates that were observed in young adults during the 1990s and sustained in this group during the subsequent decade. With particular reference to this time period, the authors utilised a series of analyses, to investigate period and cohort suicide trends in suicide for the period 1907-2010. The data used to construct these APC models included ABS (2012) suicide data for 1907-2010 stratified by single-year and 5-year age group (15-19 to 75 years and over); ABS (2011) sex-, age- and period-specific population data aggregated into 5-year birth cohorts from 1935-39 to 2005-2009; and sex, age and

The study demonstrated that over the 1907-2010 period, male suicides generally declined in older age groups (45-59 and 60+ years), but began to increase in younger age groups, especially from the 1970s to the late 1990s. Cohort-specific suicide rates, adjusted for age and period, revealed that male suicide rates increased in each successive birth cohort born after 1955-59, an effect which was more pronounced in those born after 1970-74. The increasing male suicide cohort rates matched with cohort-specific proportions of males that were underemployed and unemployed, and analyses revealed that these data were significantly correlated. Therefore, the results of the study suggest that increased suicide rates in males born after 1955-59 (and especially those born after 1970-74), are due in part to the level of workforce underutilisation in this cohort.

**Implications:** Previous research observed that the decline of young suicide male rates in the 1990s, despite the introduction of many youth suicide intervention programs, was accompanied by an increase in suicide rates in older age groups during the 2000s. However, the extent to which these observations reflected cohort or period effects had not been established. The current study contributes to this understanding, and also demonstrates how workforce underutilisation may contribute to elevated vulnerability to suicide in male cohorts born after 1955. Although increasing economic deregulation and the resulting growth of temporary and casual work has affected large sections of the Australian population, it has been suggested that the cohort identified within this study has been particularly vulnerable to these workforce changes as they experienced a more marked shift from stable full-time work to temporary and part-time work compared to other cohorts. Targeted interventions should therefore, take into account the increased risk effects of workforce under-utilisation on suicide behaviours within this cohort, particularly amongst males.

**Endnote**

A model of suicidal behavior in posttraumatic stress disorder (PTSD): The mediating role of defeat and entrapment

Panagioti M, Gooding P, Taylor PJ, Tarrier N (UK)
Psychiatry Research 209, 55-59, 2013

The aim of this study was to examine whether depression, hopelessness and perceptions of defeat and entrapment mediated the effects of posttraumatic stress disorder (PTSD) symptoms on suicidal behavior. Participants were 73 individuals (mean age = 29.2, S.D. = 10.9, 79.5% female) diagnosed with current or lifetime PTSD who reported at least one PTSD symptom in the past month. Participants completed a series of self-report measures assessing depression, hopelessness and perceptions of defeat and entrapment. The Clinician Administered Posttraumatic Scale for DSM-IV was administered to assess the presence and severity of PTSD symptoms. The results of Structural Equation Modeling supported a model whereby perceptions of defeat and entrapment fully mediated the effects of PTSD symptom severity upon suicidal behavior. The finding that perceptions of defeat and entrapment mediate the relationship between PTSD symptom severity and suicidal behavior was replicated in a subgroup of participants (n = 50) who met the full criteria for a current PTSD diagnosis. The results support a recent theoretical model of suicide (The Schematic Appraisal Model of Suicide) which argues that perceptions of defeat and entrapment have a key role in the development of suicidal behaviors. We discuss the clinical implications of the findings.

Comment

Main findings: An increased risk of suicidal ideation and attempt is associated with both a current and lifetime diagnosis of posttraumatic stress disorder (PTSD)\(^1\). The Schematic Appraisal Model of Suicide (SAMS)\(^2\) argues that perceptions of defeat and entrapment are a core component of the psychological mechanisms that underlie suicidal behaviour. Seventy-three participants were recruited in order to investigate these psychological mechanisms (including depression and hopelessness) of suicidal behaviour in individuals fulfilling the criteria for a PTSD diagnosis. Participants had been diagnosed with either current or lifetime PTSD and had reported a range of symptoms within the last month. Many participants reported some form of suicidal behaviour in their lifetime while others noted to have suicidal ideation within the past year.

Perceptions of defeat and entrapment mediated the link between PTSD symptoms and suicidal behaviour. This was also evident with the 50 participants who had been diagnosed with current PTSD. A direct effect of PTSD symptom severity on suicidal behaviour, independent of depression, hopelessness and defeat and entrapment, was not established. The influence of symptom severity on suicidal behaviour was explained by heightened levels of depression, hopelessness, defeat, and entrapment. However, links between the severity of PTSD symptoms and suicidal behaviour were most strongly mediated by defeat and entrapment.
Implications: Those diagnosed with PTSD, whether currently or at some past point in their lives, may be vulnerable to suicidal behaviour. Perceptions of defeat and entrapment may represent a key psychological mechanism through which suicidal behaviour emerges in these individuals. When assessing suicide risk in individuals experiencing some form of PTSD symptomology, whether at a clinically significant or subclinical level, clinicians should be mindful that the presence of defeat and entrapment might heighten risk for suicidal behaviour. Interventions should be aimed at targeting the direct impact of defeat and entrapment perceptions, as well as the indirect impact of negative appraisals of PTSD symptoms – so as to avoid increasing damaging perceptions. Existing cognitive behavioural interventions, may more effectively reduce risk of suicide among persons with PTSD symptoms if they also address perceptions of defeat and entrapment and consider how those perceptions may relate to suicidal behaviours.

Endnotes

Self-harm and homeless adults
Pluck G, Lee K-H, Parks RW (UK, USA)
Crisis 34, 363-366, 2013

Background: Homelessness is associated with an increased incidence of mental illness and risk of self-harm, including suicide.

Aims: To assess the prevalence of self-harm (including nonsuicidal self-injury and attempted suicide) among a UK sample of homeless adults and to compare demographic, clinical, and homeless-related variables to determine which are linked to self-harm in this population.

Method: A sample of 80 homeless adults were interviewed regarding history of self-harm, mental health history, demographic, and homeless-related information.

Results: Sixty-eight percent of the sample reported past acts of self-harm. Those with histories of self-harm started using significantly more substances since becoming homeless and were younger when they first became homeless. They were also significantly more likely to have a past psychiatric admission and thoughts of self-harm in the past year.

Conclusion: Self-harm is common among homeless adults and linked to long-term and enduring social and mental health concerns.

Comment

Main findings: Homelessness in western countries is often linked to drug and alcohol misuse, psychosis, and depression. These factors elevate suicide risk; however, homeless suicidal individuals typically have fewer contacts with relevant services compared with their non-homeless counterparts. The current study aimed to provide information about factors linked with self-harm in a homeless population. Homelessness participants were defined as those lacking a secure tenancy, accessing services for homeless adults, and self-describing as homeless. A semi-structured interview schedule was used to obtain demographic information, including factors linked to homelessness, an assessment of depressive symptoms and past admittance to a psychiatric hospital. All 80 individuals completed a measure of deliberate self-harm, alcohol use disorder, severity of dependence, and provided details of previous suicide attempts. The 54 (67.5%) participants recognised with past self-harm were compared with the 26 (32.5%) without such histories. Of those who had reported self-harm, 44 had made previous suicide attempts, 33 reported non-suicidal self-injury, and 23 reported both forms of self-harm.

The groups (self-harm versus no self-harm) did not differ significantly on any of the demographic variables (e.g. gender, education, and ex-prisoner). Those with histories of self-harm were more likely to report thoughts of self-harm within the last year, a past psychiatric hospital admission, and use of more classes of drugs since becoming homeless. Self-harm was also associated with a younger age when the individual first became homeless. Longer courses of homelessness were also
associated with a younger age since first homeless and with more drugs started since becoming homeless.

**Implications:** Self-harm appears evident in a majority of homeless adults. Those involved in the provision of medical and social care to homeless populations may consider undertaking increased monitoring of individuals who express thoughts of self-harm. Associations between self-harm and substance use should also be recognised; persons who self-harmed tended to start using more drugs after becoming homeless, potentially suggestive of some form of self-medication. Individuals with reported self-harm were over five years younger, on average, when they first became homeless, relative to participants who did not have a history of self-harm. Homelessness in younger individuals may also yield a longer course of adult homelessness and thus an increased risk of lifetime self-harm. This may have implications for services responding to young people at risk of becoming homeless, as well as those who are experiencing homelessness. These findings highlight the importance of long-term care planning for this vulnerable group, in order to reduce the possibilities of future substance use and self-harm.

**Endnotes**


Purpose: Accessibility and availability of mental health care services are necessary but not sufficient for people to seek help for psychological problems. Attitudes and stigma related to help seeking also determine help seeking intentions. The aim of this study is to investigate how cross-national differences in attitudes and stigma within the general population are related to professional and informal help seeking intentions in low and high suicide rate regions.

Method: By means of a postal structured questionnaire, data of 2999 Dutch and Flemish respondents between 18 and 65 years were gathered. Attitudes toward help seeking, perceived stigma, self-stigma, shame and intention to seek help were assessed.

Results: People in the Netherlands, where suicide rates are low, have more positive attitudes toward help seeking and experience less self stigma and shame compared to the people in Flanders, where suicide rates are relatively high. These attitudinal factors predicted professional as well as informal help seeking intentions. Perceived stigma was negatively associated with informal help seeking. Shame was positively associated with higher intention to use psychotropic drugs and perceived stigma was negatively associated with the intention to seek help from a psychotherapist in Flanders but not in the Netherlands.

Conclusion: Help seeking for psychological problems prevent these problems to aggravate and it is assumed to be a protective factor for suicide. Our results stress the importance of the promotion of positive attitudes and the reduction of stigma within the general population to facilitate help seeking from professional providers and informal networks. Focusing on these attitudinal factors is believed to be a key aspect of universal mental health and suicide prevention policies.

Comment

Main findings: Individuals suffering from mental illness are at an increased risk for suicide, with mental health care services playing an important role in the prevention of suicide in this group. Stigma and attitudes surrounding mental illness can act as barriers to mental health service utilisation, and may prevent people from seeking and receiving the necessary treatment. The current study compared 2999 males and females from the general populations in the Netherlands and Flanders, to see whether differences in attitudes and stigma coincided with the differences in help-seeking behaviour and suicide rates. The study involved the completion of a questionnaire measuring mental health, intention to seek help, passive coping, history of professional help seeking, self-stigma, shame for seeking help, perceived stigma and attitudes towards help seeking. While the majority of par-
Participants had positive attitudes towards help-seeking, this was more evident in the participants from the Netherlands where the suicide rate is relatively low. Overall, around 7 out of 10 participants perceived that they would be stigmatised by others for seeking help for a mental illness, while between 13% and 28% felt there would be some self-stigma involved. Men were more likely to experience self-stigma and shame, as were younger people, people with lower self-reported mental health and those who had never received mental health care. Perceived stigma was related to a reluctance to seek professional help (in Flanders only) and informal help from family members.

**Implications:** While it is important to ensure the availability of mental health services, these services may still not be accessed when stigma and negative attitudes towards help-seeking are present. By comparing the attitudes between two different regions, the current paper supports the notion that attitudinal factors may be partly influenced by culture, and that community-based campaigns may hold the potential to break down stigmatising attitudes.

Tuesday the 10th of September 2013 was World Suicide Prevention Day, with this year’s theme being “Stigma: A major barrier to suicide prevention”\(^4\). The activities prepared for this day, including the World Suicide Prevention Day Forum hosted by AISRAP, provided an opportunity for discussion and the generation of ideas on how stigma can further be prevented in the Australian community.

**Endnotes**

The experience of the most distressing patient suicide on Flemish psychiatrists is described. Of 584 psychiatrists, 107 filled a self-report questionnaire. Ninety-eight psychiatrists had been confronted with at least one patient suicide. Emotional suffering and impotence were the most common feelings reported. Changes in professional practice were described and included a more structured approach to the management of suicidal patients. Colleagues and contact with the patient’s family were the most frequently used sources of help, whereas team case review and colleagues were rated as the most useful ones. Patient suicide leads to emotional suffering and has a considerable professional impact.

Comment

Main findings: While most research on suicide survivors focuses on family members and friends, it is important not to neglect the experiences of involved mental health professionals, with as many as 80% of psychiatrists in previous studies having experienced patient suicide during their career. The current Flemish study assessed the impact of patient suicide through an online survey, completed by 107 psychiatrists. The majority of participants worked in a psychiatric centre (51%) followed by a community mental health centre (22%) or in the psychiatry department of a general hospital (20%). In the current sample, 101 (94.4%) psychiatrists had experienced a suicide attempt, while 98 (91.6%) had experienced the suicide of a patient, with a mean of 5.37 patient suicides per psychiatrist. Males on average experienced more patient suicides than females.

A large number of the participants were affected both personally and professionally after a patient suicide, with almost half of the respondents feeling sadness, despair or pain and around a quarter feeling impotent or powerless. However, not all outcomes were negative, with events often resulting in more attention being paid to the presence of suicidal ideation in patients (54%) and an increased use of formal measures to more accurately measure suicide risk. Other changes included increasing team discussion and reflection, revising current procedures, researching to increase knowledge of suicide and changing the psychiatrist – patient relationship. Of the 92 participants who answered the question on support, most sought support from colleagues and family members of the patient, as well as from their own family.

Implications: This paper supports previous findings that patient suicide is a common occurrence for psychiatrists, and that these events often result in negative emotional experiences. The paper reported a higher incidence of patient suicide experiences for the sample of Flemish psychiatrists than has been presented in studies from other countries, suggesting that the frequency of suicide experiences may differ between countries. Further research in the Australian
context may increase understanding and help to improve support services for psychiatrists after such events.

Rothes and colleagues present a number of measures which have been implemented into clinical practice as a result of the unique learning experience following a patient suicide. These findings provide an opportunity for other mental health professionals to learn from these experiences and potentially implement these procedures as preventative methods.

**Endnotes**


The relationship between negative life events and suicidal behavior: Moderating role of basic psychological needs

Rowe CA, Walker KL, Britton PC, Hirsch JK (USA)

Crisis 34, 233-241, 2013

**Background:** Individuals who experience negative life events may be at increased risk for suicidal behavior. Intrapersonal characteristics, such as basic psychological needs, however, may buffer this association.

**Aims:** To assess the potential moderating role of overall basic psychological needs, and the separate components of autonomy, competence, and relatedness, on the association between negative life events and suicidal behavior.

**Method:** Our sample of 439 college students (311 females, 71%) completed the following self-report surveys: Life Events Scale, Basic Psychological Needs Scale, Beck Depression Inventory - II, and the Suicide Behaviors Questionnaire-Revised.

**Results:** In support of our hypotheses, negative life events were associated with greater levels of suicidal ideation and attempts, and satisfaction of basic psychological needs, including autonomy, relatedness, and competence, significantly moderated this relationship, over and above the effects of the covariates of age, sex, and depressive symptoms.

**Conclusions:** Suicidal behavior associated with the experience of negative life events is not inevitable. Therapeutically bolstering competence, autonomy, and relatedness may be an important suicide prevention strategy for individuals experiencing life stressors.

**Comment**

**Main findings:** Successful suicide intervention programs rely in part on the identification of risk and protective factors implicated in suicide ideation and behaviour. Although previous research has identified the role of psychological needs in general wellbeing and suicide, statistical data to support the protective role of psychological need fulfilment against suicide behaviours has not previously existed. The current study investigated whether individuals who experienced a negative life event and who score highly on overall basic psychological need fulfilment (including the needs of autonomy, competence and relatedness) would demonstrate lower levels of suicide behaviours and ideation than individuals with lower levels of psychological need fulfilment. This relationship was examined in a sample of 439 college students in the United States, controlling for the effects of age, sex and depressive symptoms, using the Life Events Scale (LES), Basic Psychological Needs Scale (BPNS), the Suicide Behaviours Questionnaire - Revised (SBQ-R), and the Beck Depression Inventory (BDI-II). Hierarchical Moderated Regression analyses confirmed the significant moderating effect of overall psychological needs on suicidal behaviours. Individuals who reported greater overall satisfaction of psychological needs reported significantly fewer suicidal behaviours associated with negative life events. Similarly, higher levels of fulfilment of the specific psychological needs of autonomy, competence, and relatedness were associated with lower suicidal ideation and attempts.
needs of competence, relatedness and autonomy, weakened the association between
negative life events and suicidal ideation and behaviour.

Implications: In accordance with previous theory and research, the current find-
ings support that the fulfilment of psychological needs is an important protective
factor against suicidal ideation and behaviour, especially in individuals who have
experienced a negative life event. Among such individuals, those who experience
more negative perceptions of stress and coping appear to be at an increased risk
of suicidal ideation and attempts. Although untested in clinical suicide preven-
tion settings, it has been suggested that bolstering a patient’s competence and
autonomy in clinical settings may lead to an increase in the patient’s intrinisic
motivation to engage in therapy and cope with stressful events, thereby decreas-
ing the risk of suicide. A further implication of the current study is that these find-
ings may inform treatment strategies targeting suicidal behaviours in at-risk
populations. International and Australian research has identified university stu-
dents as a population which demonstrates a higher incidence of suicidal ideation
and behaviours compared to the general population, in part due to a combina-
tion of negative life events and stressors associated with the experience of study-
ing. Further research could consider the whether the incorporation of
psychological needs into therapeutic interventions is successful in the Australian
context and is applicable to other demographic groups experiencing increased
risk of suicide.

Endnotes

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ogy 64, 52–66.
Gatekeeper training for suicide prevention in First Nations community members: A randomized controlled trial

Depression and Anxiety 30, 1021-1029, 2013

Background: Gatekeeper training aims to train people to recognize and identify those who are at risk for suicide and assist them in getting care. Applied Suicide Intervention Skills Training (ASIST), a form of gatekeeper training, has been implemented around the world without a controlled evaluation. We hypothesized that participants in 2 days of ASIST gatekeeper training would have increased knowledge and preparedness to help people with suicidal ideation in comparison to participants who received a 2-day Resilience Retreat that did not focus on suicide awareness and intervention skills (control condition).

Methods: First Nations on reserve people in Northwestern Manitoba, aged 16 years and older, were recruited and randomized to two arms of the study. Self-reported measures were collected at three time points—immediately pre-, immediately post-, and 6 months post intervention. The primary outcome was the Suicide Intervention Response Inventory, a validated scale that assesses the capacity for individuals to intervene with suicidal behavior. Secondary outcomes included self-reported preparedness measures and gatekeeper behaviors.

Results: In comparison with the Resilience Retreat (n = 24), ASIST training (n = 31) was not associated with a significant impact on all outcomes of the study based on intention-to-treat analysis. There was a trend toward an increase in suicidal ideation among those who participated in the ASIST in comparison to those who were in the Resilience Retreat.

Conclusions: The lack of efficacy of ASIST in a First Nations on-reserve sample is concerning in the context of widespread policies in Canada on the use of gatekeeper training in suicide prevention.

Comment

Main findings: This study examined the efficacy and safety of gatekeeper training methodologies in First Nations community members. The Applied Suicide Intervention Skills Training (ASIST) program was compared to a Resilience Retreat (RR), as the control. ASIST involves a 2-day intensive, interactive and practice-dominated workshop aimed at promoting an individual’s ability to recognize risk and promptly intervene to prevent suicide. The comparative 2-day RR involved cultural teachings and activities that did not focus on suicide education and awareness. The 96 participants were randomly assigned to one of the two programs with measures being completed pre-training (55 participants), post-training (49 participants), and at a 6-month follow-up (50 participants) in order to determine differences in primary (skills in suicide intervention), secondary (self-
reported preparedness to intervene with suicidal behaviour), and alternate (distress, alcohol use, resilience, and suicidal behaviour) outcomes.

