## Contents

**Foreword** ................................................................................................................................. vii

**Acknowledgments** ................................................................................................................... viii

**Introduction**
- Context ........................................................................................................................................ 1
- Methodology ................................................................................................................................. 2

**Key articles**
- Britton et al, 2012. Differences between veteran suicides with and without psychiatric symptoms ............................................................... 12
- De Leo et al, 2012. Mental disorders and communication of intent to die in Indigenous suicide cases, Queensland, Australia ................................................................. 16
- Desseilles et al, 2012. Is it valid to measure suicidal ideation by depression rating scales? ............. 18
- Gibbons et al, 2012. Suicidal thoughts and behavior with antidepressant treatment: Reanalysis of the randomized placebo-controlled studies of fluoxetine and venlafaxine ................................................................. 20
- Handley et al, 2011. You’ve got to have friends: The predictive value of social integration and support in suicidal ideation among rural communities ................................................................. 22
Madsen et al, 2012. Predictors of psychiatric inpatient suicide: A national prospective register-based study ..............................................28


Nordentoft et al, 2011. Absolute risk of suicide after first hospital contact in mental disorder....................................................34

Page et al, 2011. Effectiveness of Australian youth suicide prevention initiatives ................................................................................36

Purcell et al, 2011. Family connectedness moderates the association between living alone and suicide ideation in a clinical sample of adults 50 years and older ..........................................................38


Schneider et al, 2011. Is the emotional response of survivors dependent on the consequences of the suicide and the support received? ........................................................................42


Thomson, 2012. Long term follow up of suicide in a clinically depressed community sample ..........................................................46


Walter et al, 2012. Factors predicting coroners’ decisions to hold discretionary inquests .................................................................50

Webb et al, 2012. Suicide risk in primary care patients with major physical diseases: A case-control study ..............................................52


Whittaker et al, 2012. MEMO — A mobile phone depression prevention intervention for adolescents: Development process and postprogram findings on acceptability from a randomized controlled trial ........................................................................56
Winsper et al, 2012. Involvement in bullying and suicide-related behavior at 11 years: A prospective birth cohort study ..........................................................58

Wojtkowiak et al, 2012. Grief experiences and expectance of suicide..........................................................60

Zarate et al, 2012. Replication of ketamine’s antidepressant efficacy in bipolar depression: A randomized controlled add-on trial ..........................................................61

**Recommended readings ..........................................................63**

**Citation list**

Fatal suicidal behaviour:
- Epidemiology ..............................................................................112
- Risk and protective factors .........................................................118
- Prevention ....................................................................................129
- Postvention and bereavement ......................................................134

Non-fatal suicidal behaviour:
- Epidemiology ..............................................................................137
- Risk and protective factors .........................................................147
- Prevention ....................................................................................169
- Care and support ........................................................................170
- Case reports ..................................................................................177
- Miscellaneous.............................................................................184
Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester November 2011–April 2012; it is the seventh of a series produced biannually by our Institute with the aim of assisting the Commonwealth Department of Health and Ageing 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 and 1,515 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 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 2009, 2,132 deaths by suicide were registered in Australia, representing an age-standardized rate of 9.6 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\(^4\). 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 and Ageing (DoHA) 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 behavior and recommended practices in preventing and responding to these behaviors. 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 behaviors 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 November 2011 and April 2012; 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 2011 to October 2011. 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 Science, using the following key words: suicide, suicidal, self-harm, self-injury and 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 November 2011 and April 2012.
- **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 6 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
Suicide Research: Selected Readings

- 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.

Figure 1 Flowchart of process.
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
How do methods of non-fatal self-harm relate to eventual suicide?


Background: Methods used at an index episode of non-fatal self-harm may predict risk of future suicide. Little is known of suicide risk associated with most recent non-fatal method, and whether or not change in method is important.

Methods: A prospective cohort of 30,202 patients from the Multicentre Study of Self-harm in England presenting to six hospitals with self-harm, 2000–2007, was followed up to 2010 using national death registers. Risks of suicide (by self-poisoning, self-injury, and all methods) associated with recent method(s) of non-fatal self-harm were estimated using Cox models.

Results: Suicide occurred in 378 individuals. Cutting, hanging/asphyxiation, CO/other gas, traffic-related, and other self-injury at the last episode of self-harm were associated with 1.8 to 5-fold increased risks (vs. self-poisoning) of subsequent suicide, particularly suicide involving self-injury. All methods of self-harm had similar risks of suicide by self-poisoning. One-third who died by suicide used the same method for their last self-harm and for suicide, including 41% who self-poisoned. No specific sequences of self-poisoning, cutting or other self-injury in the last two non-fatal episodes were associated with suicide in individuals with repeated self-harm.