With the exception of levels of knowledge about suicide risk, the ASIST training had no significant impact on skills in suicide intervention or on self-reported confidence, skills, or preparedness to help an individual who may be suicidal. There were also no significant differences between the two groups on gatekeeper behaviours over the follow-up period. Measures of resilience, alcohol use, and distress did not reveal any marked differences between the two programs from pre-training to the 6-month follow-up. At six months follow-up there appeared to be greater suicidal ideation (“serious thoughts of committing suicide or killing yourself”) among the participants involved in the ASIST program (25%) compared to those involved in the RR program (4.5%).

**Implications:** Only minimal differences were observed between the First Nation participants in the ASIST and RR programs, across time. The possible increase in suicidal ideation noted in the ASIST group mostly applied to younger people, and could potentially be associated with the discussion of suicidal behaviour within a group setting. Therefore, the appropriateness of this program for young First Nations individuals should be questioned. The use of gatekeeper training methodologies needs greater consideration and evaluation in the context of who is participating in such programs. For instance, it is possible that gatekeeper training may only have a positive impact on particular populations, while in others pre-existing vulnerabilities may interact with the training to increase suicide risk. This could have important implications for suicide prevention activities in Aboriginal and Torres Strait Islander communities in Australia. Larger trials of gatekeeper training should also study its cost-effectiveness in instilling appropriate preventative behaviours at a population level.

**Endnotes**

Rumination and suicidal ideation: The moderating roles of hope and optimism

Tucker RP, Wingate LR, O’Keefe VM, Mills AC, Rasmussen K, Davidson CL, Grant DM (USA)

Personality and Individual Differences 55, 606-611, 2013

The current study aimed to investigate whether the correlation between rumination and suicidal ideation is moderated by the presence of hope and optimism. It was hypothesized that both hope and optimism would moderate (weaken) the relationship between rumination and suicidal ideation. Two hundred and ninety-eight participants completed self-report measures of hope, optimism, rumination (brooding and reflection), and depression. Results demonstrated that both hope and optimism weakened the relationship between rumination and suicidal ideation, as well as the relationships between both subscales of rumination and suicidal thinking. These results were found when controlling for symptoms of depression. Results suggest that a ruminative thinking style may be most harmful when an absence of hope or optimism is also present.

Comment

Main findings: Rumination (repetitive thoughts regarding one’s current distress) and suicidal ideation (the formation of suicidal thoughts/ideas) are both potentially strong predictors of suicide risk. In an attempt to explain possible moderators of the association between rumination and suicidal ideation, the authors examined the characteristics of hope and optimism. Hopeful individuals are those who feel as though they can enact plans to work through issues occupying their thoughts, and optimistic individuals tend to think of the future in a positive manner and believe that life will be generally favourable. The sample consisted of 298 university participants aged between 18 and 56 years. Participants completed measures pertaining to suicidal ideation, depression, rumination (including two subscales: repetitive dwelling on negative consequences of distress – ‘brooding’ – and actively seeking information in order to further understand one’s distress – ‘reflection’), hope, and optimism. The analyses controlled for gender and depression due to their known association with both rumination and suicidal ideation. Suicidal ideation was positively associated with depression, rumination, and brooding and reflective rumination styles, whilst being negatively associated with both hope and optimism. Elevated levels of hope and optimism were associated with a weaker relationship between rumination and suicidal ideation. Regarding specific styles of rumination, higher levels of hope and optimism weakened the relationship between both brooding and reflective styles, and suicidal ideation.

Implications: The findings suggest behaviour that is oriented toward goals (goal setting), pathways (ascertaining how goals will be achieved), and agency (motivation to achieve) may protect against ruminative thinking. Individuals with positive expectations for the future may be more able to avoid ruminative thinking and suicidal ideation when faced with negative life events. Given the complexity
of suicidal behaviour, this study highlights the value of assessing hope and optimism as part of holistic suicide risk assessment. However, it is important to note that statements about causality are not possible from the current study due to the correlational nature of the investigation. Additionally, these results were based on university students and may not generalise to a clinical sample. Nevertheless, the research suggests that hope and optimism can be potential protective factors against suicidality. Methods of strengthening these characteristics may be useful to incorporate into suicide prevention programs and interventions.

Endnotes


Background and Aims: In the past decade, a large body of research has demonstrated that internet-based interventions can have beneficial effects on depression. However, only a few clinical trials have compared internet-based depression therapy with an equivalent face-to-face treatment. The primary aim of this study was to compare treatment outcomes of an internet-based intervention with a face-to-face intervention for depression in a randomized non-inferiority trial.

Method: A total of 62 participants suffering from depression were randomly assigned to the therapist-supported internet-based intervention group (n = 32) and to the face-to-face intervention (n = 30). The 8 week interventions were based on cognitive-behavioral therapy principles. Patients in both groups received the same treatment modules in the same chronological order and time-frame. Primary outcome measure was the Beck Depression Inventory-II (BDI-II); secondary outcome variables were suicidal ideation, anxiety, hopelessness and automatic thoughts.

Results: The intention-to-treat analysis yielded no significant between-group difference (online vs. face-to-face group) for any of the pre- to post-treatment measurements. At post-treatment both treatment conditions revealed significant symptom changes compared to before the intervention. Within group effect sizes for depression in the online group (d = 1.27) and the face-to-face group (d = 1.37) can be considered large. At 3-month follow-up, results in the online group remained stable. In contrast to this, participants in the face-to-face group showed significantly worsened depressive symptoms three months after termination of treatment (t = -2.05, df = 19, p<.05).

Limitations: Due to the small sample size, it will be important to evaluate these outcomes in adequately-powered trials.

Comment

Main findings: Individuals seeking treatment for depressive symptoms may encounter barriers (internal and external) to accessing effective psychotherapeutic treatment¹. These may include fear of stigma, unwillingness to disclose psychological problems, limited personal time, long waiting times and geographic distance to mental health services. Online (internet based) interventions may reduce some of these barriers. The authors empirically investigated the comparative effectiveness of an internet-based Cognitive Behavioural Therapy (CBT) intervention for depression (an 8-week program with high therapist involvement) with a face-to-face CBT intervention (one-hour weekly treatment sessions for 8 weeks). The 62 participants (aged 18 years and over) included in the study were randomly allocated into one of the two treatment groups. Depression (measured
using the Beck Depression Inventory-II) was used as the primary outcome measure. Secondary measures included suicidal ideation, hopelessness and negative automatic thoughts. Data from all measures were collected at pre-treatment, post-treatment and at a 3-month follow-up.

At post-treatment, both groups showed significant improvement in symptoms compared to pre-treatment. No significant differences were found between online and face-to-face groups on any of the pre-treatment and post-treatment measurements. All measures, except for suicidal ideation, showed significant symptom reduction in the online group. Similar patterns of symptom reduction were also noted in the face-to-face treatment group, however suicidal ideation had also lessened in that group. There was no significant difference in any of the outcome measures between post-treatment and at the 3-month follow-up for the online intervention group. In contrast, participants in the face-to-face group showed a significant increase in depressive symptoms from post-treatment to 3-month follow-up.

**Implications:** This investigation suggests that internet-based interventions may be equally effective as face-to-face therapy for depression. Less personal guidance and a stronger focus on self-responsibility to conduct parts of the treatment (homework assignments and treatment modules) may have prompted the sustained clinical improvement at the 3-month follow-up for the online group. This may stem from differences in the applied methods of each therapy; for example, a greater focus on completing the structured tasks in the online format, versus more frequent discussions of therapy-relevant issues in the face-to-face format. However, the face-to-face contact intervention was able to reduce the secondary outcome measure of suicidal ideation. The lack of reduction in suicidal ideation among participants in the online intervention group highlights the importance of face-to-face contact and intervention in addressing issues relating to suicidality.

**Endnotes**

Recommended Readings
**Epidemiology of suicide in Spain, 1981-2008: A spatiotemporal analysis**

Alvaro-Meca A, Kneib T, Gil-Prieto R, Gil de Miguel A (Spain, Germany)

*Public Health* 127, 380-385, 2013

**Objective:** To analyse the epidemiology of suicide, and compare its occurrence between the sexes and in various regions in Spain.

**Method:** Age-specific analysis and spatiotemporal analysis to analyse death by suicide between 1981 and 2008 in Spain.

**Study design:** Ecological study.

**Results:** Death by suicide has decreased since the 1990s in Spain, although peaks in suicides correspond with times of economic crisis. Death by suicide was more common among men than among women, although the suicide mortality rate increased over the study period among women aged 35-49 years. Geographical analysis showed that rural populations and areas with historically higher levels of unemployment have higher suicide rates. In contrast, less-populated regions have lower suicide rates.

**Conclusion:** Suicides in Spain exhibit a clear geographic pattern and occur at different rates between the genders. The results suggest an increasing number of suicides among women aged 35-49 years over the study period.

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**Suicidal behaviours in South East London: Prevalence, risk factors and the role of socio-economic status**

Aschan L, Goodwin L, Cross S, Moran P, Hotopf M, Hatch Sl (UK)

*Journal of Affective Disorders* 150, 441-449, 2013

**Background:** Low socio-economic status (SES) is an established risk factor of suicidal behaviours, but it is unknown to what extent its association is direct, indirect or confounded, given its strong association to mental health. We aimed to (I) estimate the prevalence of suicidal behaviours; (II) describe relevant risk factors; and (III) investigate direct and indirect effects of SES on suicidal behaviours.

**Methods:** We used cross-sectional community survey data of adults from randomly selected South East London households (SELCoH). Suicidal outcome measures replicated the 2007 Adult Psychiatric Morbidity Survey in England (APMS). Lifetime prevalence was described by socio-demographics, SES, mental health indicators, and life events. Structured symptom screens and a drug use questionnaire measured mental health. Structural equation models estimated direct and indirect effects of a latent SES variable on suicidal ideation and suicide attempts, adjusting for covariates.

**Results:** 20.5% (95% CI: 18.4-22.7) reported suicidal ideation and 8.1% (95% CI: 6.8-9.7) reported suicide attempts (higher than APMS estimates: 13.7%, 4.8%, respectively). Unadjusted risk factors included poor mental health, low SES, and non-married/non-cohabitating relationship status. Black African ethnicity was protective, and women reported more suicide attempts. SES was directly associ-
ated to suicide attempts, but not suicidal ideation. SES had indirect effects on suicidal outcomes via mental health and life events.

Limitations: The cross-sectional design and application of measures for different time periods did not allow for causal inferences.

Conclusions: Suicidal behaviours were more prevalent than in the general UK population. Interventions targeting low SES individuals may prove effective in preventing suicide attempts.

Alcohol as an acute risk factor for recent suicide attempts: A case-crossover analysis

Bagge CL, Lee H-J, Schumacher JA, Gratz KL, Krull JL, Holloman G (USA)
Journal of Studies on Alcohol and Drugs 74, 552-558, 2013

Objective: The extent to which acute alcohol use is a unique risk factor for suicide attempts is unknown. The aims of the current study were to quantify the unique effect of acute alcohol use on suicide attempts when adjusting for other acute exposures (other drug use and negative life events).

Method: The current study used a case-crossover design and participants included 192 (62% female) recent suicide attempters presenting to a Level 1 trauma hospital. A timeline followback methodology was used to assess acute exposures within the 48 hours before the suicide attempt.

Results: Results indicated that individuals were at increased odds of attempting suicide soon after drinking (odds ratio [OR] = 6.34), adjusting for acute drug use and negative life events. Furthermore, higher levels of drinking uniquely posed greater risk for a suicide attempt than lower levels of drinking (OR = 6.13) and no drinking (OR = 16.19) before the attempt.

Conclusions: Findings suggest the importance of considering acute alcohol use when evaluating short-term risk for suicide attempts.
Asking youth questions about suicide risk in the pediatric emergency department: Results from a qualitative analysis of patient opinions

Ballard ED, Stanley IH, Horowitz LM, Cannon EA, Pao M, Bridge JA (USA)

The emergency department (ED) is a promising setting to screen youth for suicide risk. Patient reactions to questions about suicidal thoughts and behaviors during their ED visit have implications for how screening is introduced, developed, and implemented. The current study is a qualitative investigation into patient opinions about screening for suicide risk in the ED. As part of a subset of a multisite study, 165 participants, 10 to 21 years old, were included in this subanalysis. Ninety percent of participants supported suicide risk screening. Reasons youth supported screening included prevention of suicide, detection of at-risk youth, and lack of other social support. Overall, pediatric patients agreed with suicide risk screening in the ED. A small subset of youth (10%) did not support screening for reasons that included a desire to focus on their chief presenting concern and fear of iatrogenic risk. Understanding patient opinions, including those in support of and in opposition to screening, can inform implementation practices. Further education about the importance of suicide risk assessment may be a helpful first step in instituting universal screening efforts.

Suicide within two weeks of discharge from psychiatric inpatient care: A case-control study

Psychiatric Services 64, 653-659, 2013

Objective: Suicide risk after discharge from psychiatric inpatient care is high, particularly in the first few weeks. The aim of the study was to identify risk factors and protective factors (that is, factors associated with a reduced risk of suicide), including variation in health care received, for suicide among patients in the two-week postdischarge period.

Methods: This was a national population-based retrospective case-control study of 100 psychiatric patients in England (2004-2006), age 18-65, who died by suicide within two weeks of hospital discharge. These patients were matched on discharge date with 100 living control group patients.

Results: Fifty-five percent of suicides occurred within a week of discharge, 49% of whom died before their first follow-up appointment. Conditional logistic regression analyses indicated that recent adverse life events and a short (less than one week) final admission were independently associated with postdischarge suicide, as were older age and comorbid psychiatric disorders. Receiving enhanced aftercare (under the Care Programme Approach) was protective of suicide.

Conclusions: Discharged patients viewed as being at high risk of suicide require immediate community follow-up. Mental health services should be mindful of
discharging patients after a short admission. The potential role of detrimental life experiences indicates that mental health clinicians need to be aware of the circumstances into which patients are being discharged. Use of enhanced levels of care, such as that offered by the Care Programme Approach, may play a strong role in preventing suicide within two weeks of discharge.

Additive effects between prematurity and postnatal risk factors of suicidal behavior
Blasco-Fontecilla H, Jaussent I, Olié E, García EB, Beziat S, Malafosse A, Guillaume S, Courtet P (Spain, France, Switzerland)

**Background:** Pre- and perinatal insults increase suicide risk. The main objective of the present study is to investigate if prematurity interacts in an additive fashion with postnatal risk factors of suicidal behavior.

**Method:** Sample and procedure: 857 adult suicide attempters consecutively hospitalized for a suicide attempt were included. Studied characteristics of suicide attempts included use of a violent mean, age at first suicide attempt, and number of suicide attempts. Risk factors of suicidal behavior included indexes of pre- and perinatal adversity, childhood maltreatment as measured with the Childhood Trauma Questionnaire, personality traits as measured with the Tridimensional Personality Questionnaire, and family history of suicidal behavior. Statistical analyses: Comparisons between the different patterns of suicide attempts characteristics were made using logistic regression with crude and adjusted odds ratios and 95% confidence intervals.

**Results:** The risk of violent suicide attempts increased significantly in patients born prematurely (OR [95%] = 2.38[1.12-5.08]). There were additive effects for very preterm birth and 1) emotional abuse (OR [95% CI] = 4.52 [1.75-11.60]), 2) novelty seeking (OR [95% CI] = 8.92[3.09-25.7]), and 3) harm avoidance (OR [95% CI] = 5.81 [2.43-13.90]) on the age at first suicide attempt, after adjustment for potential confounders.

**Conclusions:** Very preterm birth appears to be the first step in a cascade of stressors across lifetime, which affects the risk and the severity of suicidal behavior. Furthermore, very preterm birth, childhood maltreatment and personality traits have additive effects that influence the age at onset of suicide attempt. Our findings may have potential consequences for preventive policies.
Age and belongingness moderate the effects of combat exposure on suicidal ideation among active duty air force personnel

Bryan CJ, McNaughton-Cassill M, Osman A (USA)

Journal of Affective Disorders 150, 1226-1229, 2013

Objective: To determine if intensity of combat exposure relates to suicidal ideation among active duty Air Force personnel according to age and perceived belonging.

Method: Self-report measures of suicidal ideation, combat exposure (e.g., firing weapons, being fired upon), aftermath exposure (e.g., seeing dead bodies and devastation), emotional distress, belongingness, and perceived burdensomeness were completed by 273 (81.7% male; 67.8% Caucasian, 20.5% African American, 2.2% Native American, 7% Asian, 4% Pacific Islander, and 8.4% “other”; age M=25.99, SD = 5.90) active duty Air Force Security Forces personnel. Multiple regression modeling was utilized to test the associations of combat exposure and aftermath exposure with recent suicidal ideation.

Results: A significant age-by-combat exposure interaction was found (B = 0.014, SE = 0.006, p = 0.019), suggesting combat exposure and suicidal ideation was strongest among military personnel above the age of 34. The age-by-aftermath exposure interaction was not significant (B = -0.003, SE = 0.004, p = 0.460). A significant three-way interaction of age, combat exposure, and belongingness was also found (B = 0.011, SE = 0.005, p = 0.042). The Johnson-Neyman test indicated that suicidal ideation was most severe among Airmen above the age of 29 years with high combat exposure and low levels of belongingness.

Limitations: Cross-sectional, self-report design limited to two Air Force units.

Conclusions: A strong sense of belonging protects against suicidal ideation among Airmen above the age of 29 years who have been exposed to higher levels of combat.

All-cause and cause-specific mortality after long-term sickness absence for psychiatric disorders: A prospective cohort study

Bryngelson A, Åsberg M, Nygren Å, Jensen I, Mittendorfer-Rutz E (Sweden)

PLoS ONE 8, e67887, 2013

Objective: The aim was to examine if long-term psychiatric sickness absence was associated with all-cause and diagnosis-specific (cardiovascular disease (CVD), cancer and suicide) mortality for the period 1990-2007. An additional aim was to examine these associations for psychiatric sickness absence in 1990 and 2000, with follow-up on mortality during 1991-1997 and 2001-2007, separately.

Methods: Employees within municipalities and county councils, 244,990 individuals in 1990 and 764,137 individuals in 2000, were followed up to 2007 through register linkages. Analyses were conducted with flexible parametric survival models comparing sickness absentees due to psychiatric diagnoses (>90 days) with those not receiving sick leave benefit.

Results: Long-term sickness absence for psychiatric disorders was associated with an
increased risk of mortality due to all causes; CVD; cancer (smoking and non-smoking related); and suicide during the period 1990-2007. After full adjustment for sociodemographic covariates and previous inpatient care due to somatic and psychiatric diagnoses, these associations remained significant for all-cause mortality (Hazard ratios (HR) and 95% confidence interval (CI)): HR 1.56, 95% CI 1.3-1.8; CVD: HR 1.35, 95% CI 1.0-1.9, and suicide: HR 3.84, 95% CI 2.4-6.1. For both cohorts 1990 and 2000 estimates point in the same direction. For the time-period 2000-2007, we found increased risks of mortality in the fully adjusted model due to all causes: HR 1.47, 95% CI 1.2-1.7; CVD: HR 1.83, 95% CI 1.2-2.7; overall cancer: HR 1.33, 95% CI 1.0-1.7; and suicide: HR 2.15, 95% CI 1.3-3.7.