Limitations: Data were for hospital presentations only, and lacked a suicide intent measure.

Conclusions: Method of self-harm may aid identification of individuals at high risk of suicide. Individuals using more dangerous methods (e.g. hanging, CO/other gas) should receive intensive follow-up. Method changes in repeated self-harm were not associated with suicide. Our findings reinforce national guidance that all patients presenting with self-harm, regardless of method, should receive a psychosocial assessment.

Comment

Main findings: Repetition of self-harm is common, and repeated self-harm is the strongest predictor of completed suicide. Past research has focused on the initial (or index) non-fatal episode of suicidal behaviour. This multicentre cohort study of 30,950 persons, presenting to six hospitals in the UK in 2000–2007, is the first study to analyse the association between methods of the most recent non-fatal suicidal episode among individuals who completed suicide before 2011. The risk of suicide by all methods was 1.8 to 5 times higher for persons who self-injured themselves in the previous suicidal episode than those who used self-poisoning. However, the risk of suicide by self-poisoning was similar for all persons using six different methods of self-harm (poisoning, cutting, hanging/asphyxiaton, CO/other gas, traffic-related and other self-injury) during their previous episode. Further, approximately 60% of those who died by self-injury had switched from...
self-poisoning to a different method than their previous episode. Hanging and
self-asphyxiation occur frequently in completed suicide, although they are quite
uncommon in non-fatal attempts. A slight majority (54%) of those who com-
pleted suicide used the same broad method — self-poisoning or self-injury — a
fact which was more frequent when they suicided within the next few days. More
specifically, there was a continuity of method in 83% of cases when suicide was
completed within 1 day of the previous episode.

Implications: Although the study has some limitations (e.g., evaluated only indi-
viduals who had presented at a hospital, and did not control for suicidal intent),
the findings of this study have important implications for clinical practice, partic-
ularly in terms of intervention and prevention. The possibility that a suicide
attempter will switch to a more lethal method in a future attempt needs to be care-
fully considered, especially given the significant potential revealed by this research
for those whose most recent attempt made use of self-poisoning to switch to self-
injury. Furthermore, the use of the same broad method in a large majority of sui-
cides rapidly following (within a few days) a non-fatal attempt suggests that it is
particularly important to investigate and limit access to means. For example, given
that individuals frequently self-poison using their own medication, access to med-
ication should be restricted and, if possible, less toxic drugs be supplied. Furth-
more, considering the finding of this study that hanging/asphyxiation was the
most commonly used specific method of suicide yet was a relatively rare method
of non-fatal self-harm, intensive follow-up care is required for those that survive
a suicide attempt by this method. While method of previous suicidal episode may
indeed be an important indicator of risk of a completed suicide and should
inform follow-up care of suicidal patients (e.g., restriction of access to means), all
individuals that have engaged in non-fatal suicidal behaviour should receive psy-
chosocial assessment and follow-up care.
Juvenile delinquency, social background and suicide: A Swedish national cohort study of 992,881 young adults

Björkenstam E, Björkenstam C, Vinnerljung B, Hallqvist J, Ljung R (Sweden)

Background: As the suicide rates in young adults do not show a clear decline, it is important to elucidate possible risk factors. Juvenile delinquency has been pointed out as a possible risk behaviour.

Methods: This register-based cohort study comprises the birth cohorts between 1972 and 1981 in Sweden. We followed 992,881 individuals from the age of 20 years until 31 December 2006, generating 10,210,566 person-years and 1482 suicides. Juvenile delinquency was defined as being convicted of a crime between the ages of 15 and 19 years. Estimates of risk of suicide were calculated as incidence rate ratio (IRR) with 95% confidence intervals (CIs) using Poisson regression analysis with adjustment for potential confounding by their own and their parents' mental illness or substance abuse, parental education, single parenthood, social assistance, adoption and foster care.

Results: Among females, 5.9%, and among males, 17.9%, had at least one conviction between the ages 15 and 19 years. In the fully adjusted model, females with one conviction had a suicide risk of 1.7 times higher (95% CI 1.2–2.4), the corresponding IRR for men was 2.0 (95% CI 1.7–2.4) and 5.7 (95% CI 2.5–13.1) and 6.6 (95% CI 5.2–8.3), for women and men with five or more convictions. The effect of severe delinquency on suicide was independent of parental educational level.

Conclusions: This study supports the hypothesis that individuals with delinquent behaviour in late adolescence have an increased risk of suicide as young adults. Regardless of causality issues, repeated juvenile offenders should be regarded by professionals in health, social and correctional services who come into contact with this group as a high-risk group for suicide.