**Conclusion:** Long-term sickness absence for psychiatric disorders predicted premature mortality from all-causes, cardiovascular disease, cancer, and suicide.

**Suicide related events and attention deficit hyperactivity disorder treatments in children and adolescents: A meta-analysis of atomoxetine and methylphenidate comparator clinical trials**

Bushe CJ, Savill NC (UK)

*Child and Adolescent Psychiatry and Mental Health* 7, 19, 2013

**Background:** Attention Deficit Hyperactivity Disorder (ADHD) is becoming an increasingly commonly diagnosed and treated childhood illness. Untreated ADHD is recognised as an independent risk factor for suicide-related events and deliberate self-harm and is reported more commonly in these populations. With the treatment of ADHD it is thus crucial to understand further any associations between pharmacological treatments and suicide-related events. Specific data for suicide-related events with stimulants have not been publically reported. Suicidal tendencies are, however, a contraindication to the treatment of patients with methylphenidate. Clinicians and patients may be helped by a meta-analytic comparison of suicide-related events in comparative randomised double-blind atomoxetine and methylphenidate clinical trials.

**Methods:** Suicide-related events retrospectively mapped to the suicide-related event assessment instrument recommended by the FDA, the Columbia Classification Algorithm for Suicide Assessment (C-CASA), were evaluated in five double-blind placebo controlled comparative studies of atomoxetine and methylphenidate (n = 1024) of 6 to 9 weeks duration. The Mantel-Haenszel risk ratio and Mantel-Haenszel incidence differences have been calculated.

**Results:** In total there were 5 suicide-related events, atomoxetine (ATX) 3/559 and methylphenidate (MPH) 2/465. There were no suicide attempts nor completed suicides. Meta-analysis finds no difference of a difference in risk between ATX and MPH with a Mantel-Haenszel risk ratio of 0.52 (95% CI; 0.06, 4.54).

**Conclusions:** In the only reported meta-analysis of comparative suicide-related events between atomoxetine and methylphenidate, no significant evidence of a difference in risk has been found. These data may be informative to clinicians and patients when developing clinical guidelines.
Exposure to suicide and identification as survivor
Cerel J, Maple M, Aldrich R, van de Venne J (USA, Australia)
Crisis 34, 413-419, 2013

**Background:** There is little empirical evidence regarding lifetime exposure to suicide or identification of those impacted by suicide deaths. Studies previously conducted used only convenience samples.

**Aims:** To determine the prevalence of suicide exposure in the community and those affected by suicide deaths.

**Methods:** A random digit dial sample of 302 adults.

**Results:** 64% of the sample knew someone who had attempted or died by suicide, and 40% knew someone who died by suicide. No demographic variables differentiated exposed versus unexposed, indicating that exposure to suicide cuts across demographics. Almost 20% said they were a “survivor” and had been significantly affected by a suicide death. Demographic variables did not differentiate groups. The relationship to the decedent was not related to self-identified survivor status; what did differentiate those individuals impacted by the death from those who did not was their perception of their relationship with the decedent.

**Conclusions:** Kinship proximity and relationship category to the deceased appeared to be unrelated to survivor status, but perceived psychological closeness to the deceased showed a robust association with self-identified survivor status. We need an expanded definition of “suicide survivor” to account for the profound impact of suicide in the community.

Parenting behavior and the interpersonal-psychological theory of suicide: A mediated moderation analysis with adolescents
Cero I, Sifers SK (USA)
Journal of Affective Disorders. Published online: 18 June 2013. doi: 10.1016/j.jad.2013.05.025, 2013

**Background:** Multiple features of parenting have been associated with development of suicide-related behaviors in adolescents. However, findings are inconsistent on which aspects of parenting are protective or harmful and why. This investigation sought to reconcile these discrepancies through the Interpersonal-Psychological Theory of Suicide (IPTS), which argues that suicide ideation and the capability to attempt suicide are etiologically distinct.

**Methods:** Responses of 200 Midwestern public school students to the Profiles of Student Life: Attitudes and Behavior survey were analyzed using mediated moderation analysis.

**Results:** Participant sex significantly moderated the relationships between parenting variables and suicide attempts and these relationships were accounted for by IPTS variables. Specifically, the effect of parental support on suicide attempts was twice as strong for girls. Self-esteem mediated this interaction (b = -.011, SEboot = .008, p<.05, 2 = .07). Conversely, the effect of parental boundaries on suicide
attempts was significant for boys, but not for girls, and was mediated by exposure to violence ($b = .029, \text{SE}_{\text{boot}} = .021, p < .05$, $\chi^2 = .07$).

**Limitations:** This study involved retrospective report with proxy-measures of IPTS constructs. Future research should consider multiple informants and additional measures.

**Conclusion:** Findings highlight potential mechanisms by which parenting behaviors could influence sex differences in adolescent suicide-related behaviors, and that some parenting behavior is associated with reduced adolescent suicide attempts. Findings also suggest the IPTS is able to account for previously identified inconsistencies in the effects of parenting behaviors on adolescent suicide-related behaviors. Implications for theory and intervention are discussed.

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**The interaction effect between low income and severe illness on the risk of death by suicide after self-harm**

Chung C-H, Pai L, Kao S, Lee M-S, Yang T-T, Chien W-C (China)

*Crisis* 34, 398-405, 2013

**Background:** Previous Western studies have reported that the prevalence of death by suicide within 1 year after self-harm was 0.5-2%; however, no studies have focused on the Far East.

**Aims:** To calculate the prevalence of death by suicide after self-harm over different lengths of follow-up time and to determine the predictors of death by suicide after self-harm.

**Method:** Our study was based on 3,388 inpatients hospitalized between 2000 and 2007 in any of the 1,230 hospitals in Taiwan. Death by suicide after self-harm among the members of this cohort was tracked after 3 months, 6 months, and 1-8 years. The tracking continued until December 31, 2008. We analyzed the prevalence and risk factors of death by suicide after self-harm using Cox’s regression model.

**Results:** Of the 3,388 individuals with a history of self-harm included in the study, 48 (1.4%) died by suicide after self-harm within 3 months and 97 (2.9%) within 1 year. In all, 144 (4.3%) died by suicide after self-harm within 8 years. The predictors of death by suicide were violent methods (such as hanging, drowning, firearms, and jumping), low income, and severe illness. Moreover, an interaction effect was noted between low income and severe illness on the outcome (death by suicide).

**Conclusion:** It seems that effective healthcare for individuals who engage in self-harming behavior would benefit from supplementing medical care with social assistance, such as the support of a social worker.
Lithium in the prevention of suicide in mood disorders: Updated systematic review and meta-analysis

Cipriani A, Hawton K, Stockton S, Geddes JR (Italy, UK)
British Medical Journal 346, f3646, 2013

Objective: To assess whether lithium has a specific preventive effect for suicide and self harm in people with unipolar and bipolar mood disorders.

Design: Systematic review and meta-analysis.

Data Sources: Medline, Embase, CINAHL, PsycINFO, CENTRAL, web based clinical trial registries, major textbooks, authors of important papers and other experts in the discipline, and websites of pharmaceutical companies that manufacture lithium or the comparator drugs (up to January 2013).

Inclusion Criteria: Randomised controlled trials comparing lithium with placebo or active drugs in long term treatment for mood disorders.

Review Methods: Two reviewers assessed studies for inclusion and risk of bias and extracted data. The main outcomes were the number of people who completed suicide, engaged in deliberate self harm, and died from any cause.

Results: 48 randomised controlled trials (6674 participants, 15 comparisons) were included. Lithium was more effective than placebo in reducing the number of suicides (odds ratio 0.13, 95% confidence interval 0.03 to 0.66) and deaths from any cause (0.38, 0.15 to 0.95). No clear benefits were observed for lithium compared with placebo in preventing deliberate self harm (0.60, 0.27 to 1.32). In unipolar depression, lithium was associated with a reduced risk of suicide (0.36, 0.13 to 0.98) and also the number of total deaths (0.13, 0.02 to 0.76) compared with placebo. When lithium was compared with each active individual treatment a statistically significant difference was found only with carbamazepine for deliberate self harm. Lithium tended to be generally better than the other active comparators, with small statistical variation between the results.

Conclusions: Lithium is an effective treatment for reducing the risk of suicide in people with mood disorders. Lithium may exert its antisuicidal effects by reducing relapse of mood disorder, but additional mechanisms should also be considered because there is some evidence that lithium decreases aggression and possibly impulsivity, which might be another mechanism mediating the antisuicidal effect.
A systematic review of suicide prevention interventions targeting Indigenous peoples in Australia, United States, Canada and New Zealand

Clifford AC, Doran CM, Tsey K (Australia)
BMC Public Health 13, 463, 2013

**Background:** Indigenous peoples of Australia, Canada, United States and New Zealand experience disproportionately high rates of suicide. As such, the methodological quality of evaluations of suicide prevention interventions targeting these Indigenous populations should be rigorously examined, in order to determine the extent to which they are effective for reducing rates of Indigenous suicide and suicidal behaviours. This systematic review aims to: 1) identify published evaluations of suicide prevention interventions targeting Indigenous peoples in Australia, Canada, United States and New Zealand; 2) critique their methodological quality; and 3) describe their main characteristics.

**Methods:** A systematic search of 17 electronic databases and 13 websites for the period 1981—2012 (inclusive) was undertaken. The reference lists of reviews of suicide prevention interventions were hand-searched for additional relevant studies not identified by the electronic and web search. The methodological quality of evaluations of suicide prevention interventions was assessed using a standardised assessment tool.

**Results:** Nine evaluations of suicide prevention interventions were identified: five targeting Native Americans; three targeting Aboriginal Australians; and one First Nation Canadians. The main intervention strategies employed included: Community Prevention, Gatekeeper Training, and Education. Only three of the nine evaluations measured changes in rates of suicide or suicidal behaviour, all of which reported significant improvements. The methodological quality of evaluations was variable. Particular problems included weak study designs, reliance on self-report measures, highly variable consent and follow-up rates, and the absence of economic or cost analyses.

**Conclusions:** There is an urgent need for an increase in the number of evaluations of preventive interventions targeting reductions in Indigenous suicide using methodologically rigorous study designs across geographically and culturally diverse Indigenous populations. Combining and tailoring best evidence and culturally-specific individual strategies into one coherent suicide prevention program for delivery to whole Indigenous communities and/or population groups at high risk of suicide offers considerable promise.
Mortality in persons with mental disorders is substantially overestimated using inpatient psychiatric diagnoses

Crump C, Ioannidis JP, Sundquist K, Winkleby MA, Sundquist J (USA, Sweden)


Mental disorders are associated with premature mortality, and the magnitudes of risk have commonly been estimated using hospital data. However, psychiatric patients who are hospitalized have more severe illness and do not adequately represent mental disorders in the general population. We conducted a national cohort study using outpatient and inpatient diagnoses for the entire Swedish adult population (N = 7,253,516) to examine the extent to which mortality risks are overestimated using inpatient diagnoses only. Outcomes were all-cause and suicide mortality during 8 years of follow-up (2001-2008). There were 377,339 (5.2%) persons with any inpatient psychiatric diagnosis, vs. 680,596 (9.4%) with any inpatient or outpatient diagnosis, hence 44.6% of diagnoses were missed using inpatient data only. When including and accounting for prevalent psychiatric cases, all-cause mortality risk among persons with any mental disorder was overestimated by 15.3% using only inpatient diagnoses (adjusted hazard ratio [aHR], 5.89; 95% CI, 5.85-5.92) vs. both inpatient and outpatient diagnoses (aHR, 5.11; 95% CI, 5.08-5.14). Suicide risk was overestimated by 18.5% (aHRs, 23.91 vs. 20.18), but this varied widely by specific disorders, from 4.4% for substance use to 49.1% for anxiety disorders. The sole use of inpatient diagnoses resulted in even greater overestimation of all-cause or suicide mortality risks when prevalent cases were unidentified (approximately 20-30%) or excluded (approximately 25-40%). However, different methods for handling prevalent cases resulted in only modest variation in risk estimates when using both inpatient and outpatient diagnoses. These findings have important implications for the interpretation of hospital-based studies and the design of future studies.

Sociodemographic, psychiatric and somatic risk factors for suicide: A Swedish national cohort study

Crump C, Sundquist K, Sundquist J, Winkleby MA (USA, Sweden)

Psychological Medicine. Published online: 23 April 2013. doi: 10.1017/S0033291713000810, 2013

Background: More effective prevention of suicide requires a comprehensive understanding of sociodemographic, psychiatric and somatic risk factors. Previous studies have been limited by incomplete ascertainment of these factors. We conducted the first study of this issue using sociodemographic and out-patient and in-patient health data for a national population.

Method: We used data from a national cohort study of 7140589 Swedish adults followed for 8 years for suicide mortality (2001-2008). Sociodemographic factors were identified from national census data, and psychiatric and somatic disorders were identified from all out-patient and in-patient diagnoses nationwide.

Results: There were 8721 (0.12%) deaths from suicide during 2001-2008. All psy-
Chronic psychiatric disorders were strong risk factors for suicide among both women and men. Depression was the strongest risk factor, with a greater than 15-fold risk among women or men and even higher risks (up to 32-fold) within the first 3 months of diagnosis. Chronic obstructive pulmonary disease (COPD), cancer, spine disorders, asthma and stroke were significant risk factors among both women and men (1.4-2.1-fold risks) whereas diabetes and ischemic heart disease were modest risk factors only among men (1.2-1.4-fold risks). Sociodemographic risk factors included male sex, unmarried status or non-employment; and low education or income among men.

Conclusions: All psychiatric disorders, COPD, cancer, spine disorders, asthma, stroke, diabetes, ischemic heart disease and specific sociodemographic factors were independent risk factors for suicide during 8 years of follow-up. Effective prevention of suicide requires a multifaceted approach in both psychiatric and primary care settings, targeting mental disorders (especially depression), specific somatic disorders and indicators of social support.

Comorbidities and mortality in bipolar disorder: A Swedish national cohort study
Crump C, Sundquist K, Winkleby MA, Sundquist J (USA, Sweden)
JAMA Psychiatry 70, 931-939, 2013

Importance: Bipolar disorder is associated with premature mortality, but the specific causes and underlying pathways are unclear.

Objective: To examine the physical health effects of bipolar disorder using outpatient and inpatient data for a national population.

Design, Setting, and Participants: National cohort study of 6 587 036 Swedish adults, including 6618 with bipolar disorder.

Main Outcome Measures: Physical comorbidities diagnosed in any outpatient or inpatient setting nationwide and mortality (January 1, 2003, through December 31, 2009).

Results: Women and men with bipolar disorder died 9.0 and 8.5 years earlier on average than the rest of the population, respectively. All-cause mortality was increased 2-fold among women (adjusted hazard ratio [aHR], 2.34; 95% CI, 2.16-2.53) and men (aHR, 2.03; 95% CI, 1.85-2.23) with bipolar disorder, compared with the rest of the population. Patients with bipolar disorder had increased mortality from cardiovascular disease, diabetes mellitus, chronic obstructive pulmonary disease (COPD), influenza or pneumonia, unintentional injuries, and suicide for both women and men and cancer for women only. Suicide risk was 10-fold among women (aHR, 10.37; 95% CI, 7.36-14.60) and 8-fold among men (aHR, 8.09; 95% CI, 5.98-10.95) with bipolar disorder, compared with the rest of the population. Substance use disorders contributed only modestly to these findings. The association between bipolar disorder and mortality from chronic diseases (ischemic heart disease, diabetes, COPD, or cancer) was weaker among persons with a prior diagnosis of these conditions (aHR, 1.40; 95% CI, 1.26-1.56)
than among those without a prior diagnosis (aHR, 2.38; 95% CI, 1.95-2.90; Pinteraction = .01).

Conclusions and Relevance: In this large national cohort study, patients with bipolar disorder died prematurely from multiple causes, including cardiovascular disease, diabetes, COPD, influenza or pneumonia, unintentional injuries, and suicide. However, chronic disease mortality among those with more timely medical diagnosis approached that of the general population, suggesting that better provision of primary medical care may effectively reduce premature mortality among persons with bipolar disorder.

The impact of exercise on suicide risk: Examining pathways through depression, PTSD, and sleep in an inpatient sample of veterans

Davidson CL, Babson KA, Bonn-Miller MO, Souter T, Vannoy S (USA)

Suicide and Life-Threatening Behavior 43, 279-289, 2013

Suicide has a large public health impact. Although effective interventions exist, the many people at risk for suicide cannot access these interventions. Exercise interventions hold promise in terms of reducing suicide because of their ease of implementation. While exercise reduces depression, and reductions in depressive symptoms are linked to reduced suicidal ideation, no studies have directly linked exercise and suicide risk. The current study examined this association, including potential mediators (i.e., sleep disturbance, posttraumatic stress symptoms, and depression), in a sample of Veterans. SEM analyses revealed that exercise was directly and indirectly associated with suicide risk. Additionally, exercise was associated with fewer depressive symptoms and better sleep patterns, each of which was, in turn, related to lower suicide risk.

Life-time and current suicide-ideation in Australian secondary school students: Socio-demographic, health and psychological predictors

Delfabbro PH, Winefield HR, Winefield AH (Australia)

Journal of Affective Disorders 151, 514-524, 2013

Background: This study involved a multi-level analysis of factors related to self-reported suicidality (both current and life-time) in adolescents.

Methods: A sample of 2552 students aged 14-16 years answered questions relating to demographics, social and familial functioning, psychological well-being and suicidality.

Results: Suicidality, defined as being at least some element of reported suicide ideation, Behaviourally, suicidality was also more likely if students smoked, drank alcohol without adult supervision or if they took illicit drugs was more likely in girls, and in those with poorer social, family and psychological functioning. Behaviourally, suicidality was also more likely if students smoked, drank alcohol
or took illicit drugs. Multi-level modelling showed that negative affect, substance use and the presence of romantic relationships were most strongly associated with suicidality. Both current and life-time measures of suicidality showed similar results. Both models suggested that the presence of substance use in teenagers is a potentially useful indicator of elevated suicide risk and that many of the social problems commonly associated with suicidality are likely to be mediated by negative affective states.

Limitations: The study had several limitations. First, it was cross-sectional so it was not possible to examine how variables measured at one time predicted subsequent suicidality. Second, the present analyses were based on a single measure of suicidality that did not differentiate between ideation and attempts. Thus, the analyses did not indicate the severity of the suicidality: whether it involved ideation or actual attempts.

Conclusions: Adolescent girls and adolescents with poor social and family functioning and those who engage in substance use are at risk of suicidal ideation (a known precursor of suicide attempts). School counsellors and teachers need to be aware of the risks.

From sense-making to meaning-making: Understanding and supporting survivors of suicide
Dransart DAC (UK)

This article reports findings from a qualitative study conducted in Switzerland, aimed at understanding how forty-eight survivors made sense of the suicide of a loved one. In-depth interviews were carried out and grounded theory analysis was performed. Suicide shatters the assumptive world of survivors. In their quest for meaning, they undergo three processes. Sense-making is seeking comprehensibility and consists of rebuilding the path which led to suicide and the figure of the person who died. Memory-building encompasses dealing with the legacy of suicide, by preserving reputation and presenting a public storyline intended for people outside the family circle. Meaning-making allows the survivor to journey towards an existential significance of the loss. Four ways of meaning-making were highlighted: for some, suicide becomes the driving force behind a commitment to suicide prevention; for others, it is the source of an increased awareness of life. Other survivors cannot find a constructive personal existential meaning, which prevents the rebuilding of self. Finally, for a minority, suicide is a mishap which needs to be dealt with. Suggestions are made on how social workers can assist survivors in their processes of meaning-making by supporting the elaboration of constructive narratives and offering tailored resources.
Short-term psychotherapeutic treatment in adolescents engaging in non-suicidal self-injury: A randomized controlled trial

Fischer G, Brunner R, Parzer P, Resch F, Kaess M (Germany)

Trials 14, 294, 2013

Background: Worldwide, prevalence rates of adolescent non-suicidal self-injury (NSSI) range between 13 and 45%. In Germany, lifetime prevalence of NSSI is around 25% in non-clinical samples, and the one-year prevalence for repetitive NSSI is 4%. NSSI is present in the context of several axis I and II disorders (for example, affective disorders or borderline personality disorder); however, preliminary evidence suggests that it would be justified to consider NSSI as its own diagnostic category. Despite the large impact of this behavior, there is still a lack of evidence-based, specific, and effective manualized treatment approaches for adolescents with NSSI.

Methods: The study is designed as a randomized controlled trial (RCT) to test the effectiveness of a new cognitive-behavioral treatment manual for self-harming adolescents - the ‘Cutting-Down-Programme’ (CDP). A total of 80 adolescents aged between 12 and 17 years from a region in Southern Germany who have engaged in repetitive NSSI (≥ 5 incidents) in the last 6 months will be randomized into a treatment group (CDP) or a control group that will receive treatment as usual (TAU). The adolescents will be assessed by means of structured interviews and questionnaires at three time points (before treatment, directly after treatment and six months after treatment). Primary outcome criterion is a significant reduction (or remission) in the frequency of NSSI. Secondary outcome criteria are depressivity as well as general well-being and self-worth. Additionally, comorbid psychiatric disorders and childhood adversity will be evaluated as predictors of therapeutic outcome.

Discussion: Recently, a pilot study in the United Kingdom showed significant reductions in self-harming behavior, depressive symptoms and trait anxiety. This is the first RCT to test the effectiveness of a short-term psychotherapeutic intervention in outpatients engaging in NSSI.

Filicide: Mental illness in those who kill their children

Flynn SM, Shaw JJ, Abel KM (UK)

PLoS ONE 8, e58981, 2013

Background: Most child victims of homicide are killed by a parent or step-parent. This large population study provides a contemporary and detailed description of filicide perpetrators. We examined the relationship between filicide and mental illness at the time of the offence, and care received from mental health services in the past.

Method: All filicide and filicide-suicide cases in England and Wales (1997-2006) were drawn from a national index of homicide perpetrators. Data on people in contact with mental health services were obtained via a questionnaire from
mental health teams. Additional clinical information was collected from psychiatric reports.

Results: 6144 people were convicted of homicide, 297 were filicides, and 45 cases were filicide-suicides. 195 (66%) perpetrators were fathers. Mothers were more likely than fathers to have a history of mental disorder (66% v 27%) and symptoms at the time of the offence (53% v 23%), most often affective disorder. 17% of mothers had schizophrenia or other delusional disorders. Overall 8% had schizophrenia. 37% were mentally ill at the time of the offence. 20% had previously been in contact with mental health services, 12% within a year of the offence.

Conclusion: In the majority of cases, mental illness was not a feature of filicide. However, young mothers and parents with severe mental illness, especially affective and personality disorder who are providing care for children, require careful monitoring by mental health and other support services. Identifying risk factors for filicide requires further research.

Responses to a self-presented suicide attempt in social media
Fu K-W, Cheng Q, Wong PWC, Yip PSF (China, USA)
Crisis 34, 406-412, 2013

Background: The self-presentation of suicidal acts in social media has become a public health concern.

Aims: This article centers on a Chinese microblogger who posted a wrist-cutting picture that was widely circulated in Chinese social media in 2011. This exploratory study examines written reactions of a group of Chinese microbloggers exposed to the post containing a self-harming message and photo. In addition, we investigate the pattern of information diffusion via a social network.

Methods: We systematically collected and analyzed 5,971 generated microblogs and the network of information diffusion.

Results: We found that a significant portion of written responses (36.6%) could help vulnerable netizens by providing peer-support and calls for help. These responses were reposted and diffused via an online social network with markedly more clusters of users - and at a faster pace - than a set of randomly generated networks.

Conclusions: We conclude that social media can be a double-edged sword: While it may contagiously affect others by spreading suicidal thoughts and acts, it may also play a positive role by assisting people at risk for suicide, providing rescue or support. More research is needed to learn how suicidally vulnerable people interact with online suicide information, and how we can effectively intervene.
Unemployment and suicide during and after a deep recession: A longitudinal study of 3.4 million Swedish men and women
Garcy AM, Vagero D (Sweden)

**Objectives:** We tested 2 hypotheses found in studies of the relationship between suicide and unemployment: causal (stress and adversity) and selective interpretation (previous poor health).

**Methods:** We estimated Cox models for adults \( n = 3\,424\,550 \) born between 1931 and 1965. We examined mortality during the recession (1993-1996), postrecession (1997-2002), and a combined follow-up. Models controlled for previous medical problems, and social, family, and employer characteristics.

**Results:** During the recession there was no excess hazard of mortality from suicide or events of undetermined intent. Postrecession, there was an excess hazard of suicide mortality for unemployed men but not unemployed women. However, for unemployed women with no health-problem history there was a modest hazard of suicide. Finally, there was elevated mortality from events of undetermined intent for unemployed men and women postrecession.

**Conclusions:** A small part of the relationship may be related to health selection, more so during the recession. However, postrecessionary period findings suggest that much of the association could be causal. A narrow focus on suicide mortality may understate the mortality effects of unemployment in Sweden.

Perceived stops to suicidal thoughts, plans, and actions in persons experiencing psychosis
Gooding PA, Sheehy K, Tarrier N (UK)
Crisis 34, 273-281, 2013

**Background:** Suicide has been conceived as involving a continuum, whereby suicidal plans and acts emerge from thoughts about suicide. Suicide prevention strategies need to determine whether different responses are needed at these points on the continuum.

**Aims:** This study investigates factors that were perceived to counter suicidal ideation, plans, and acts.

**Method:** The 36 participants, all of whom had had experiences of psychosis and some level of suicidality, were presented with a vignette describing a protagonist with psychotic symptoms. They were asked to indicate what would counter the suicidal thoughts, plans, and acts of the protagonist described in the vignette. Qualitative techniques were first used to code these free responses into themes/categories. Correspondence analysis was then applied to the frequency of responses in each of these categories.
Results: Social support was identified as a strong counter to suicidal ideation but not as a counter to suicidal plans or acts. Help from health professionals was strongly related to the cessation of suicidal plans as were the opinions of the protagonist’s children. Changing cognitions and strengthening psychological resources were more weakly associated with the cessation of suicidal ideation and plans. The protagonist’s children were considered potentially helpful in addressing suicidal acts.

Conclusion: These results suggest that both overlapping and nonoverlapping factors need to be considered in understanding suicide prevention, dependent on whether individuals are thinking about, planning, or attempting suicide.

Impact of applied suicide intervention skills training on the national suicide prevention lifeline
Gould MS, Cross W, Pisani AR, Munfakh JL, Kleinman M (USA)
Suicide and Life-Threatening Behavior. Published online: 25 July 2013. doi: 10.1111/sltb.12049, 2013

We examined the impact of the implementation of Applied Suicide Intervention Skills Training (ASIST) across the National Suicide Prevention Lifeline’s national network of crisis hotlines. Data were derived from 1,507 monitored calls from 1,410 suicidal individuals to 17 Lifeline centers in 2008-2009. Callers were significantly more likely to feel less depressed, less suicidal, less overwhelmed, and more hopeful by the end of calls handled by ASIST-trained counselors. Few significant changes in ASIST-trained counselors’ interventions emerged; however, improvements in callers’ outcomes were linked to ASIST-related counselor interventions, including exploring reasons for living and informal support contacts. ASIST training did not yield more comprehensive suicide risk assessments.

Antidepressant utilization and suicide in Europe: An ecological multi-national study

Background: Research concerning the association between use of antidepressants and incidence of suicide has yielded inconsistent results and is the subject of considerable controversy. The first aim is to describe trends in the use of antidepressants and rates of suicide in Europe, adjusted for gross domestic product, alcohol consumption, unemployment, and divorce. The second aim is to explore if any observed reduction in the rate of suicide in different European countries preceded the trend for increased use of antidepressants.

Methods: Data were obtained for 29 European countries between 1980 and 2009. Pearson correlations were used to explore the direction and magnitude of associations. Generalized linear mixed models and Poisson regression distribution were
used to clarify the effects of antidepressants on suicide rates, while an autoregressive adjusted model was used to test the interaction between antidepressant utilization and suicide over two time periods: 1980-1994 and 1995-2009.

**Findings:** An inverse correlation was observed in all countries between recorded Standardised Death Rate (SDR) for suicide and antidepressant Defined Daily Dosage (DDD), with the exception of Portugal. Variability was marked in the association between suicide and alcohol, unemployment and divorce, with countries depicting either a positive or a negative correlation with the SDR for suicide. Every unit increase in DDD of an antidepressant per 1000 people per day, adjusted for these confounding factors, reduces the SDR by 0.088. The correlation between DDD and suicide related SDR was negative in both time periods considered, albeit more pronounced between 1980 and 1994.

**Conclusions:** Suicide rates have tended to decrease more in European countries where there has been a greater increase in the use of antidepressants. These findings underline the importance of the appropriate use of antidepressants as part of routine care for people diagnosed with depression, therefore reducing the risk of suicide.

**Longitudinal course and predictors of suicidal ideation in a rural community sample**


**Objective:** Suicide rates in rural Australia are higher than in urban areas. No existing research has explored the long-term patterns and predictors of change in suicidal ideation within rural areas. This report uses longitudinal data and multiple time points to determine predictors of the trajectory of suicidal ideation in rural Australia.

**Method:** Participants in the Australian Rural Mental Health Study (ARMHS) completed self-report surveys at baseline, 12 and 36 months, reporting their psychological and social well-being, and suicidal ideation. Generalised linear mixed models explored these factors as correlates and predictors of suicidal ideation across 3 years using multiple data points.

**Results:** A total of 2135 participants completed at least one wave of ARMHS, and hence were included in the current analysis. Overall, 8.1% reported suicidal ideation during at least one study wave, 76% of whom reported suicidal ideation intermittently rather than consistently across waves. Across the three time points, suicidal ideation was significantly associated with higher psychological distress (OR 1.30, 95% CI 1.23 to 1.37), neuroticism (OR 1.15, 95% CI 1.04 to 1.27), and availability of support (OR 0.80, 95% CI 0.69 to 0.92), with a non-significant association with unemployment (OR 1.73, 95% CI 0.93 to 3.24) even after controlling for the effects of perceived financial hardship. Future suicidal ideation was significantly predicted by distress (OR 1.16, 95% CI 1.09 to 1.23) and neuroticism...
(OR 1.17, 95% CI 1.03 to 1.32), with a non-significant association with unemployment (OR 2.11, 95% CI 0.41 to 2.27). Predictive effects for marital status, social networks, sense of community and availability of support did not remain significant in the full multivariate analysis.

**Conclusions:** Fluctuations in suicidal ideation are common, and may be associated with changes in psychological and social well-being. Public health strategies, focusing on encouraging help-seeking among those with higher psychological distress, lower social support, and unstable or absent employment opportunities, may be a useful long-term initiative to reduce the prevalence of suicidal ideation in the general rural community.

**Predictors of suicidal ideation in older people: A decision tree analysis**


*American Journal of Geriatric Psychiatry.* Published online: 5 September 2013. doi: 10.1016/j.jagp.2013.05.009, 2013

**Objectives:** Suicide among older adults is a major public health issue worldwide. Although studies have identified psychological, physical, and social contributors to suicidal thoughts in older adults, few have explored the specific interactions between these factors. This article used a novel statistical approach to explore predictors of suicidal ideation in a community-based sample of older adults.

**Design:** Prospective cohort study.

**Participants and Settings:** Participants aged 55-85 years were randomly selected from the Hunter Region, a large regional center in New South Wales, Australia.

**Measurements:** Baseline psychological, physical, and social factors, including psychological distress, physical functioning, and social support, were used to predict suicidal ideation at the 5-year follow-up. Classification and regression tree modeling was used to determine specific risk profiles for participants depending on their individual well-being in each of these key areas.

**Results:** Psychological distress was the strongest predictor, with 25% of people with high distress reporting suicidal ideation. Within high psychological distress, lower physical functioning significantly increased the likelihood of suicidal ideation, with high distress and low functioning being associated with ideation in 50% of cases. A substantial subgroup reported suicidal ideation in the absence of psychological distress; dissatisfaction with social support was the most important predictor among this group. The performance of the model was high (area under the curve: 0.81).

**Conclusions:** Decision tree modeling enabled individualized “risk” profiles for suicidal ideation to be determined. Although psychological factors are important for predicting suicidal ideation, both physical and social factors significantly improved the predictive ability of the model. Assessing these factors may enhance identification of older people at risk of suicidal ideation.
Are reports of life event stress among suicidal youth subject to cognitive bias?

Hartley CM, Grover KE, Pettit JW, Morgan ST, Schatte DJ (USA)

Suicide and Life-Threatening Behavior. Published online: 30 April 2013. doi: 10.1111/sltb.12034, 2013

Severity of depressive symptoms, hopelessness, and suicidal ideation were examined to determine whether they were significantly associated with the accuracy of suicidal adolescents’ ratings of stressful life events. The sample included 130 inpatient adolescents who endorsed suicide-related behaviors. Stress interviews were administered, and the severity of stressful events was rated separately by adolescents and an independent team. A residualized cognitive bias score was created by regressing adolescents’ severity ratings to the independent team’s severity ratings of the same events. Depressive symptoms, but not hopelessness or suicidal ideation, were significantly associated with cognitive bias scores. A negative cognitive bias in adolescents’ reports of life stress may be present at higher levels of depression relative to minimal levels of depression. Further research on the relations between stress and suicide-related behaviors is encouraged to include independent ratings of stress severity.

Inclusive anti-bullying policies and reduced risk of suicide attempts in lesbian and gay youth

Hatzenbuehler ML, Keyes KM (USA)

Journal of Adolescent Health 53, S21-S26, 2013

Purpose: To evaluate whether anti-bullying policies that are inclusive of sexual orientation are associated with a reduced prevalence of suicide attempts among lesbian, gay, and bisexual youths.

Methods: A total of 31,852 11th-grade public school students (1,413 lesbian, gay, and bisexual individuals; 4.4%) in Oregon completed the Oregon Healthy Teens survey in 2006-2008. The independent variable was the proportion of school districts in the 34 counties participating in the Oregon Healthy Teens survey that adopted anti-bullying policies inclusive of sexual orientation. The outcome measure was any self-reported suicide attempt in the past 12 months. We stratified results by sexual orientation.

Results: Lesbian and gay youths living in counties with fewer school districts with inclusive anti-bullying policies were 2.25 times (95% confidence interval [CI], 1.13-4.49) more likely to have attempted suicide in the past year compared with those living in counties where more districts had these policies. Inclusive anti-bullying policies were significantly associated with a reduced risk for suicide attempts among lesbian and gay youths, even after controlling for sociodemographic characteristics (sex, race/ethnicity) and exposure to peer victimization (odds ratio, .18;
95% CI, .03-.92). In contrast, anti-bullying policies that did not include sexual orientation were not associated with lower suicide attempts among lesbian and gay youths (odds ratio, .38; 95% CI, .02-7.33).

**Conclusions:** Inclusive anti-bullying policies may exert protective effects for the mental health of lesbian and gay youths, including reducing their risk for suicide attempts.

**Predicting suicide attempts among treatment-seeking male alcoholics: An exploratory study**

Hung GC, Caine ED, Fan HF, Huang MC, Chen YY (Taiwan, USA)  
*Suicide and Life-Threatening Behaviour* 43, 429-438, 2013

Documented risk factors for suicide among alcohol-dependent patients are sensitive but insufficiently specific to effectively identify individuals who are prone to future suicide attempt. As a first step to assess factors not previously considered, this pilot study involved a group of male alcohol-dependent patients (N = 175) coming to detoxification to examine the potential utility of adverse childhood experiences (ACE) along with other documented events to discriminate individuals with a history of attempted suicide from their detoxifying peers. Family health history questionnaires were used to evaluate their ACEs. Receiver operating characteristic (ROC) analysis was applied to examine the predictive power of ACEs, alone or in combination with documented risk factors, to lifetime history of attempted suicide. Among our participants, 48 (27.4%) had a history of a suicide attempt and 156 (89.1%) reported at least one out of the nine categories of ACEs. Modeling by ROC analysis, we found that a cutoff of four or more ACEs plus a history of personal violence achieved the best predictive power to a history of any suicide attempt, producing a sensitivity of 0.7, specificity of 0.81, and area under curve of 0.75. A prospective study to replicate and extend our findings is necessary.
Disadvantageous decision-making has been reported in patients who had attempted suicide and may represent a cognitive risk factor for suicide. Making decisions necessitates both implicit/associative and explicit/analytic processes. Here, we explored explicit mechanisms, and hypothesized that suicide attempters fail to use explicit understanding to make favorable choices. The Iowa Gambling Task (IGT) was used to assess decision-making in 151 non-depressed patients with a history of mood disorder and suicidal act, 81 non-depressed patients with a history of mood disorders but no suicidal act, and 144 healthy individuals. After performing the task, we assessed the explicit understanding of the participants of the contingencies in the task, i.e. which options yielded higher gain or loss. Correct explicit understanding was reported less often in suicide attempters and affective controls than in healthy controls (45.7% and 42.0% vs. 66.0%). Moreover, understanding was associated with better performance in healthy and affective controls, but not in suicide attempters, with no between-group difference among those who did not reach understanding. Patients with histories of suicide attempt, therefore, show a disconnection between what they “know” and what they “do”, possibly reflecting underlying impairments in implicit associative processes. These cognitive alterations should be addressed in preventative interventions targeting suicide.

**Identifying probable suicide clusters in Wales using national mortality data**

*PLoS ONE* 8, e71713, 2013

**Background:** Up to 2% of suicides in young people may occur in clusters i.e., close together in time and space. In early 2008 unprecedented attention was given by national and international news media to a suspected suicide cluster among young people living in Bridgend, Wales. This paper investigates the strength of statistical evidence for this apparent cluster, its size, and temporal and geographical limits.

**Methods and Findings:** The analysis is based on official mortality statistics for Wales for 2000-2009 provided by the UK’s Office for National Statistics (ONS). Temporally-spatial analysis was performed using Space Time Permutation Scan Statistics with SaTScan v9.1 for suicide deaths aged 15 and over, with a sub-group analysis focussing on cases aged 15-34 years. These analyses were conducted for deaths coded by ONS as: (i) suicide or of undetermined intent (probable suicides)
and (ii) for a combination of suicide, undetermined, and accidental poisoning and hanging (possible suicides). The temporo-spatial analysis did not identify any clusters of suicide or undetermined intent deaths (probable suicides). However, analysis of all deaths by suicide, undetermined intent, accidental poisoning and accidental hanging (possible suicides) identified a temporo-spatial cluster \((p = 0.029)\) involving 10 deaths amongst 15-34 year olds centred on the County Borough of Bridgend for the period 27th December 2007 to 19th February 2008. Less than 1% of possible suicides in younger people in Wales in the ten year period were identified as being cluster-related.