Comment

Main findings: While overall mortality rates for young adults in the Western world have been declining in the recent decades, there has not been a corresponding reduction in the suicide rate for this age group. Among adolescents, those involved with the criminal justice or child welfare systems have been identified as being at higher risk of suicide, particularly given the higher likelihood for them to suffer from mental illness. Studies on these groups to date have generally been based on small sample sizes, particularly in the case of females. The present study follows a large sample (totalling almost 1,000,000) of Swedish youth using national registers in order to estimate the risk of juvenile delinquents suicide relative to the general adolescent population, while controlling for social and psychological background variables, such as their own or their parents' mental illness and socioeconomic circumstances. Based on the findings of the study, delinquency is shown to be a risk factor for suicide independent of social and psychological
factors. That is, although the association between delinquency and suicide drops when mental illness and substance abuse are controlled for, for example, the heightened risk remains even when these other risk factors are taken into account. Those convicted of more violent crimes had a higher risk of suicide. The authors hypothesise that this may be due to shared biological mechanisms for homicidal and suicidal behaviours, which are related to impulse disorders. Interestingly, while females in the study had lower rates of completed suicide, a phenomenon reflected also in the general population, in the most severe conviction group, females had significantly higher rates of suicide than males.

Although the use of national registers in research gives several advantages, such as large sample sizes, reliable data and long-term follow ups, it has certain limitations. For example, data on mental illness are only available for those treated as psychiatric inpatients and those hospitalised for substance abuse.

**Implications:** Although a significant proportion of the increased risk for suicide among juvenile delinquents remained after adjusting for comorbid mental illness and substance abuse, a major implication of this study is nevertheless the need for suicide prevention and mental health care programs for youth involved in the justice system to focus on psychiatric conditions, including substance abuse. Any services (social, correctional, medical) that come into contact with delinquent young adults should regard them as a high-risk group for suicide and treat them accordingly. Furthermore, young people discharged from juvenile centres should have proper management plans and follow-ups, as recommended by an Australian study of young offenders.

**Endnote**

Differences between veteran suicides with and without psychiatric symptoms

Britton PC, Ilgen MA, Valenstein M, Knox K, Claassen CA, Conner KR (USA)
American Journal of Public Health 102, S125—S130, 2012

Objectives: Our objective was to examine all suicides (n = 423) in 2 geographic areas of the Veterans Health Administration (VHA) over a 7-year period and to perform detailed chart reviews on the subsample that had a VHA visit in the last year of life (n = 381).

Methods: Within this sample, we compared a group with 1 or more documented psychiatric symptoms (68.5%) to a group with no such symptoms (31.5%). The groups were compared on suicidal thoughts and behaviors, somatic symptoms, and stressors using the chi(2) test and on time to death after the last visit using survival analyses.

Results: Veterans with documented psychiatric symptoms were more likely to receive a suicide risk assessment, and have suicidal ideation and a suicide plan, sleep problems, pain, and several stressors. These veterans were also more likely to die in the 60 days after their last visit.

Conclusions: Findings indicated presence of 2 large and distinct groups of veterans at risk for suicide in the VHA, underscoring the value of tailored prevention strategies, including approaches suitable for those without identified psychiatric symptoms.

Comment

Main findings: The study examined 423 suicide cases of veterans who used Veterans Health Administration (VHA) services in the US in 2000–2006. They compared suicides with clinician-documented psychiatric symptoms (i.e., depression, anxiety, alcohol use disorders, drug use disorders, schizophrenia, and mania; 68.5%) in the last year of life to suicides with no documented symptoms (31.5%). The suicide group with recorded psychiatric symptoms was more likely to receive a suicide risk assessment and to report suicidal ideation and a plan in the last year of life than the group without such symptoms. Furthermore, they also more frequently received care from a mental health specialist, and a suicide assessment, and reported suicidal ideation during their last visit. Although the group with recorded symptoms also had more somatic symptoms in the previous year and at the last visit, there was no difference in recorded chronic pain between the two veteran suicide groups at the last visit. Suicide cases with psychiatric symptoms also had more documented stressors than those with no symptoms, experiencing occupational and relational stressors most often. Persons experiencing psychiatric symptoms were more likely to suicide within the first 60 days after contact; furthermore, those experiencing suicidal ideation were more likely to die by suicide in the first 30 days. Over 30% of the sample had no reported symptoms; the authors suggested that this might indicate problems with detection, documenta-
tion, or the absence of critical variables in the chart review. Suicide cases without psychiatric symptoms were more frequently racial/ethnic minorities than veterans with psychiatric symptoms.

**Implications:** Considering that previous studies have shown that veterans are at high risk of mental health problems, especially Post Traumatic Stress Disorder (PTSD) and suicide\(^1\), studies of this specific group should be encouraged. The main limitation of the study is the lack of a control group of veterans by other types of deaths or living controls with psychiatric symptoms, in order to find what the triggers of suicide are when psychiatric symptoms are present are.