**Conclusions:** There was a possible suicide cluster in young people in Bridgend between December 2007 and February 2008. This cluster was smaller, shorter in duration, and predominantly later than the phenomenon that was reported in national and international print media. Further investigation of factors leading to the onset and termination of this series of deaths, in particular the role of the media, is required.

**Toxicology findings in suicides: Concentrations of ethanol and other drugs in femoral blood in victims of hanging and poisoning in relation to age and gender of the deceased**

Jones AW, Holmgren A, Ahlner J (Sweden)

*Journal of Forensic and Legal Medicine* 20, 842-847, 2013

Over-consumption of alcohol and/or abuse of other drugs are closely linked to attempted or completed suicides. In this retrospective 10-year study (2001-2010), we compared the toxicology findings in hanging suicides \((n = 4551)\) with drug poisoning (intoxication) suicides \((n = 2468)\). The mean age of hanging deaths was 49 ± 19 y \((±SD)\) and 80% were male, compared with a mean age of 52 ± 17 y and 47% males for the intoxication deaths. Poly-drug use was more common in poisoning suicides with an average of 3.6 drugs/case compared with 1.8 drugs/case in hangings. Moreover, 31% of hangings were negative for alcohol and/or drugs. Alcohol was detected \((>0.20 \text{ g/L})\) in femoral blood in 30% of hanging suicides \((\text{mean } 1.39 \text{ g/L})\) and 36% of drug poisonings \((\text{mean } 1.39 \text{ g/L})\). The median BACs did not depend on the person's age or gender \((p > 0.05)\). Ethanol, paracetamol, citalopram, diazepam, propiomazine, alimemazine and zopiclone were amongst the top-ten drugs detected in both methods of suicide. With the exception of ethanol, the concentrations of drugs in blood were considerably higher in the poisoning deaths, as might be expected. Regardless of the method of suicide, antidepressants and/or antipsychotics were common findings, which could implicate mental health as a significant suicide risk factor.
Messages from Manchester: Pilot randomised controlled trial following self-harm

The British Journal of Psychiatry 203, 73-74, 2013

Studies of therapeutic contact following self-harm have had mixed results. We carried out a pilot randomised controlled trial comparing an intervention (information leaflet listing sources of help, two telephone calls soon after presentation and a series of letters over 12 months) to usual treatment alone in 66 adults presenting with self-harm to two hospitals. We found that our methodology was feasible, recruitment was challenging and repeat self-harm was more common in those who received the intervention (12-month repetition rate 34.4% v. 12.5%).

Financial crisis, austerity, and health in Europe

The Lancet 381, 1323, 2013

The financial crisis in Europe has posed major threats and opportunities to health. We trace the origins of the economic crisis in Europe and the responses of governments, examine the effect on health systems, and review the effects of previous economic downturns on health to predict the likely consequences for the present. We then compare our predictions with available evidence for the effects of the crisis on health. Whereas immediate rises in suicides and falls in road traffic deaths were anticipated, other consequences, such as HIV outbreaks, were not, and are better understood as products of state retrenchment. Greece, Spain, and Portugal adopted strict fiscal austerity; their economies continue to recede and strain on their health-care systems is growing. Suicides and outbreaks of infectious diseases are becoming more common in these countries, and budget cuts have restricted access to health care. By contrast, Iceland rejected austerity through a popular vote, and the financial crisis seems to have had few or no discernible effects on health. Although there are many potentially confounding differences between countries, our analysis suggests that, although recessions pose risks to health, the interaction of fiscal austerity with economic shocks and weak social protection is what ultimately seems to escalate health and social crises in Europe. Policy decisions about how to respond to economic crises have pronounced and unintended effects on public health, yet public health voices have remained largely silent during the economic crisis.
Psychotic symptoms and population risk for suicide attempt: A prospective cohort study

JAMA Psychiatry 70, 940-948, 2013

**Importance:** Up to 1 million persons die by suicide annually. However, a lack of risk markers makes suicide risk assessment one of the most difficult areas of clinical practice.

**Objective:** To assess psychotic symptoms (attenuated or frank) as a clinical marker of risk for suicide attempt.

**Design, Setting, and Participants:** Prospective cohort study of 1112 school-based adolescents (aged 13-16 years), assessed at baseline and at 3 and 12 months for self-reported psychopathology, psychotic symptoms, and suicide attempts.

**Main Outcomes and Measures:** Suicide attempts at the 3- and 12-month follow-up and acute suicide attempts (defined as those occurring in the 2 weeks before an assessment).

**Results:** Of the total sample, 7% reported psychotic symptoms at baseline. Of that subsample, 7% reported a suicide attempt by the 3-month follow-up compared with 1% of the rest of the sample (odds ratio [OR], 10.01; 95% CI, 2.24-45.49), and 20% reported a suicide attempt by the 12-month follow-up compared with 2.5% of the rest of the sample (OR, 11.27; 95% CI, 4.44-28.62). Among adolescents with baseline psychopathology who reported psychotic symptoms, 14% reported a suicide attempt by 3 months (OR, 17.91; 95% CI, 3.61-88.82) and 34% reported a suicide attempt by 12 months (OR, 32.67; 95% CI, 10.42-102.41). Adolescents with psychopathology who reported psychotic symptoms had a nearly 70-fold increased odds of acute suicide attempts (OR, 67.50; 95% CI, 11.41-399.21). Differences were not explained by non-psychotic psychiatric symptom burden, multimorbidity, or substance use. In a causative model, the population-attributable fraction of suicide attempts would be 56% to 75% for psychotic symptoms.

**Conclusions and Relevance:** Adolescents with psychopathology who report psychotic symptoms are at clinical high risk for suicide attempts. More careful clinical assessment of psychotic symptoms (attenuated or frank) in mental health services and better understanding of their pathological significance are urgently needed.
Objective: We asked whether adoption status represented a risk of suicide attempt for adopted and nonadopted offspring living in the United States. We also examined whether factors known to be associated with suicidal behavior would mediate the relationship between adoption status and suicide attempt.

Methods: Participants were drawn from the Sibling Interaction and Behavior Study, which included 692 adopted and 540 nonadopted offspring and was conducted at the University of Minnesota from 1998 to 2008. Adoptees were systematically ascertained from records of 3 large Minnesota adoption agencies; nonadoptees were ascertained from Minnesota birth records. Outcome measures were attempted suicide, reported by parent or offspring, and factors known to be associated with suicidal behavior including psychiatric disorder symptoms, personality traits, family environment, and academic disengagement.

Results: The odds of a reported suicide attempt were approximately 4 times greater in adoptees compared with nonadoptees (odds ratio: 4.23). After adjustment for factors associated with suicidal behavior, the odds of reporting a suicide attempt were reduced but remained significantly elevated (odds ratio: 3.70).

Conclusions: The odds for reported suicide attempt are elevated in individuals who are adopted relative to those who are not adopted. The relationship between adoption status and suicide attempt is partially mediated by factors known to be associated with suicidal behavior. Continued study of the risk of suicide attempt in adopted offspring may inform the larger investigation of suicidality in all adolescents and young adults.

Suicide prevention: Evaluation of a pilot intervention in a primary care context


Journal of Mental Health 22, 439-448, 2013

Background: From July 2008 to June 2011, 19 Australian Divisions of General Practice piloted specialist services for consumers at risk of suicide within a broader primary mental health program. General practitioners and other mental health staff referred suicidal consumers to specially trained mental health professionals for intensive, time-limited care. Aims To report the findings from an evaluation of the pilot.

Method: Data sources included a purpose-designed minimum data set, which collated consumer-level and session-level data, and a series of structured telephone interviews conducted with Divisional project officers, referrers and mental health professionals.

Results: There were 2312 referrals to the pilot; 2070 individuals took up the service. The pilot reached people who may not otherwise have had access to psy-
chological care; over half of those who received services were on low incomes and about one-third had not previously accessed mental health care. Project officers, referrers and mental health professionals were all positive about the pilot and commented that it was meeting a previously unmet need. Consumers appeared to benefit, showing significant improvements in outcomes.

**Conclusion:** This evaluation provides supportive evidence for the effectiveness of a suicide prevention intervention delivered by specially trained mental health professionals in a primary mental health environment.

**Intimate partner violence: Are perpetrators also victims and are they more likely to experience suicide ideation?**

Lamis DA, Leenaars LS, Jahn DR, Lester D (USA, Canada)

*Journal of Interpersonal Violence.* Published online: 22 May 2013. doi: 10.1177/0886260513488691, 2013

The current study examined the relations among several risk factors—hopelessness, depressive symptoms, perceived burdensomeness, thwarted belongingness, alcohol-related problems, and intimate partner violence (victimization and perpetration)—and suicide ideation, as measured by the Modified Scale for Suicide Ideation, in college students (n = 994). In addition, the overlap between being a victim and perpetrator of various types of intimate partner violence was examined. Results indicated substantial overlap in the victim and perpetrator roles, up to 96.6% for negotiation. In the negative binomial regression analysis, reports of hopelessness, depressive symptoms, perceived burdensomeness, thwarted belongingness, and alcohol-related problems all significantly predicted suicide ideation in the expected direction. However, none of the revised Conflict Tactics Scale subscales predicted suicide ideation above and beyond the established risk factors. Implications are offered for the improved identification and treatment of suicidal thoughts and behaviors among college students.

**Using the suicide index score to predict treatment outcomes among psychiatric inpatients**

Lento RM, Ellis TE, Hinnant BJ, Jobes DA (USA)

*Suicide and Life-Threatening Behavior.* Published online: 1 June 2013. doi: 10.1111/slbt.12038, 2013

For many suicidal people, the desire to die is moderated by a competing desire to live. This study aimed to demonstrate the ability of a wish-to-live versus wish-to-die index score to measure ambivalence and trichotomize suicidal inpatients into distinct stratified risk groups. Analyses revealed that index scores calculated for patients at treatment start significantly discriminated among the groups at index and uniquely predicted suicidal ideation, hopelessness, and depression scores across treatment. On average, patients with wish-to-live and wish-to-die orientations resolved suicidal ideation by discharge. Changes in suicidal ideation among ambivalently oriented patients were more variable. Clinical and research implications are discussed.
**Objectives:** We examined the intersections of sexual minority, gender, and Hispanic ethnic identities and their interaction with experiences of bullying in predicting suicide attempt among New York City youths.

**Methods:** We performed secondary data analysis of the 2009 New York City Youth Risk Behavior Survey, using logistic regression to examine the association of sexual identity, gender, ethnicity, and bullying with suicide attempt. We stratified results on these measures and reported adjusted odds ratios.

**Results:** Compared with non-sexual minority youths, sexual minority youths had 4.39 and 1.96 times higher odds, respectively, of attempting suicide and reporting bullying. Identity variables did not interact with bullying in predicting suicide attempt individually; however, a four-way interaction term was significant. The effect of bullying on suicide attempt was strongest among non-Hispanic sexual minority male youths (odds ratio = 21.39 vs 1.65-3.38 for other groups).

**Conclusions:** Sexual minority, gender, and ethnic identities interact with bullying in predicting suicide attempt among New York City youths. Interventions to limit both the prevalence and the effect of bullying among minority youths should consider an intersectional approach that considers ethnic, gender, and sexual identities.

**Background:** Multivariate studies of specific suicide means are relatively rare, given the logistical challenges associated with the low base rate of suicide in the general population. Thus, information on individual characteristics associated with specific suicide means remains relatively wanting. The current study provided the largest examination to date of sociodemographic characteristics associated with different means of lethality among suicide decedents, using data from a multi-state population-based surveillance system.

**Methods:** Multivariate logistic regression was used with data for 20,577 suicide decedents in the National Violent Death Reporting System from 2003 to 2005.

**Results:** Firearm decedents were more likely male, elderly, non-Hispanic white, married, veterans, and born in the U.S. Hanging and suffocation decedents were more likely male, young, racial/ethnic minorities, never married, non-veterans, and foreign-born. Decedents that jumped from heights were more likely female,
older, non-Hispanic black, never married, non-veterans, and foreign-born. Dece-
dents who used sharp instruments were more likely older, never married, and foreign-born. Self-poisoned decedents were more likely female, middle-age, non-
Hispanic white, and not married. Regarding specific poisons, alcohol was more likely to be used by middle-age decedents; gas by males, elderly, and married indi-
viduals; over-the-counter drugs by females, adolescents, and foreign-born dece-
dents; prescription drugs by females, middle-aged, and U.S. born individuals; and street drugs by males and racial/ethnic minorities. 

Limitations: The data were drawn from 18 states and so cannot be regarded as nationally representative.

Conclusions: Substantial sociodemographic variability exists across different suicide means. Recognition of this variability may help to tailor prevention efforts involving means restriction.

**Early childhood sexual abuse increases suicidal intent**

Lopez-Castroman J, Melhem N, Birmaher B, Greenhill L, Kolko D, Stanley B, Zelazny J, Brodsky B, Garcia-Nieto R, Burke AK, Mann JJ, Brent DA, Oquendo MA (Spain, USA)

*World Psychiatry* 12, 149-154, 2013

Childhood sexual abuse has been consistently associated with suicidal behavior. We studied suicide attempt features in depressed individuals sexually abused as children. On average, sexual abuse started before age 9. It frequently coexisted with physical abuse. Suicide attempters more often had personality disorders and had endured abuse for longer, but did not differ in terms of other clinical charac-
teristics from non-attempters. Earlier onset of sexual abuse and its duration were associated with more suicide attempts. However, when personality disorders were included in the regression model, only these disorders predicted number of attempts. The severity of sexual abuse and the coexistence of physical abuse were correlated with age at first suicide attempt. However, only severity of sexual abuse was marginally associated with age at first suicide attempt in the regression model. Finally, the earlier the age of onset of sexual abuse, the higher the intent, even after controlling for age, sex and personality disorders. This suggests that the character-
istics of childhood sexual abuse, especially age of onset, should be considered when studying the risk for suicidal behavior in abused populations.
**Suicide risk among U.S. Service members after psychiatric hospitalization, 2001-2011**

Luxton DD, Trofimovich L, Clark LL (USA)

*Psychiatric Services* 64, 626-629, 2013

**Objective:** The rising rate of suicide and the increase in psychiatric hospitalizations in the U.S. military underscore the need to determine risk among service members in psychiatric care so that targeted interventions and prevention programs are implemented. The purpose of this study was to determine the suicide rates of active-duty U.S. service members after discharge from a psychiatric hospitalization.

**Methods:** Data from 68,947 patients who had psychiatric hospitalizations at military treatment facilities between 2001 and 2011 were obtained from the Defense Medical Surveillance System. Rates of suicide were compared between the cohort group and the general active-duty U.S. military population. Survival analysis was used to determine time-dependent patterns of suicide after hospital discharge.

**Results:** A total of 153 suicides occurred among the 68,947 service members. The overall suicide rate in the cohort was 71.6 per 100,000 person-years, compared with the rate of 14.2 per 100,000 person-years in the general active-duty U.S. military population. Personnel released from a psychiatric hospitalization were therefore five times more likely to die from suicide. The risk of dying from suicide within the first 30 days after a psychiatric hospitalization was 8.2 times higher than the risk at more than one year after hospitalization.

**Conclusions:** Active-duty U.S. service members who are released from a psychiatric hospitalization are a group at high risk of suicide. Aggressive safety planning and targeted interventions during and after hospitalization are recommended.

**Deliberate self-harm before psychiatric admission and risk of suicide: Survival in a Danish national cohort**

Madsen T, Agerbo E, Mortensen PB, Nordentoft M (Denmark)

*Social Psychiatry and Psychiatric Epidemiology* 48, 1481-1489, 2013

**Purpose:** Psychiatric illness and deliberate self-harm (DSH) are major risk factors of suicide. In largely 15 % of psychiatric admissions in Denmark, the patient had an episode of DSH within the last year before admission. This study examined the survival and predictors of suicide in a suicidal high-risk cohort consisting of hospitalized psychiatric patients with recent DSH.

**Methods:** This national prospective register-based study examined all hospitalized psychiatric patients who self-harmed within a year before admission. All admitted patients, in the time period 1998-2006, were followed and survival analyses techniques were used to identify predictors of suicide.

**Results:** The study population consisted of 17,257 patients; 520 (3 %) died by suicide during follow-up; 50 % of the suicides occurred within a year from the index admission. A rate of 1,645 suicides per 100,000 person-years in the first year
after psychiatric admission was found. Adjusted analyses showed that a higher degree of education, having DSH within a month before psychiatric admission and contact with a private psychiatrist increased the risk of suicide.

Conclusions: Psychiatric hospitalized patients with recent DSH revealed high suicide rates, even during hospitalization. When discharging psychiatric patients with recent DSH careful arrangement of follow-up treatment in the outpatient setting is recommendable.

Genetic risk of suicidal behavior in bipolar spectrum disorder: Analysis of 737 pedigrees

Manchia M, Hajek T, O’Donovan C, Deiana V, Chillotti C, Ruzickova M, Del Zompo M, Alda M (Canada)

Bipolar Disorders 15, 496-506, 2013

Objectives: Suicide is a significant cause of mortality in patients with major affective disorders (MAD), and suicidal behavior and MAD co-aggregate in families. However, the transmission of suicidal behavior is partially independent from that of MAD. We analyzed the lifetime prevalence of completed and attempted suicides in a large sample of families with bipolar disorder (BD), its relation to family history of MAD and BD, and the contribution of clinical and treatment factors to the risk of suicidal behavior.

Methods: We studied 737 families of probands with MAD with 4919 first-degree relatives (818 affected, 3948 unaffected, and 153 subjects with no information available). Lifetime psychiatric diagnoses and suicidal behavior in first-degree relatives were assessed using semi-structured interviews, family history methods, and reviews of clinical records. Cox proportional hazard and logistic regression models were used to investigate the role of clinical covariates in the risk of suicidal behavior, and in the prevalence of MAD and BD.

Results: The estimated lifetime prevalence of suicidal behavior (attempted and completed suicides) in 737 probands was 38.4 +/- 3.0%. Lithium treatment decreased suicide risk in probands (p = 0.007). In first-degree relatives, a family history of suicidal behavior contributed significantly to the joint risk of MAD and suicidal behavior (p = 0.0006).

Conclusions: The liability to suicidal behavior is influenced by genetic factors (particularly family history of suicidal behavior and MAD). Even in the presence of high genetic risk for suicidal behavior, lithium treatment decreases suicide rates significantly.
Suicide ideation of individuals in online social networks
Masuda N, Kurahashi I, Onari H (Japan)
PLoS ONE 8, e62262, 2013

Suicide explains the largest number of death tolls among Japanese adolescents in their twenties and thirties. Suicide is also a major cause of death for adolescents in many other countries. Although social isolation has been implicated to influence the tendency to suicidal behavior, the impact of social isolation on suicide in the context of explicit social networks of individuals is scarcely explored. To address this question, we examined a large data set obtained from a social networking service dominant in Japan. The social network is composed of a set of friendship ties between pairs of users created by mutual endorsement. We carried out the logistic regression to identify users’ characteristics, both related and unrelated to social networks, which contribute to suicide ideation. We defined suicide ideation of a user as the membership to at least one active user-defined community related to suicide. We found that the number of communities to which a user belongs to, the intransitivity (i.e., paucity of triangles including the user), and the fraction of suicidal neighbors in the social network, contributed the most to suicide ideation in this order. Other characteristics including the age and gender contributed little to suicide ideation. We also found qualitatively the same results for depressive symptoms.

Interrelationships between LGBT-based victimization, suicide, and substance use problems in a diverse sample of sexual and gender minorities
Mereish EH, O'Cleirigh C, Bradford JB (USA)

Research has documented significant relationships between sexual and gender minority stress and higher rates of suicidality (i.e. suicidal ideation and attempts) and substance use problems. We examined the potential mediating role of substance use problems on the relationship between sexual and gender minority stress (i.e. victimization based on lesbian, gay, bisexual, or transgender identity [LGBT]) and suicidality. A nonprobability sample of LGBT patients from a community health center (N = 1457) ranged in age from 19–70 years. Participants reported history of lifetime suicidal ideation and attempts, substance use problems, as well as experiences of LGBT-based verbal and physical attacks. Substance use problems were a significant partial mediator between LGBT-based victimization and suicidal ideation and between LGBT-based victimization and suicide attempts for sexual and gender minorities. Nuanced gender differences revealed that substance use problems did not significantly mediate the relationship between victimization and suicide attempts for sexual minority men. Substance use problems may be one insidious pathway that partially mediates the risk effects of sexual and gender minority stress on suicidality. Substances might be a temporary and deleterious coping resource in response to LGBT-based victimization, which have serious effects on suicidal ideation and behaviors.
Inpatient suicide on mental health units in veterans affairs (VA) hospitals: Avoiding environmental hazards

Mills PD, King LA, Watts BV, Hemphill RR (USA)
*General Hospital Psychiatry.* Published online: 20 May 2013. doi: 10.1016/j.genhosppsych.2013.03.021.

**Introduction:** One thousand five hundred suicides take place on inpatient psychiatry units in the United States each year, over 70% by hanging. Understanding the methods and the environmental components of inpatient suicide may help to reduce its incidence.

**Methods:** All Root Cause Analysis reports of suicide or suicide attempts in inpatient mental health units in Veterans Affairs (VA) hospitals between December 1999 and December 2011 were reviewed. We coded the method of suicide, anchor point and lanyard for cases of hanging, and implement for cutting, and brought together all other reports of inpatient hazards from VA staff for review.

**Results:** There were 243 reports of suicide attempts and completions: 43.6% (106) were hanging, 22.6% (55) were cutting, 15.6% (38) were strangulation, and 7.8% (19) were overdoses. Doors accounted for 52.2% of the anchor points used for the 22 deaths by hanging; sheets or bedding accounted for 58.5% of the lanyards. In addition, 23.1% of patients used razor blades for cutting.

**Conclusions:** The most common method of suicide attempts and completions on inpatient mental health units is hanging. It is recommended that common lanyards and anchor points be removed from the environment of care. We provide more information about such hazards and introduce a decision tree to help healthcare providers to determine which hazards to remove.

Risk factors for diagnosed intentional self-injury: A total population-based study

Modén B, Ohlsson H, Merlo J, Rosvall M (Sweden)

**Background:** Few studies investigate predictors of intentional self-injury over time in non-clinical samples. By using longitudinal data from the whole population of the county of Scania, Sweden, aged 18 years and over (N = 936 449), we aim to identify risk factors for non-fatal diagnosed intentional self-injury. Groups at risk of repeat episodes of self-injury will be identified.

**Methods:** Information on hospital stays and outpatient specialized care visits registered as intentional self-injury was collected from the Region Skåne Healthcare database in 2007. These injuries were studied in relation to sociodemographic factors, previous disease, substance abuse and psychotropic drug treatment at baseline.

**Results:** There were increased odds of diagnosed intentional self-injury during follow-up in association with being single, of young or middle age, having low income and being born in the Nordic countries. Presence of neurological or psychiatric disease, substance abuse and previous assault-related injury were also
strongly associated with future intentional self-injury. The use of psychotropic drugs showed a clear dose-response relationship with intentional self-injury during follow-up. Those diagnosed with self-injury in the 3-year period before baseline had more than 10 times increased odds of a new episode of intentional self-injury. The odds of repeated episodes of self-injury among subjects born in Europe, but outside Sweden, were less than half those seen for subjects born in Sweden.

**Conclusions:** The present study, based on a total general population, expands the knowledge base regarding intentional self-injury in adults, repeat behaviour and its associations with sociodemographic variables, substance use and disease in both men and women.

**Challenges and opportunities for suicide bereavement research**

Moore M, Maple M, Mitchell AM, Cerel J (USA, Australia)

_Crisis._ Published online: 22 April 2013. doi: 10.1027/0227-5910/a000191, 2013

**Background:** While high-quality and ethically sound research is needed to better understand and respond to the needs of those bereaved by suicide, there is a concern that ethical boards internationally raise unreasonable objections to research with those bereaved by suicide.

**Aims:** This pilot study was conducted to examine the issues faced by suicide bereavement and postvention researchers while obtaining ethical board approval.

**Method:** Suicide bereavement and postvention researchers from four continents were surveyed on their experiences of responding to ethical board challenges to research proposals and requests to amend their research as a result of ethical board concerns.

**Results:** While ethical boards differ in their response to suicide bereavement research, eight of 19 researchers surveyed indicated they had had proposals challenged, with two of these eight researchers reporting having to make major changes to their proposals as a result. The researchers provided examples of how they responded to those concerns about perceived risks of their research by ethical board members.

**Conclusions:** There are strict guidelines regarding the treatment of research study participants, and ethical boards must ensure the proposed research procedures adhere to these guidelines. Yet, in the field of suicide bereavement research it would appear that some ethical boards place restrictions or raise concerns about research being conducted in an absence of sound knowledge about the safety of such research. This ultimately may influence the design of research being conducted. Such influence in turn shapes the data generated from the research and thus what is published in the literature. It is both timely and imperative for ethical board members to be well educated on what the risks of those who are bereaved by suicide may be prior to making recommendations on research project designs.
Depression and exposure to suicide predict suicide attempt
Nanayakkara S, Misch D, Chang L, Henry D (USA)
Depression and Anxiety 30, 991-996, 2013

Objective: To examine the role of depression and exposure to peer or family suicide and their interaction as risk factors for adolescent suicide attempts.

Methods: The study used the public-use data set of the National Longitudinal Study of Adolescent Health (Add Health), which is a nationally representative stratified sample of U.S. high school students. Sample size was 4,719. Analyses predicted suicide attempts from preexisting depression and exposure to suicide of a friend or family member, controlling for previous suicide attempts, exposure, and depression.

Results: The greatest risk for future suicide attempts (relative risk = 3.3), was attributable to an attempt in the preceding year, controlling for preexisting and current depression and exposure. There was a main effect of exposure with the next highest relative risk of 3.2. A similar risk ratio, 3.2, was found for the difference between no depression and current severe depression, controlling for past depression and attempts. There was no evidence of an interaction between exposure to a peer or family member suicide attempt and depression. Supplementary analyses found that exposure to a friend or family member suicide attempt or completed suicide each added significantly to risk for adolescents regardless of depression levels.

Conclusion: Exposure to suicidal behavior in a friend or family member poses risk equivalent to the risk posed by becoming severely depressed. Attending to such risks could benefit clinical practice with adolescence and public health suicide prevention efforts.

Adolescent suicidal trajectories through young adulthood: Prospective assessment of religiosity and psychosocial factors among a population-based sample in the United States
Nkansah-Amankra S (USA)
Suicide and Life-Threatening Behavior 43, 439-459, 2013

The main objective was to identify distinct patterns of suicidal behaviors over the life course from adolescence to young adulthood and to determine influences of religiosity and other contextual factors on subgroup membership. Semiparametric growth mixture models were used to identify distinct clusters of suicide ideation and suicide attempt trajectories, and generalized estimating equations were used to assess individual and contextual characteristics predicting suicidal behaviors in adolescence and in young adulthood. Distinct trajectories of suicide ideation and suicide attempt were identified for the total sample and for the gender groups. Results showed marked gender differences in the trajectory of suicide ideation and attempt patterns. Religiosity effects on suicidality were prominent in adolescence but not in young adulthood. Analysis showed that an
important window of opportunity for preventing the escalation of suicidality exists during the early adolescent period, an opportunity that should be emphasized in interventions on adolescence suicide prevention.

**Increasing mortality gap for patients diagnosed with schizophrenia over the last three decades — a Danish nationwide study from 1980 to 2010**

Nielsen RE, Uggerby AS, Jensen SOW, McGrath JJ (Denmark, Australia)

*Schizophrenia Research* 146, 22-27, 2013

**Objective:** The objective of this study is to describe secular trends in the average age of death in patients with schizophrenia and to compare these with the general population.

**Methods:** This is a longitudinal linkage study from 1 January 1980 to 31 December 2010 using the Danish Psychiatric Research Register and the Danish Cause of Death Register. Data were analyzed using descriptive statistics and survival analysis.

**Results:** The average age of death in the schizophrenia population (62.2 years; 95% CI, 61.9-62.5) was lower compared to the general population (73.4 years; 95% CI, 73.4-73.4), P < 0.001. In the general population we found, for men, an average increase in the age of death of 0.28 years (95% CI, 0.27-0.28) per calendar year, and for women an increase in age of death of 0.31 years (95% CI, 0.31-0.32) per calendar year (both P < 0.001). In contrast, age of death decreased in the schizophrenia population: the change in average age of death for males was 0.04 years (95% CI, -0.09 to 0.00) per calendar year (P < 0.05), and the comparable estimate for females was 0.05 years (95% CI, -0.09 to 0.01) per calendar year (P < 0.05). A similar pattern existed after acts of self-harm as cause of death were excluded from the analyses. Patients diagnosed with schizophrenia had an increased mortality rate compared with the general population (hazard ratio, 2.05; 95% CI, 2.01-2.09).

**Conclusions:** On average, patients with schizophrenia die younger than the general population, independent of intentional self-harm as cause of death.
The ethics of doing nothing. Suicide-bereavement and research: Ethical and methodological considerations

Omerov P, Steineck G, Dyregrov K, Runeson B, Nyberg U (Sweden, Norway)

*Psychological Medicine.* Published online: 19 July 2013. doi: 10.1017/S0033291713001670, 2013

**Background:** Valuable trauma-related research may be hindered when the risks of asking participants about traumatic events are not carefully weighed against the benefits of their participation in the research.

**Method:** The overall aim of our population-based survey was to improve the professional care of suicide-bereaved parents by identifying aspects of care that would be amenable to change. The study population included 666 suicide-bereaved and 377 matched (2:1) non-bereaved parents. In this article we describe the parents’ perceptions of their contacts with us as well as their participation in the survey. We also present our ethical-protocol for epidemiological surveys in the aftermath of a traumatic loss.

**Results:** We were able to contact 1410 of the 1423 eligible parents; eight of these parents expressed resentment towards the contact. Several participants and non-participants described their psychological suffering and received help because of the contact. A total of 666 suicide-bereaved and 377 non-bereaved parents returned the questionnaire. Just two out of the 1043 answered that they might, in the long term, be negatively affected by participation in the study; one was bereaved, the other was not. A significant minority of the parents reported being temporarily negatively affected at the end of their participation, most of them referring to feelings of sadness and painful memories. In parallel, positive experiences were widely expressed and most parents found the study valuable.

**Conclusions:** Our findings suggest, given that the study design is ethically sound, that suicide-bereaved parents should be included in research since the benefits clearly outweigh the risks.
Preparatory studies to a population-based survey of suicide-bereaved parents in Sweden


Crisis 34, 200-210, 2013

**Background:** There is a need for evidence-based guidelines on how professionals should act following a suicide. In an effort to provide empiric knowledge, we designed a nationwide population-based study including suicide-bereaved parents.

**Aim:** To describe the process from creating hypotheses through interviews to the development of a population-based questionnaire.

**Method:** We used interviews, qualitative analysis and various means of validation to create a study-specific questionnaire to be used in a nonselected nationwide population of suicide-bereaved parents and a control population of nonbereaved (N = 2:1). The Swedish Register of Causes of Death and the Multigeneration Register were used to identify eligible individuals. All presumptive participants received a letter of invitation followed by a personal contact.

**Results:** We developed a questionnaire covering the participants’ perception of participation, their daily living, psychological morbidity, professional actions, and other experiences in immediate connection to the time before and after the suicide. Almost three out of four parents (bereaved = 666, nonbereaved = 377) responded to the questionnaire.

**Conclusions:** By involving parents early in the research process we were able to create a questionnaire that generated a high participation rate in a nationwide population-based study that might help us to answer our hypotheses about bereavement after suicide.

Parental socio-economic position during childhood as a determinant of self-harm in adolescence


**Purpose:** Socio-economic position (SEP) during childhood and parental social mobility have been associated with subsequent health outcomes in adolescence and adulthood. This study investigates whether parental SEP during childhood is associated with subsequent self-harm in adolescence.

**Methods:** This study uses data from a prospective birth-cohort study (the Avon Longitudinal Study of Parents and Children) which followed 14,610 births in 1991-1992 to age 16-18 years (n = 4,810). The association of parental SEP recorded pre-birth and throughout childhood with self-harm was investigated using logistic regression models, with analyses conducted separately for those reporting self-harm (a) with and (b) without suicidal intent. The impact of
missing data was investigated using multiple imputation methods.

**Results:** Lower parental SEP was associated with increased risk of offspring self-harm with suicidal intent, with less consistent associations evident for self-harm without suicidal intent. Associations were somewhat stronger in relation to measures of SEP in later childhood. Depressive symptoms appeared to partially mediate the associations. Adolescents of parents reporting consistently low income levels during childhood were approximately 1.5 times more likely to engage in SH than those never to report low income.

**Conclusions:** Lower SEP during childhood is associated with the subsequent risk of self-harm with suicidal intent in adolescence. This association is stronger in those experiencing consistently lower SEP.

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**Suicidal ideation and suicide attempts in anxious or depressed family caregivers of patients with cancer: A nationwide survey in Korea**

Park B, Kim SY, Shin J-Y, Sanson-Fisher RW, Shin DW, Cho J, Park JH (Korea, Australia)

*PloS ONE* 8, e60230, 2013

**Purpose:** To describe the prevalence of suicidal ideation and suicide attempts in family caregivers (FCs) of patients with cancer and to identify the factors associated with suicidal ideation and suicide attempts in FCs with anxiety or depression.

**Methods:** A national, multicenter survey administered to 897 FCs asked questions concerning suicidal ideation and suicide attempts during the previous year and assessed anxiety, depression, socio-demographic factors, caregiving burden, patient factors, and quality of life (QOL).

**Results:** A total of 17.7% FCs reported suicidal ideation, and 2.8% had attempted suicide during the previous year. Among FCs with anxiety, 31.9% had suicidal ideation and 4.7% attempted suicide; the corresponding values for FCs with depression were 20.4% and 3.3%, respectively. Compared with FCs without anxiety and depression, FCs with anxiety or depression showed a higher adjusted odds ratios (aOR) for suicidal ideation (aOR = 4.07 and 1.93, respectively) and attempts (OR =3.00 and 2.43, respectively). Among FCs with anxiety or depression, being female, unmarried, unemployed during caregiving, and having a low QOL were associated with increased odds of suicidal ideation. FCs with anxiety who became unemployed during caregiving constituted a high-risk group for suicide. Being unmarried and having a low QOL with respect to financial matters were associated with increased suicide attempts among FCs with depression.

**Conclusion:** FCs with anxiety or depression were at high risk of suicide. Interventions to enhance social support and to improve perceived QOL may help prevent suicide and manage suicidal ideation in FCs with anxiety or depression.
**Attempted and completed suicide: Not what we expected?**


*Journal of Affective Disorders. Published online: 23 April 2013. doi: 10.1016/j.jad.2013.03.013, 2013*

**Background:** Suicide attempters and suicide completers are two overlapping but distinct suicide populations. This study aims to present a more accurate characterization by comparing populations of suicide attempters and completers from the same geographical area.

**Methods:** Samples and procedure: All cases of attempted suicide treated at the emergency room of the Corporacio Sanitària i Universitària Tauli Parc de Sabadell in 2008 (n = 312) were compared with all completed suicides recorded in the same geographical area from 2008 to 2011 (n = 86). Hospital and primary care records were reviewed for sociodemographic and clinical variables. Statistical analysis: Chi-square, ANOVA, and Mann-Whitney U tests were used to identify characteristics related to suicide completion.

**Results:** Compared to suicide attempters, suicide completers were more likely to be male (73.3% vs. 37.8%; p<0.001), pensioners (73.7% vs. 23.4%; p<0.001), and people living alone (31.8% vs. 11.4%; p = 0.006). Suicide completers more frequently presented somatic problems (71.7 vs. 15.7; p<0.001), Major Depressive Disorder (54.7% vs. 27.9%; p<0.001), and made use of more lethal methods (74.1 vs. 1.9; p<0.001). Suicide completers were more likely to have been followed by a primary care provider (50.0% vs. 16.0%; p<0.001). 92.3% of the suicides committed were completed during the first or second attempt. **Limitations:** Suicide completers were not evaluated using the psychological autopsy method.

**Conclusions:** Despite presenting a profile of greater social and clinical severity, suicide completers are less likely to be followed by Mental Health Services than suicide attempters. Current prevention programs should be tailored to the specific profile of suicide completers.

**Installation of a bridge barrier as a suicide prevention strategy in Montreal, Quebec, Canada**

Perron S, Burrows S, Fournier M, Perron PA, Ouellet F (Canada)

*American Journal of Public Health 103, 1235-1239, 2013*

**Objectives:** We investigated whether the installation of a suicide prevention barrier on Jacques-Cartier Bridge led to displacement of suicides to other jumping sites on Montreal Island and Montereige, Quebec, the 2 regions it connects.

**Methods:** Suicides on Montreal Island and Montereige were extracted from chief coroners’ records. We used Poisson regression to assess changes in annual suicide rates by jumping from Jacques-Cartier Bridge and from other bridges and other sites and by other methods before (1990-June 2004) and after (2005-2009) installation of the barrier.
Results: Suicide rates by jumping from Jacques-Cartier Bridge decreased after installation of the barrier (incidence rate ratio [IRR] = 0.24; 95% confidence interval [CI] = 0.13, 0.43), which persisted when all bridges (IRR = 0.39; 95% CI = 0.27, 0.55) and all jumping sites (IRR = 0.66; 95% CI = 0.54, 0.80) in the regions were considered.

Conclusions: Little or no displacement to other jumping sites may occur after installation of a barrier at an iconic site such as Jacques-Cartier Bridge. A barrier’s design is important to its effectiveness and should be considered for new bridges with the potential to become symbolic suicide sites.

Family intervention for adolescents with suicidal behavior: A randomized controlled trial and mediation analysis

Pineda J, Dadds MR (Australia)

Objective: Family processes are a risk factor for suicide but few studies target this domain. We evaluated the effectiveness of a family intervention, the Resourceful Adolescent Parent Program (RAP-P) in reducing adolescent suicidal behavior and associated psychiatric symptoms.

Method: A preliminary randomized controlled trial compared RAP-P plus Routine Care (RC) to RC only, in an outpatient psychiatric clinic for N = 48 suicidal adolescents and their parents. Key outcome measures of adolescent suicidality, psychiatric disability, and family functioning were completed at pre-treatment, 3-month, and 6-month follow-up.