The current study suggested that veteran suicides with documented psychiatric symptoms were more likely to be identified as being at high risk — reporting higher prevalence of suicide ideation and plan, which provides the opportunity for intervention. However, these individuals potentially required more intensive treatments to reduce their suicide risk, such as cognitive therapy for suicide prevention or dialectical behavioural therapy. Furthermore, considering the timing of suicide, after presenting with suicidal ideation and with psychiatric symptoms, it shows the urgent need for more timely and intensive follow-ups. A good choice might be some type of brief intervention; for example, a recent study of caring letters among the US veterans showed promising results\(^2\).

The authors also noted that after these data were collected, the VHA implemented reliable and sensitive screening for depression, alcohol misuse, and PTSD. In addition, they mandated an annual suicide-risk assessment when their clients screen positive for psychiatric disorders or experience changes in treatment.

**Endnotes**


The Foxconn suicides and their media prominence: Is the Werther Effect applicable in China?

Cheng Q, Chen F, Yip PS (China)

BMC Public Health 11, 841, 2011

Background: Media reporting of suicide and its relationship with actual suicide has rarely been investigated in Mainland China. The Foxconn suicides is a description referring to a string of suicides/Attempts during 2010, all of which were related to a giant electrical manufacturing company, Foxconn. This study aimed to examine the clustering and copycat effects of the Foxconn suicides, and to investigate temporal patterns in how they were reported by the media in Mainland China, Hong Kong (HK), and Taiwan (TW).

Methods: Relevant articles were collected from representative newspapers published in three big cities in Mainland China (Beijing (BJ), Shenzhen (SZ), and Guangzhou (GZ)), HK, and TW, together with searching intensity data on the topic conducted using the Baidu search engine in Mainland China. The temporal clustering effects of the Foxconn suicides and their media prominence were assessed using the Kolmogorov-Smirnov test. The media reports of the Foxconn suicides' temporal patterns were explored using a nonparametric curve estimation method (that is, the local linear method). The potential mutual interactions between the Foxconn suicides and their media prominence were also examined, using logistic and Poisson regression methods.

Results: The results support a temporal clustering effect for the Foxconn suicides. The BJ-based newspapers' reporting and the occurrence of a Foxconn suicide/attempt are each found to be associated with an elevated chance of a further Foxconn suicide 3 days later. The occurrence of a Foxconn suicide also immediately influenced the intensity of both Baidu searching and newspaper reporting. Regional diversity in suicide reporting tempo-patterns within Mainland China, and similarities between HK and TW, are also demonstrated.

Conclusions: The Foxconn suicides were temporally clustered. Their occurrences were influenced by the reporting of BJ-based newspapers, and contagion within the company itself. Further suicide research and prevention work in China should consider its special media environment.

Comment

Main findings: In 2010, there were 13 completed and 5 attempted suicides (all, except one, were carried out by jumping) by employees of the electrical manufacturer company Foxconn, mainly located in Mainland China. The authors hypothesised that (1) there was a temporal cluster effect; (2) the mass media focus on the suicides did not significantly influence their occurrence; and (3) that previous Foxconn suicides influenced later incidences. Further, they also compared how the same suicide cases were reported in the media of Mainland China (Shenzhen, Beijing, and Guangzhou), Taiwan, and Hong Kong, including 20 newspapers and one online search engine.
The authors suggested that there was a temporal clustering of the Foxconn suicides with a peak between mid-March and May 2010. However, they could not support that the mass media focus on the suicides did not significantly influence their occurrence. It is interesting that newspapers in the Beijing region seemed to contribute to the occurrence of each Foxconn suicide/attempt 3 days later, even though Beijing-based newspapers showed the lowest interest in, and the slowest follow up of, the Foxconn suicides compared to the other media analysed in the study. The authors indicated that this last phenomenon might be explained by the fact that the Mainland Chinese media are considered to be the mouthpiece of the Chinese government, and Beijing newspapers, being from the capital region, to be the mouthpiece of both local and central government. However, most of the mass media (other parts of mainland China, Taiwan, and Hong Kong) coverage had little influence on the occurrence of Foxconn suicides. It was, rather, interpersonal communication within the company, with workers living in a huge campus provided by the employer, containing dorms, canteens, and other facilities, the authors suggested, that had the strongest effect, and as such earlier Foxconn suicides influenced later occurrences.

Further, the role of online media in circulating the news of the Foxconn suicides was also analysed. It is important to note that the effect of the Foxconn suicides on the online search engine Baidu was the most immediate and long-lasting of all media coverage. This shows the speed and duration of the response generated by online users’ attention to the phenomenon.