Results: RAP-P was associated with high recruitment and retention, greater improvement in family functioning, and greater reductions in adolescents’ suicidal behavior and psychiatric disability, compared to RC alone. Benefits were maintained at follow-up with a strong overall effect size. Changes in adolescent’s suicidality were largely mediated by changes in family functioning.

Conclusion: The study provides preliminary evidence for the use of family-focused treatments for adolescent suicidal behavior in outpatient settings. Clinical trial registration information-Family intervention for adolescents with suicidal behaviour:
Epidemiology of suicide in bipolar disorders: A systematic review of the literature

Pompili M, Gonda X, Serafini G, Innamorati M, Sher L, Amore M, Rihmer Z, Girardi P (Italy, Hungary, USA)

Bipolar Disorders 15, 457-490, 2013

Objective: Suicidal behavior is a major public health problem worldwide, and its prediction and prevention represent a challenge for everyone, including clinicians. The aim of the present paper is to provide a systematic review of the existing literature on the epidemiology of completed suicides in adult patients with bipolar disorder (BD).

Methods: We performed a Pubmed/Medline, Scopus, PsycLit, PsycInfo, and Cochrane database search to identify all relevant papers published between 1980 and 2011. A total of 34 articles meeting our inclusion criteria were included in the present review.

Results: Several prospective follow-up contributions, many retrospective analyses, and a few psychological autopsy studies and review articles investigated the epidemiology of completed suicides in patients with BD. The main finding of the present review was that the risk for suicide among BD patients was up to 20-30 times greater than that for the general population.

Conclusion: Special attention should be given to the characteristics of suicides in patients with BD. Better insight and understanding of suicide and suicidal risk in this very disabling illness should ultimately help clinicians to adequately detect, and thus prevent, suicidal acts in patients with BD.

Managing uncertainty: A grounded theory of stigma in transgender health care encounters

Poteat T, German D, Kerrigan D (USA)

Social Science and Medicine 84, 22-29, 2013

A growing body of literature supports stigma and discrimination as fundamental causes of health disparities. Stigma and discrimination experienced by transgender people have been associated with increased risk for depression, suicide, and HIV. Transgender stigma and discrimination experienced in health care influence transgender people’s health care access and utilization. Thus, understanding how stigma and discrimination manifest and function in health care encounters is critical to addressing health disparities for transgender people. A qualitative, grounded theory approach was taken to this study of stigma in health care interactions. Between January and July 2011, fifty-five transgender people and twelve medical providers participated in one-time in-depth interviews about stigma, discrimination, and health care interactions between providers and transgender patients. Due to the social and institutional stigma against transgender people, their care is excluded from medical training. Therefore, providers approach medical encounters with transgender patients with ambivalence and uncertainty. Transgender people anticipate that providers will not know how to meet their
needs. This uncertainty and ambivalence in the medical encounter upsets the normal balance of power in provider-patient relationships. Interpersonal stigma functions to reinforce the power and authority of the medical provider during these interactions. Functional theories of stigma posit that we hold stigmatizing attitudes because they serve specific psychological functions. However, these theories ignore how hierarchies of power in social relationships serve to maintain and reinforce inequalities. The findings of this study suggest that interpersonal stigma also functions to reinforce medical power and authority in the face of provider uncertainty. Within functional theories of stigma, it is important to acknowledge the role of power and to understand how stigmatizing attitudes function to maintain systems of inequality that contribute to health disparities.

Suicide risk in relation to air pollen counts: A study based on data from Danish registers

Qin P, Waltoft BL, Mortensen PB, Postolache TT (Denmark, Norway, USA)

British Medical Journal Open. Published online: 28 May 2013. doi: 10.1136/bmjopen-2012-002462, 2013

Objectives: Since the well-observed spring peak of suicide incidents coincides with the peak of seasonal aeroallergens as tree-pollen, we want to document an association between suicide and pollen exposure with empirical data from Denmark.

Design: Ecological time series study.

Setting: Data on suicide incidents, air pollen counts and meteorological status were retrieved from Danish registries.

Participants: 13 700 suicide incidents over 1304 consecutive weeks were obtained from two large areas covering 2.86 million residents.

Primary and Secondary Outcome Measures: Risk of suicide associated with pollen concentration was assessed using a time series Poisson-generalised additive model.

Results: We noted a significant association between suicide risk and air pollen counts. A change of pollen counts levels from 0 to '10-<30' grains/m3 air was associated with a relative risk of 1.064, that is, a 6.4% increase in weekly number of suicides in the population, and from 0 to '30-100' grains, a relative risk of 1.132. The observed association remained significant after controlling for effects of region, calendar time, temperature, cloud cover and humidity. Meanwhile, we observed a significant sex difference that suicide risk in men started to rise when there was a small increase of air pollen, while the risk in women started to rise until pollen grains reached a certain level. High levels of pollen had slightly stronger effect on risk of suicide in individuals with mood disorder than those without the disorder.

Conclusions: The observed association between suicide risk and air pollen counts supports the hypothesis that aeroallergens, acting as immune triggers, may precipitate suicide.
National suicide rates and mental health system indicators: An ecological study of 191 countries

Rajkumar AP, Brinda EM, Duba AS, Thangadurai P, Jacob KS (Denmark, India)


**Purpose:** The relative contributions of psychiatric morbidity and psychosocial stress to suicide, and the efficacy of mental health systems in reducing population suicide rates, are currently unclear. This study, therefore, aimed to investigate whether national suicide rates are associated with their corresponding mental health system indicators.

**Methods:** Relevant data were retrieved from the following sources: the World Health Organization, the United Nations Statistics Division and the Central Intelligence Agency World Fact book. Suicide rates of 191 countries were compared with their mental health system indicators using an ecological study design and multivariate non-parametric robust regression models.

**Results:** Significant positive correlations between suicide rates and mental health system indicators (p < 0.001) were documented. After adjusting for the effects of major macroeconomic indices using multivariate analyses, numbers of psychiatrists (p = 0.006) and mental health beds (p < 0.001) were significantly positively associated with population suicide rates.

**Conclusions:** Countries with better psychiatric services experience higher suicide rates. Although these associations should be interpreted with caution, as the issues are complex, we suggest that population-based public health strategies may have greater impact on national suicide rates than curative mental health services for individuals.

Change in suicide rates in Switzerland before and after firearm restriction resulting from the 2003 “army xxii” reform

Reisch T, Steffen T, Habenstein A, Tschacher W (Switzerland)

*American Journal of Psychiatry* 170, 977-984, 2013

**Objective:** Firearms are the most common method of suicide among young men in Switzerland. From March 2003 through February 2004, the number of Swiss soldiers was halved as a result of an army reform (Army XXI), leading to a decrease in the availability of guns nationwide. The authors investigated the patterns of the overall suicide rate and the firearm suicide rate before and after the reform.

**Method:** Using a naturalistic study design, the authors compared suicide rates before (1995-2003) and after the intervention (2004-2008) in the affected population (men ages 18-43) and in two comparison groups (women ages 18-44 and men ages 44-53). Data were received from the Swiss Federal Statistical Office. Interrupted time series analysis was used to control for preexisting temporal trends. Alternative methods (Poisson regression, autocorrelation analysis, and surrogate data tests) were used to check validity.
Results: The authors found a reduction in both the overall suicide rate and the firearm suicide rate after the Army XXI reform. No significant increases were found for other suicide methods overall. An increase in railway suicides was observed. It was estimated that 22% of the reduction in firearm suicides was substituted by other suicide methods. The attenuation of the suicide rate was not compensated for during the follow-up years. Neither of the comparison groups showed statistically significant changes in firearm suicide rate and overall suicide rate.

Conclusions: The restriction of firearm availability in Switzerland resulting from the Army XXI reform was followed by an enduring decrease in the general suicide rate.

Incidence and predictors of suicide attempts among primary-care patients with depressive disorders: A 5-year prospective study

Riihimäki K, Vuorilehto M, Melartin T, Haukka J, Isometsä E (Finland)
Psychological Medicine. Published online: 10 April 2013. doi: 10.1017/S0033291713000706, 2013

Background: No previous study has prospectively investigated incidence and risk factors for suicide attempts among primary care patients with depression.

Method: In the Vantaa Primary Care Depression Study, a stratified random sample of 1119 patients was screened for depression, and Structured Clinical Interviews for DSM-IV used to diagnose Axis I and II disorders. A total of 137 patients were diagnosed with a DSM-IV depressive disorder. Altogether, 82% of patients completed the 5-year follow-up. Information on timing of suicide attempts, plus major depressive episodes (MDEs) and partial or full remission, or periods of substance abuse were examined with life charts. Incidence of suicide attempts and their stable and time-varying risk factors (phases of depression/substance abuse) were investigated using Cox proportional hazard and Poisson regression models.

Results: During the follow-up there were 22 discrete suicide attempts by 14/134 (10.4%) patients. The incidence rates were 0, 5.8 and 107 during full or partial remission or MDEs, or 22.2 and 142 per 1000 patient-years during no or active substance abuse, respectively. In Cox models, current MDE (hazard ratio 33.5, 95% confidence interval 3.6-309.7) was the only significant independent risk factor. Primary care doctors were rarely aware of the suicide attempts.

Conclusion: Of the primary care patients with depressive disorders, one-tenth attempted suicide in 5 years. However, risk of suicidal acts was almost exclusively confined to MDEs, with or without concurrent active substance abuse. Suicide prevention among primary care patients with depression should focus on active treatment of major depressive disorder and co-morbid substance use, and awareness of suicide risk.
Prisoners are at increased risk of suicide. Investigation of both individual and environmental risk factors may assist in developing suicide prevention policies for prisoners and other high-risk populations. We conducted a matched case-control interview study with 60 male prisoners who had made near-lethal suicide attempts in prison (cases) and 60 male prisoners who had not (controls). We compared levels of depression, hopelessness, self-esteem, impulsivity, aggression, hostility, childhood abuse, life events (including events occurring in prison), social support, and social networks in univariate and multivariate models. A range of psychosocial factors was associated with near-lethal self-harm in prisoners. Compared with controls, cases reported higher levels of depression, hopelessness, impulsivity, and aggression, and lower levels of self-esteem and social support (all p values <0.001). Adverse life events and criminal history factors were also associated with near-lethal self-harm, especially having a prior prison spell and having been bullied in prison, both of which remained significant in multivariate analyses. The findings support a model of suicidal behaviour in prisoners that incorporates imported vulnerability factors, clinical factors, and prison experiences, and underscores their interaction. Strategies to reduce self-harm and suicide in prisoners should include attention to such factors.

A conditional model for estimating the increase in suicides associated with the 2008-2010 economic recession in England

Background: Although evidence of the effects of the economic crisis on suicides is quite low, a recent article shows that the increase in suicides in England between 2008 and 2010 could be associated with the rise in unemployment. Our study analysed whether this effect was the same for all regions of England, using a conditional model which explicitly allows estimation of regional time trends and the effects of unemployment on suicides at the regional level.

Methods: Hierarchical mixed models were used to assess both, suicides attributable to the financial crisis and the association between unemployment and suicides. The number and the (age-standardised) rate of suicides, for men and women separately, were the dependent variables. We considered the nine English regions based on the NUTS 2 level.
**Results:** There was an (not statistically significant) increase in the number of suicides between 2008 and 2010. The variation in rates was not statistically significant in England as a whole but there were statistically significant increases and decreases in some regions. Statistically significant associations between unemployment and suicides were only found at regional level. For men, statistically significant unemployment rates were positively associated with age-standardised suicide rates in the South West (0.384), North West (0.260) and North East (0.136), and negatively associated in the East of England (-0.444), East Midlands (-0.236) and London (-0.168).

**Conclusions:** The study provides evidence that, even with statistically significant associations, finding variability, but no clear pattern, between trends and associations and/or numbers and rates might in fact suggest relatively spurious relationships; this is a result of not controlling for confounders.

**Does the physician density affect suicide rates among adolescents and young adults?**

Sher L (USA)


Higher physician-per-population ratio may improve access to medical care, decrease waiting times, increase the opportunity for contact between the patient and physician, and has been associated with earlier stage of diagnosis and better prognosis in patients with some medical conditions. It appears that an increase in the physician density generally improves the quality of healthcare and should prevent suicides. However, several research reports suggest that of those people who committed suicide, many saw a physician shortly before their suicide completion. Besides, studies show that many physicians do not have adequate training in suicide evaluation techniques and treatment approaches to suicidal patients, especially young people. Therefore, we hypothesized that the physician density does not affect suicide rates among adolescents and young adults. Correlations were computed to examine relationships between suicide rates in 15-24-year-old and 25-34-year-old males and females and the physician density in European countries. Countries were also divided into two groups, according to the median split of the physician density. Suicide rates among 15-24-year-old and 25-34-year-old males and females in these two groups were compared using the t-test. We found no relationships between suicide rates and the physician density. The results of our study suggest that either physicians do not take an appropriate care of suicidal patients, or suicide is not preventable, or both. The results of this study should be treated with caution because many confounding variables are not taken into account.
Suicide risk assessment received prior to suicide death by veterans health administration patients with a history of depression

Smith EG, Kim HM, Ganoczy D, Stano C, Pfeiffer PN, Valenstein M (USA)

Objective: To examine the quality of suicide risk assessment provided to veterans with a history of depression who died by suicide between 1999 and 2004.

Method: We conducted a case-control study of suicide risk assessment information recorded in 488 medical charts of veterans previously diagnosed with major depression, depression not otherwise specified, dysthymia, or other, less common ICD-9-CM depression codes. Patients dying by suicide from April 1999 through September 2004 or comparison patients (n = 244 pairs) were matched for age, sex, entry year, and region.

Results: Seventy-four percent of patients with a history of depression received a documented assessment of suicidal ideation within the past year, and 59% received more than 1 assessment. However, 70% of those who died of suicide did not have a documented assessment for suicidal ideation at their final Veterans Health Administration (VHA) visit, even if that visit occurred within 0 through 7 days prior to suicide death. Most patients dying by suicide denied suicidal ideation when assessed (85%; 95% CI, 75%-92%), even just 0 through 7 days prior to suicide death (73%; 95% CI, 39%-94%). Suicidal ideation was assessed more frequently during outpatient final visits with mental health providers (60%) than during outpatient final visits with primary care (13%) or other non-mental health providers (10%, P < .0001).

Conclusions: Most VHA patients with a history of depression received some suicide risk assessment within the past year, but suicide risk assessments were infrequently administered at the final visit of patients who eventually died by suicide. Among patients who had assessments, denial of suicidal ideation appeared to be of limited value. Practice changes are needed to improve suicide risk assessment among patients with histories of depression, including the development of assessment and prevention strategies that are less dependent on the presence or disclosure of suicidal ideation at scheduled medical visits.

Spiers N, Bebbington PE, Dennis MS, Brugha TS, McManus S, Jenkins R, Meltzer H (UK)
Psychology and Medicine. Published online: 28 March 2013. doi: 10.1017/S0033291713000317, 2013

**Background:** Recent falls in suicide rates should be accompanied by a decline in the prevalence of suicidal ideation.

**Method:** We used a pseudo-cohort analytic strategy to examine trends in suicidal ideation measured identically in 2000 and 2007, in nationally representative English probability samples of adults aged 16 years. Suicidal ideation included tiredness of life, death wishes and thoughts of suicide. Logistic regression models were fitted to estimate trends in age-specific prevalence of suicidal ideation in the past year and past week between 2000 and 2007.

**Results:** There were 6799 participants aged 16-71 years in 2000, and 6815 participants aged 16-78 years in 2007. There was little evidence of trends in prevalence of suicidal ideation, with the exception of women aged 44-50 years in 2007, whose prevalence was unusually high. Prevalence of suicidal ideation in the past year followed a W-shaped profile with age, with peaks at the transition to adulthood, in the forties, and in the oldest participants.

**Conclusions:** Despite falling suicide rates, suicidal ideation did not decline overall between 2000 and 2007. This may indicate the success of the National Suicide Prevention Strategy. Women aged 44-50 years in 2007 were, however, particularly prone to suicidal ideation. As they also have the highest age-adjusted prevalence of common mental disorders and the highest female suicide rate, there are clear implications for treatment access, availability and delivery in primary care.
Background: Despite advances in our understanding of the countercyclical association between economic contraction and suicide, less is known about the levels of and changes in inequalities in suicide. The authors examined social and geographical inequalities in suicide in Japan from 1975 through 2005.

Methods: Based on quinquennial vital statistics and census data, the authors analyzed the entire population aged 25-64 years. The total number of suicides was 75,840 men and 30,487 women. For each sex, the authors estimated odds ratios (ORs) and 95% credible intervals (CIs) for suicide using multilevel logistic regression models with “cells” (cross-tabulated by age and occupation) at level 1, seven different years at level 2, and 47 prefectures at level 3. Prefecture-level variance was used as an estimate of geographical inequalities in suicide.

Results: Adjusting for age and time-trends, the lowest odds for suicide was observed among production process and related workers (the reference group) in both sexes. The highest OR for men was 2.52 (95% CI: 2.43, 2.61) among service workers, whereas the highest OR for women was 9.24 (95% CI: 7.03, 12.13) among security workers. The degree of occupational inequalities increased among men with a striking change in the pattern. Among women, we observed a steady decline in suicide risk across all occupations, except for administrative and managerial workers and transport and communication workers. After adjusting for individual age, occupation, and time-trends, prefecture-specific ORs ranged from 0.76 (Nara Prefecture) to 1.36 (Akita Prefecture) for men and from 0.79 (Kanagawa Prefecture) to 1.22 (Akita Prefecture) for women. Geographical inequalities have increased primarily among men since 1995.

Conclusions: The present findings demonstrate a striking temporal change in the pattern of social inequalities in suicide among men. Further, geographical inequalities in suicide have considerably increased across 47 prefectures, primarily among men, since 1995.
Association between exposure to suicide and suicidality outcomes in youth
Swanson SA, Colman I (Canada)

**Background:** Ecological studies support the hypothesis that suicide may be “contagious” (i.e., exposure to suicide may increase the risk of suicide and related outcomes). However, this association has not been adequately assessed in prospective studies. We sought to determine the association between exposure to suicide and suicidality outcomes in Canadian youth.

**Methods:** We used baseline information from the Canadian National Longitudinal Survey of Children and Youth between 1998/99 and 2006/07 with follow-up assessments 2 years later. We included all respondents aged 12-17 years in cycles 3-7 with reported measures of exposure to suicide.

**Results:** We included 8766 youth aged 12-13 years, 7802 aged 14-15 years and 5496 aged 16-17 years. Exposure to a schoolmate’s suicide was associated with ideation at baseline among respondents aged 12-13 years (odds ratio [OR] 5.06, 95% confidence interval [CI] 3.04-8.40), 14-15 years (OR 2.93, 95% CI 2.02-4.24) and 16-17 years (OR 2.23, 95% CI 1.43-3.48). Such exposure was associated with attempts among respondents aged 12-13 years (OR 4.57, 95% CI 2.39-8.71), 14-15 years (OR 3.99, 95% CI 2.46-6.45) and 16-17 years (OR 3.22, 95% CI 1.62-6.41). Personally knowing someone who died by suicide was associated with suicidality outcomes for all age groups. We also assessed 2-year outcomes among respondents aged 12-15 years: a schoolmate’s suicide predicted suicide attempts among participants aged 12-13 years (OR 3.07, 95% CI 1.05-8.96) and 14-15 years (OR 2.72, 95% CI 1.47-5.04). Among those who reported a schoolmate’s suicide, personally knowing the decedent did not alter the risk of suicidality.

**Interpretation:** We found that exposure to suicide predicts suicide ideation and attempts. Our results support school-wide interventions over current targeted interventions, particularly over strategies that target interventions toward children closest to the decedent.

Views and experiences of suicidal ideation during pregnancy and the postpartum: Findings from interviews with maternal care clinic patients
Tabb KM, Gavin AR, Guo Y, Huang H, Debiec K, Katon W (USA)
Women & Health 53, 519-535, 2013

**Introduction:** Perinatal suicidality (i.e., thoughts of death, suicide attempts, or self-harm during the period immediately before and up to 12 months after the birth of a child) is a significant public health concern. Few investigations have examined the patients’ own views and experiences of maternal suicidal ideation.

**Methods:** Between April and October 2010, researchers identified 14 patient participants at a single university-based medical center for a follow-up, semi-struc-
tured interview if they screened positive for suicidal ideation on the Patient Health Questionnaire-9 (PHQ-9) short form. In-depth interviews followed a semi-structured interview guide. Researchers transcribed all interviews verbatim and analyzed transcripts using thematic network analysis.

**Results:** Participants described the experience of suicidality during pregnancy as related to somatic symptoms, past diagnoses, infanticide, family psychiatric history (e.g., completed suicides and family member attempts), and pregnancy complications. The network of themes included the perinatal experience, patient descriptions of changes in mood symptoms, illustrations of situational coping, and reported mental health service use.

**Implications:** The interview themes suggested that in this small sample, pregnancy represented a critical time period to screen for suicide and to establish treatment for the mothers in the study. These findings may assist health care professionals in the development of interventions designed to identify, assess, and prevent suicidality among perinatal women.

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**Rumination, substance use, and self-harm in a representative Australian adult sample**

Tait RJ, Brinker J, Moller CI, French DJ (Australia)

*Journal of Clinical Psychology.* Published online: 9 July 2013. doi: 10.1002/jclp.22025, 2013

**Background:** There are few data on self-harm in the general population, especially examining the roles of rumination and substance use.

**Objectives:** To evaluate the inter-relationships of rumination, self-harm, and potential mediating variables.

**Method:** A cohort with follow-up every 4 years involving a random sample of adults aged 20-24 and 40-44 years (at baseline) living in Australia. The survey included items on three common forms of self-harm. Other measures included rumination, Goldberg Anxiety and Depression scales, substance use, coping style (Brief COPE), and demographic risk factors.

**Results:** The sample comprised 2,184 women and 1,942 men with 287 self-harm cases (7.0%). Depression and coping style were significant mediators of rumination on self-harm for men, with depression being the only robust mediator for women. For males, age and education were also significantly associated, while for women, age, smoking, trauma, and sexual abuse were significant.

**Conclusions:** Men and women differ on mediators of self-harm.
Longitudinal associations between violence and suicidality from adolescence into adulthood

Van Dulmen M, Mata A, Claxton S, Klipfel K, Schinka K, Swahn M, Bossarte R (USA)

Suicide and Life-Threatening Behavior. Published online: 1 June 2013. doi: 10.1111/sltb.12036, 2013

The link between violence and suicide is well documented. Previous studies, however, largely rely on cross-sectional designs or only consider violence as an antecedent of suicide. The purpose of the current study was to investigate the longitudinal relationship between violence and suicide from adolescence into young adulthood. Data were derived from Wave II (1995-1996), Wave III (2001-2002), and Wave IV (2007-2008) of the National Longitudinal Study of Adolescent Health (N = 8,966). We tested (2011-2013) a series of path analysis models in Mplus to determine the longitudinal associations between violence and suicidality. Results from the path analyses indicated that violence and suicidality mutually affect each other from adolescence into young adulthood. We found some evidence that the association between suicidality and violence was stronger for males compared to females, particularly in early and young adulthood. The current study confirms previous findings by demonstrating that violence is a risk factor for future suicide. We also extended the previous literature by demonstrating that a history of suicidality is associated with future risk for violence. Our findings highlight the importance of further integrating prevention efforts to reduce violence and suicidality during adolescence and early/young adulthood.

A central storage facility to reduce pesticide suicides - a feasibility study from India

Vijayakumar L, Jeyaseelan L, Kumar S, Mohanraj R, Devika S, Manikandan S (India, Australia)

BMC Public Health 13, 850, 2013

Background: Pesticide suicides are considered the single most important means of suicide worldwide. Centralized pesticide storage facilities have the possible advantage of delaying access to pesticides thereby reducing suicides. We undertook this study to examine the feasibility and acceptability of a centralized pesticide storage facility as a preventive intervention strategy in reducing pesticide suicides.

Methods: A community randomized controlled feasibility study using a mixed methods approach involving a household survey; focus group discussions (FGDs) and surveillance were undertaken. The study was carried out in a district in southern India. Eight villages that engaged in floriculture were identified. Using the lottery method two were randomized to be the intervention sites and two villages constituted the control site. Two centralized storage facilities were constructed with local involvement and lockable storage boxes were constructed. The household survey conducted at baseline and one and a half years later documented information on sociodemographic data, pesticide usage, storage and suicides.

Results: At baseline 4446 individuals (1097 households) in the intervention and 3307 individuals (782 households) in the control sites were recruited while at
follow up there were 4308 individuals (1063 households) in the intervention and 2673 individuals (632 households) in the control sites. There were differences in baseline characteristics and imbalances in the prevalence of suicides between intervention and control sites as this was a small feasibility study. The results from the FGDs revealed that most participants found the storage facility to be both useful and acceptable. In addition to protecting against wastage, they felt that it had also helped prevent pesticide suicides as the pesticides stored here were not as easily and readily accessible. The primary analyses were done on an Intention to Treat basis. Following the intervention, the differences between sites in changes in combined, completed and attempted suicide rates per 100,000 person-years were 295 (95% CI: 154.7, 434.8; p < 0.001) for pesticide suicide and 339 (95% CI: 165.3, 513.2, p < 0.001) for suicide of all methods.

**Conclusions:** Suicide by pesticides poisoning is a major public health problem and needs innovative interventions to address it. This study, the first of its kind in the world, examined the feasibility of a central storage facility as a means of limiting access to pesticides and, has provided preliminary results on its usefulness. These results need to be interpreted with caution in view of the imbalances between sites. The facility was found to be acceptable, thereby underscoring the need for larger studies for a longer duration.

**Extreme obesity is associated with suicidal behavior and suicide attempts in adults: Results of a population-based representative sample**

Wagner B, Klinitzke G, Brahler E, Kersting A (Germany)

*Depression and Anxiety.* Published online: 10 April 2013. doi: 10.1002/da.22105, 2013

**Objective:** A number of studies have revealed that the number of completed suicides decreases with increasing body mass index (BMI). However, only few studies have evaluated the association between suicidal behavior, suicide attempts, and the various BMI categories. The aim of this study was to determine whether obesity is positively associated with increased suicide attempts and suicidal behavior with consideration of gender differences.

**Methods:** In a representative German population-based sample (N = 2436), interviews were conducted in 2011 to examine the prevalence of suicide attempts and suicidal behavior in participants in the different BMI categories. Logistic regression analyses were conducted for suicidal behavior and suicide attempts to examine the association between obesity status and suicidality, controlling for confounding variables. Suicidal behavior was assessed by the Suicidal Behaviors Questionnaire-Revised (SBQ-R), which is a four-item self-report measure of suicidal thoughts and past attempts. BMI was calculated from participants’ self-reported height and weight.

**Results:** Analyses revealed that extremely obese participants (BMI ≥ 40.0) had a prevalence rate of suicidal behavior of 33% for female respondents and 13% for male respondents and rates for suicide attempts of 27% for female and 13% for
male respondents. No significant gender differences could be found for any of the weight categories. Furthermore, adjusted odd ratios (AOR) showed a significant difference in suicidal behavior in class I obesity (OR, 3.02 [1.50-6.08] and class III obesity (OR, 21.22 [6.51-69.20]. AORs for suicide attempts showed significantly greater odds for class I obesity (OR, 3.49 [1.76-6.90] and class III obesity (OR, 12.43 [3.87-39.86] compared to the normal weight group.

**Conclusion:** These results support a positive relationship between suicidal behavior, suicide attempts, and obesity. However contrary to previous findings, no gender differences were found. The findings support the introduction of routine screening for suicidal behavior in extreme obese individuals.

**The impact of a depression awareness campaign on mental health literacy and mental morbidity among gay men**

Wang J, Häusermann M, Berrut S, Weiss MG (Switzerland)

*Journal of Affective Disorders* 150, 306-312, 2013

**Background:** High prevalences of depression and suicidality have been found among gay men. This paper assesses the possible impact of Blues-out, a depression awareness campaign based on the European Alliance Against Depression targeting the gay/lesbian community in Geneva, Switzerland.

**Methods:** In 2007 and 2011, pre- and post-intervention surveys were conducted among two distinct samples of gay men in Geneva, recruited by probability-based time-space sampling. Effect sizes and net percent changes are reported for mental health literacy and mental health outcomes in 2007 and 2011 as well as among men aware and unaware of Blues-out in 2011.

**Results:** 43% of the respondents correctly recognized depression in 2011 with no change vis-à-vis 2007. Despite small effect sizes, significant net decreases (from -18% to -28%) were seen in lifetime suicide plans, 12-month suicidal ideation, lifetime depression, and 4-week psychological distress between 2007 and 2011. These decreases were not accompanied by changes in any of the numerous items on attitudes/knowledge, found only when comparing men aware and unaware of Blues-out in 2011. More men aware of Blues-out found specialists and psychological therapies helpful than their counterparts and correctly identified depression and gay men’s greater risk for depression.

**Limitations:** Community-level assessment with no control.
Predictors of suicide threats in patients with borderline personality disorder over 16 years of prospective follow-up

Wedig MM, Frankenburg FR, Bradford Reich D, Fitzmaurice G, Zanarini MC (USA)
Pyschiatry Research 208, 352-356, 2013

Despite their impact on interpersonal relationships and health resources, suicide threats are not often studied in those with borderline personality disorder (BPD). The primary aim of this study was to examine clinically relevant predictors of suicide threats in this patient group. Two-hundred and ninety inpatients meeting Revised Diagnostic Interview for Borderlines (DIB-R) and DSM-III-R criteria for BPD were assessed during their index admission using a series of semistructured interviews and a self-report measure. These subjects were then reassessed using the same instruments every 2 years for 16 years. All variables in the bivariate analyses were found to be significant. In multivariate analyses, four predictors were found to be significant: feeling abandoned and hopeless, and being demanding and manipulative. The results of this study suggest that suicide threats are often related to emotions connected with interpersonal relationships. Suicide threats may function, albeit maladaptively, to regulate these emotions aroused by interpersonal relationships and bring needed support.

Suicides by jumping from a height in Hong Kong: A review of coroner court files

Wong PWC, Caine ED, Lee CKM, Beautrais A, Yip PSF (China, USA, New Zealand)

Purpose: Jumping from a height is the most common method for suicide in Hong Kong and other urban cities, but it remains understudied locally and internationally. We used Coroner records in exploring the ecological factors associated with these deaths and the personal characteristics of persons who jumped to their death (hereafter, “jumping suicides”). We compared suicides by jumping with all other suicides and examined the suicides that occurred at ten different jumping sites.

Methods: The Coroner’s files of all suicides in Hong Kong from 2002 to 2007 included 6,125 documented deaths.

Results: 2,964 (48.4 %) involved jumping during the study period. Eighty-three percent (83 %) of suicide jumps occurred in residential buildings, and of these, 61% occurred from the decedent’s own home. Jumping suicides differed from non-jumping suicides in terms of their socio-demographic characteristics (e.g. for male: 60.8 vs. 67.3 % of jumping suicide and non-jumping suicides, p < 0.0001) and the presence of physical illness (44.4 vs. 42.7 % for jumping and non-jumping suicides, p < 0.0001). While statistically significant, these differences are relatively modest. In contrast, 40.7 documented illnesses vs. 23.1 % for jumping and non-jumping suicides (p < 0.0001).
Conclusions: Means restriction is a key strategy for suicide prevention. Installation of physical barriers, one of the mean restriction strategies, at common places for suicide has strong evidence to avert suicides without substitution effects. There seems to be challenges to implement physical barriers to prevent residential jumping suicides. Simply applying physical barriers to preclude jumping in Hong Kong appears to be difficult given its ubiquitous “high-rise” residential dwellings. Hence, we also need to develop alternative strategies aimed at preventing people from becoming suicidal.

The risk of adolescent suicide across patterns of drug use: A nationally representative study of high school students in the United States from 1999 to 2009

Wong SS, Zhou B, Goebert D, Hishinuma ES (USA)


Objective: Substance use is associated with suicidal ideation, planning and attempts among adolescents, but it is unclear how this association varies across different types and number of substances. This study examined the association between patterns of substance use and suicidality among a nationally representative sample of high school students in the United States during the last decade.

Method: Data from the 2001 to 2009 Youth Risk Behavior Survey including 73,183 high school students were analyzed. Logistic regression analyses examined the association between lifetime use of ten common substances of abuse (alcohol, cocaine, ecstasy, hallucinogens, heroin, inhalants, marijuana, methamphetamines, steroids, and tobacco) and four measures of suicidality over the last year (suicidal ideation, suicide plan, suicide attempt, and severe suicide attempt requiring medical attention), controlling for potential confounders (socio-demographic variables, interpersonal violence, sexual intercourse, and symptoms of depression and eating disorder).

Results: Among the ten substances, univariate analysis demonstrates that adolescents reporting a history of heroin use have the strongest association with suicidal ideation, suicide plan, suicide attempts and severe suicide attempts in the last year (odds ratio = 5.0, 5.9, 12.0, and 23.6 compared to non-users), followed by users of methamphetamines (OR = 4.3-13.1) and steroids (OR = 3.7-11.8). Cocaine, ecstasy, hallucinogens and inhalants had a moderate association with suicidality (OR = 3.1-10.8). Users of marijuana, alcohol and tobacco also had an increased odds ratio of suicidality (OR = 1.9-5.2). The association between each of ten substances and the four measures of suicidality remained significant with multivariate analysis controlling for multiple confounders (p < 0.05), except for the association between alcohol use and severe suicide attempts. The seven illicit substances had a stronger association with severe suicide attempts as compared to all other confounding risk factors except depression. The number of substances used had a graded relationship to suicidality.
Conclusions: Substance abuse is a strong risk factor for suicidal thoughts and behaviors among American high school students, with the strength of this relationship dramatically increasing with particular illicit drugs and a higher number of substances. The findings reinforce the importance of routine screening for substance abuse in the assessment of adolescent suicide risk.

Particular difficulties faced by GPs with young adults who will attempt suicide: A cross-sectional study
Younes N, Chan Chee C, Turbelin C, Hanslik T, Passerieux C, Melchior M (France)
BMC Family Practice 14, 68, 2013

Background: Suicide is a major public health problem in young people. General Practitioners (GPs) play a central role in suicide prevention. However data about how physicians deal with suicidal youths are lacking. This study aims to compare young adult suicide attempters (from 18 to 39 years old) with older adults in a primary care setting.

Methods: A cross-sectional study was carried. All suicide attempts (N = 270) reported to the French Sentinel surveillance System from 2009 to 2011 were considered. We conducted comparison of data on the last GP’s consultation and GPs’ management in the last three months between young adults and older adults.

Results: In comparison with older adults, young adults consulted their GP less frequently in the month preceding the suicidal attempt (40.9 vs. 64.6%, p = .01). During the last consultation prior to the suicidal attempt, they expressed suicidal ideas less frequently (11.3 vs. 21.9%, p = .03). In the year preceding the suicidal attempt, GPs identified depression significantly less often (42.0 vs. 63.4%, p = .001). In the preceding three months, GPs realized significantly less interventions: less psychological support (37.5 vs. 53.0%, p = .02), prescribed less antidepressants (28.6 vs. 54.8%, p<.0001) or psychotropic drugs (39.1 vs. 52.9%, p = .03) and made fewer attempts to refer to a mental health specialist (33.3 vs. 45.5%, p = .05).

Conclusion: With young adults who subsequently attempt suicide, GPs face particular difficulties compared to older adults, as a significant proportion of young adults were not seen in the previous six months, as GPs identified less depressions in the preceding year and were less active in managing in the preceding three months. Medical training and continuing medical education should include better instruction on challenges relative to addressing suicide risk in this particular population.
Individual- and area-level influence on suicide risk: A multilevel longitudinal study of Swedish school children
Psychological Medicine. Published online: 24 April 2013 doi: 10.1017/S0033291713000743, 2013

**Background:** Characteristics related to the areas where people live have been associated with suicide risk, although these might reflect aggregation into these communities of individuals with mental health or social problems. No studies have examined whether area characteristics during childhood are associated with subsequent suicide, or whether risk associated with individual characteristics varies according to childhood neighbourhood context.

**Method:** We conducted a longitudinal study of 204 323 individuals born in Sweden in 1972 and 1977 with childhood data linked to suicide (n = 314; 0.15%) up to age 26-31 years. Multilevel modelling was used to examine: (i) whether school-, municipality- or county-level characteristics during childhood are associated with later suicide, independently of individual effects, and (ii) whether associations between individual characteristics and suicide vary according to school context (reflecting both peer group and neighbourhood effects).

**Results:** Associations between suicide and most contextual measures, except for school-level gender composition, were explained by individual characteristics. There was some evidence of cross-level effects of individual- and school-level markers of ethnicity and deprivation on suicide risk, with qualitative interaction patterns. For example, having foreign-born parents increased the risk for individuals raised in areas where they were in a relative minority, but protected against suicide in areas where larger proportions of the population had foreign-born parents.

**Conclusions:** Characteristics that define individuals as being different from most people in their local environment as they grow up may increase suicide risk. If robustly replicated, these findings have potentially important implications for understanding the aetiology of suicide and informing social policy.

The association between depression and suicide when hopelessness is controlled for
Zhang J, Li Z (China, USA)
Comprehensive Psychiatry. Published online: 16 April 2013. doi: 10.1016/j.comppsych.2013.03.004, 2013

**Objective:** We retested the relationship between major depression and suicide with hopelessness as a control variable, with the hypothesis that the strong relationship between depression and suicide will decrease or disappear when hopelessness is controlled for. Also, hopelessness can be accounted for by psychological strains that resulted from social structure coupled with individual characteristics.

**Method:** This was a case-control psychological autopsy study, in which face-to-face interviews were conducted to collect information from proxy informants for suicide victims and living subjects in rural Chinese 15-34 years of age who died of
suicide (n = 392) and who served as community living controls (n = 416). Major depression was assessed by the Chinese version of the Structured Clinical Interview for DSM-IV (SCID). Hopelessness was measured by Beck Hopelessness Scale.

**Results:** A strong association between major depression and suicide was observed after adjustment for socio-demographic characteristics. When hopelessness was added to the analysis, the depression-suicide relationship was significantly decreased in all the six regression models.

**Conclusions:** Although depression, as well as other mental illness, is a strong risk factor for suicide, depression and suicide are both likely to be related to hopelessness, which in turn could be a consequence of psychological strains that resulted from social structure and life events. Future studies may examine the causal relations between psychological strains and hopelessness.
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