**Implications:** A recent critical review of 97 international studies of print and non-print media indicated an association between the presentation of suicide in media and actual suicidal behaviour\(^1\). Only limited studies were from Asia, mainly from Japan, Taiwan, and Hong Kong. The findings of the present study widen the results of media influence on suicides to China. However, it is interesting that the Foxconn suicides and suicide attempt cluster were found to be influenced by newspaper reports in the Beijing area, but not newspapers in other regions, which may be linked to the specificities of media in China, as noted earlier.

The study results, further, highlight the need to promote and practice responsible media reporting of suicidal behaviours in order to minimise harm. In 2002, the Australian Guidelines of Media reporting, prepared by Mindframe National Media Initiative, were released\(^2\), which lead to improved quality of reporting suicidal behaviours in media\(^3\). After intense public discussion, Australian Guidelines of Media were updated in 2012.

**Endnotes**

Mental disorders and communication of intent to die in Indigenous suicide cases, Queensland, Australia

De Leo D, Milner A, Sveticic J (Australia)

Suicide and Life-Threatening Behavior 42, 136-146, 2012

In comparing Indigenous to non-Indigenous suicide in Australia, this study focused on the frequency of the association between some psychiatric conditions, such as depression and alcohol abuse, and some aspect of suicidality, in particular communication of suicide intent. Logistic regression was implemented to analyze cases of Indigenous (n = 471) versus non-Indigenous suicides (n = 6,655), using the Queensland Suicide Register as a data source.

Compared to non-Indigenous suicides, Indigenous cases had lower odds of being diagnosed with unipolar depression, seeking treatment for psychiatric conditions or leaving a suicide note. Indigenous suicides had greater odds of verbally communicating suicide intent and having a history of alcohol and substance use.

The magnitude of these differences is remarkable, underscoring the need for culturally sensitive suicide prevention efforts.

Comment

Main findings: Between 1994 and 2007, there were 471 Indigenous suicides and 6,655 non-Indigenous cases recorded in the Queensland Suicide Register (QSR). This Australian study found that records of any psychiatric diagnosis were significantly more prevalent in non-Indigenous suicide cases compared to Indigenous suicides, with 42.5% and 20.8% respectively. Further, the prevalence of unipolar depression, bipolar disorder, and anxiety disorder was higher in non-Indigenous cases. The authors suggested that the low prevalence of mental disorders in Indigenous suicides might indicate the use of Western conceptualizations of mental illness, which may be unable to capture the culturally specific expressions of psychological stress or pain within Indigenous populations. In addition, it is possible that Indigenous persons may express depression in ways that may not be observable by others. Finally, it may be that the prevalence of depression in Indigenous people is really lower. Even so, lifetime treatment was also lower in Indigenous suicides, which further indicates lower levels of help-seeking, but, more importantly, limited accessibility and availability of quality mental health care. Other potential reasons for avoiding help-seeking in Australian Indigenous people might be cultural misunderstandings, concerns regarding confidentiality in close-knit Indigenous communities, and stigma surrounding disclosure of suicidal thought.

Problematic use of alcohol and diagnosis of substance use disorder were the only mental health problem significantly more frequent in Indigenous suicides. This may reflect higher overall rates of alcohol and drug misuse among Indigenous populations or that Indigenous people who have died by suicide use these substances to cope with distress. The presence of suicide notes was significantly less frequent in
Indigenous suicides (13.0%) compared to in non-Indigenous cases (39.3%), which may be partly explained by the impulsive nature of Indigenous suicides.

Implications: A previous study by the same group of authors showed that Indigenous people had a 2.2 times higher risk of suicide than non-Indigenous Australians. The present study is very important considering the limited research into the reasons why Indigenous persons are at an elevated risk of suicide in Australia. This may be one of the reasons for the lack of targeted interventions designed for this population. Future studies to identify the factors underpinning Indigenous suicide should be endorsed and reasons for low help-seeking should be more specifically addressed. Considering that it might be related to limited access to and availability of mental health care, culturally relevant services should be provided to Indigenous communities of remote areas of Australia.

However, this study had some limitations. It is important to note that the degree of reliability of the diagnoses identified is not comparable to that obtainable through the use of a formally structured diagnostic interviewing (the authors considered the Composite International Diagnostic Interview the most appropriate for Indigenous populations). Furthermore, the information in the QSR used in the study comes from next-of-kin, as reported to the police, and there may be different levels of disclosure.

Endnotes
Is it valid to measure suicidal ideation by depression rating scales?
Desseilles M, Perroud N, Guillaume S, Jaussent I, Genty C, Malafosse A, Courtet P (Belgium)

**Objective:** To date, most researchers rely on suicidal items of scales primarily designed to measure depression severity to capture suicidal ideation (SI). This study aims at investigating how well the suicide item of the clinician rated Hamilton Scale for Depression (HAM-D) and principal factors derived from this scale correlate with SI scores derived from a well validated measure of SI: the Beck’s scale for SI (SSI).

**Method:** 281 suicide attempters consecutively hospitalized between 2007 and 2009 were assessed by using the SSI, the HAM-D and the self-report Beck Depression Inventory (BDI). Principal Component Analysis (PCA) was computed to extract main factors. Correlations between these factors, BDI’s and HAM-D’s suicide items and the SSI scores were then computed.

**Results:** Three components were derived from the PCA. Factor 2 showed a major loading for the HAM-D suicide item. Both the HAM-D suicide item and Factor 2 positively correlated with the SSI total score (both \( p < 0.00001 \)). Moreover, the BDI suicide item highly correlated with the Factor 2 (\( p < 0.001 \)) and the SSI total score (\( p < 0.00001 \)). Finally, the HAM-D suicide item correlated significantly with the number of suicide attempts (\( p = 0.0001 \)) and the age at the first attempt (\( p = 0.002 \)).

**Limitations:** Our sample was heterogeneous and future studies should refine the taxonomy of the suicidal behavior in specific sub-populations. The study design was cross-sectional and replication in a prospective study is needed.

**Conclusion:** These findings suggest that the use of a single suicide item or a dimensional factor derived from a depression scale might be a valid approach to assess the suicidal ideations. Moreover, the results suggest that clinician rated scales as well as self-report questionnaires are equally valid to do so.

**Comment**

**Main findings:** Early identification of suicidal ideation is vital given recent research showing that 60% of transitions from ideation to plan and attempt occur within one year of the onset of ideation\(^1\). Therefore, accurate and reliable instruments for the detection of suicidal ideation are important to predict and prevent subsequent attempts and suicides. The ‘gold standard’ of clinical evaluation of suicidal ideation is Beck’s Scale for Suicidal Ideation (SSI), although there has thus far been no direct evidence that any ‘suicide’ item on depression scales correlates well with the SSI. The present study showed that both self-report (Beck Depression Inventory) and clinician-rated (Hamilton Scale for Depression) items related to suicidal ideation on scales designed for measuring severity of depression compare favourably to the SSI can therefore be used confidently in clinical practice and in research (including clinical trials).
Implications: The findings of the research imply that suicidal ideation can be reliably and readily assessed by certain depression scales without the need for a suicide-specific instrument. This permits mental health professionals to easily screen for suicidal ideation, especially as the results provide support for the use of a self-report measure. Clinicians can then have confidence in the information about suicidal ideation provided by depression scales and act accordingly to formulate a preventative treatment plan. Nevertheless, considering the limitations of the study, such as its cross-sectional design, follow-up, prospective research is needed to verify the findings.

Endnote
Suicidal thoughts and behavior with antidepressant treatment: Reanalysis of the randomized placebo-controlled studies of fluoxetine and venlafaxine

Gibbons RD, Brown CH, Hur K, Davis JM, Mann JJ (USA)


Context: The US Food and Drug Administration issued a black box warning for antidepressants and suicidal thoughts and behavior in children and young adults.

Objective: To determine the short-term safety of antidepressants by standard assessments of suicidal thoughts and behavior in youth, adult, and geriatric populations and the mediating effect of changes in depressive symptoms.

Data sources: All intent-to-treat person-level longitudinal data of major depressive disorder from 12 adult, 4 geriatric, and 4 youth randomized controlled trials of fluoxetine hydrochloride and 21 adult trials of venlafaxine hydrochloride.

Study selection: All sponsor-conducted randomized controlled trials of fluoxetine and venlafaxine.

Data extraction: The suicide items from the Children's Depression Rating Scale-Revised and the Hamilton Depression Rating Scale as well as adverse event reports of suicide attempts and suicide during active treatment were analyzed in 9185 patients (fluoxetine: 2635 adults, 960 geriatric patients, 708 youths; venlafaxine: 2421 adults with immediate-release venlafaxine and 2461 adults with extended-release venlafaxine) for a total of 53,260 person-week observations.

Data synthesis: Suicidal thoughts and behavior decreased over time for adult and geriatric patients randomized to fluoxetine or venlafaxine compared with placebo, but no differences were found for youths. In adults, reduction in suicide ideation and attempts occurred through a reduction in depressive symptoms. In all age groups, severity of depression improved with medication and was significantly related to suicide ideation or behavior.

Conclusions: Fluoxetine and venlafaxine decreased suicidal thoughts and behavior for adult and geriatric patients. This protective effect is mediated by decreases in depressive symptoms with treatment. For youths, no significant effects of treatment on suicidal thoughts and behavior were found, although depression responded to treatment. No evidence of increased suicide risk was observed in youths receiving active medication. To our knowledge, this is the first research synthesis of suicidal thoughts and behavior in depressed patients treated with antidepressants that examined the mediating role of depressive symptoms using complete longitudinal person-level data from a large set of published and unpublished studies.

Comment

Main findings: The impact of antidepressants on suicidal behaviours is still unclear, especially in children and adolescents. The current study focussed on the impact of antidepressants on depression and suicidal thoughts and behaviour in
different age groups using data from previous studies by different drug companies. This approach seeks to provide the clinician with more accurate risk-benefit estimation for the use of antidepressants in major depressive disorder at all ages. The authors obtained complete longitudinal data for randomized controlled trials (RCT) of fluoxetine hydrochloride conducted by Eli Lilly and Co, the Treatment for Adolescents with Depression Study of fluoxetine in children by the National Institute of Mental Health, and adult studies for venlafaxine hydrochloride conducted by Wyeth. Analyses of published and unpublished placebo controlled RCTs of fluoxetine (adult, youth, and geriatric patients) and venlafaxine (adults) showed that there was no evidence of increased suicide risk with treatment. For adults and geriatric patients, the level of suicide risk for most subjects in these trials was low, and, for all groups, there was a major reduction in risk over time. For adults treated with fluoxetine, extended-release venlafaxine, or immediate release venlafaxine and geriatric patients treated with fluoxetine, treatment resulted in significant decreases relative to placebo in suicide risk measures over time. However, in youths, no statistically significant differences were found for fluoxetine. Suicide risk was strongly related to severity of depression, and changes over time in suicide risk closely mirrored those of depression severity changes over the same period in both youths and adults. All adult trials revealed that depression severity mediated the effect of antidepressant medication on suicide risk. For young people, depression severity was strongly related to suicide risk and depression responded to treatment, but no effect of treatment on suicide risk was found.

**Implications:** This study has very important implications for pharmacological treatment. For example, it revealed that treatment with fluoxetine and venlafaxine decreased suicide risk in adult and geriatric patients and did not increase it in youth. Therefore, it should be considered as safe for treatment of major depressive disorders at all ages. Considering that the current study used all industry trials (published and unpublished) of fluoxetine and venlafaxine, it avoided the problem of publication bias in favour of positive clinical trials. However, it is important to note that clinical researchers suggest that medication should not be the first line of treatment for people with suicidal behaviours, but rather used in an acute crisis and to manage psychiatric or other comorbid conditions, and to facilitate the administration of psychosocial treatment. Studies have shown that combination therapy gives better results than either psychotherapy or pharmacotherapy alone.

**Endnotes**

You've got to have friends: The predictive value of social integration and support in suicidal ideation among rural communities

**Purpose:** To explore the role of social integration and support in the longitudinal course of suicidal ideation (SI) in a rural population.

**Methods:** Baseline and 12-month data were obtained from participants within the Australian Rural Mental Health Study, a longitudinal study of community residents within rural and remote New South Wales, Australia. SI was assessed using the Patient Health Questionnaire. Individual psychological factors, family and community characteristics were examined alongside personal social networks (Berkman Syme Social Network Index), availability of social support (Interview Schedule for Social Interaction) and perception of local community (Sense of Community Index).

**Results:** Thirteen hundred and fifty-six participants were included in the analysis (39% male, mean age 56.5 years). Sixty-one participants reported recent SI at baseline, while 57 reported SI at follow-up. Baseline SI was a strong predictor of SI at 12 months [odds ratio (OR) 19.0, 95% confidence interval (CI) 8.6-42.3]; significant effects were also observed for baseline values of psychological distress (OR 1.4, 95% CI 1.0-1.9) and availability of social support (OR 0.76, 95% 0.58-1.0) on 12-month SI. The emergence of SI at 12-month follow-up was predicted by higher psychological distress (OR 1.8, 95% CI 1.3-2.4); there was a marginal effect of lower availability of support (OR 0.74, 95% CI 0.55-1.0); neither of these variables predicted SI resolution.

**Conclusions:** This study investigated factors associated with SI over a 12-month period in a rural cohort. After controlling for known risk factors for SI, low availability of social support at baseline was associated with greater likelihood of SI at 12-month follow-up.

**Comment**

**Main findings:** In Australia, suicide rates are higher in rural areas than in major cities, with the disparity rising in very remote areas¹. One potential risk factor that differentiates rural and urban populations and therefore could account for the higher rates of suicide outside major cities is the availability of sources of social support. Data gathered as part of the Australian Rural Mental Health Study, a longitudinal population-based research project exploring mental health and the influence of social factors in Australian rural and remote communities, were analysed in the current paper. Participants resided in one of 60 local government areas covering approximately 70% of non-metropolitan New South Wales. It was found that suicidal ideation was associated with lower perceived levels of social
support, less active community engagement, and a lower sense of belonging. Furthermore, greater distress about rural infrastructure and access to services were also associated with thoughts of suicide. Suicidal ideation did not vary by remoteness category. Analysis of longitudinal aspects revealed three significant predictors of suicidal ideation during a 12-month period: unemployment, psychological distress, and lower perceived availability of social support. There was no interaction between psychological distress and perceived support, suggesting that higher support is a protective factor, independent of psychological wellbeing. Moreover, those experiencing suicidal ideation at baseline were 19 times more likely to have thoughts of suicide at 12-month follow-up. Thus the authors’ hypothesis that social factors have an independent effect on suicidal ideation was supported. Other risk factors identified were younger age, present unemployment, a lower financial status, psychological distress, alcohol use, and neuroticism. Although this is in line with previous research, the majority of studies have been carried in urban locations and thus these findings provide valuable information about how risk factors translate across the urban-rural divide.

**Implications:** The finding that psychological distress correlates strongly with suicidal ideation in rural Australia has important implications for the provision of mental health services. Given that research suggests that the risk is greatest for a suicide plan or attempt within 12 months of the onset of suicidal ideation, there is a limited time window within which to engage suicidal individuals in preventative services. Furthermore, the protective nature of higher perceived social support offers valuable insight into the most important factors that need to be incorporated into rural preventative activities. Specifically, there is real potential for rural populations to benefit from culturally relevant social components of suicide prevention programs.

The results of this study also offer valuable information for the clinical setting. Mental health workers should carefully screen for psychological distress, low levels of perceived social support, and most importantly, current suicidal ideation, especially among the unemployed.

**Endnote**

Risk of suicide has been associated with trauma and negative life events in several studies. Our aim was to investigate the prevalence and risk factors of suicidal ideation, and the population attributable risk among workers after occupational injuries.

We investigated workers who had been hospitalized for $\geq 3$ days after occupational injuries between February 1 and August 31, 2009. A self-reported questionnaire including demographic data, injury condition, and the question of suicidal ideation was sent to 4498 workers at 3 months after their occupational injury. A total of 2001 workers (45.5%) completed the questionnaires and were included in final analysis. The prevalence of reporting suicidal ideation was 8.3%. After mutual adjustment, significant risk factors for suicidal ideation higher than 'serious' in a self-rated severity scale (adjusted odds ratio, aOR = 2.31; adjusted population attributable risk, aPAR = 34.7%), total hospital stay for 8 days or longer (OR = 1.98; aPAR = 20.5%), intracranial injury (OR = 2.30; aPAR = 10.2%), and marriage status of being divorced/separated/widowed (OR = 2.70; aPAR = 10.0%). Three months after occupational injury, a significant proportion of workers suffered from suicidal ideation. Significant predictors of suicidal ideation after occupational injury included broken marriage, intracranial injury, injury severity, and total hospital stay. Identification of high risk subjects for early intervention is warranted.

Comment

Main findings: Detection of suicidal ideation is a very important factor in suicide prevention efforts, as suicidal ideation is one of the key predictors of later suicide attempt and completed suicide. Although the experience of trauma has been shown to be a risk factor for suicidal ideation and occupational injuries are a major source of trauma worldwide, there is limited research on suicidal ideation following an occupational injury. The current cross-sectional study from Taiwan involved sending self-report questionnaires to 4,489 individuals hospitalised for 3 days or longer for an occupational injury 3 months after the event. The final sample included 2,001 workers (response rate 45.5%) and excluded people with history of psychiatric disorders and use of medicines for mental health conditions. The prevalence of suicidal ideation (8.3%) was three times higher than in the total population in Taiwan. The adjusted population attributable risk was found to be 34.7% for those who self-rated their injury above 'serious'. Factors found to significantly contribute to risk of suicidal ideation for trauma sufferers, in addition to the severity of the trauma, were being divorced, widowed, or separated marital, intracranial injury, and hospital stays over 8 days. Life events such as death of a family member, divorce, illness, car accident, lawsuit, or bankruptcy occurring following the injury also significantly increased the risk of suicidal ideation,
although it cannot be excluded that any of these events occurred as a consequence of the occupational injury. Although this study is limited by the fact that it was not controlled by a comparison with the uninjured Taiwanese population, earlier research using the same instrument found the prevalence of suicidal ideation to be much lower. Furthermore, the study is limited by the low response rate and the inclusion of only those covered by the national Labour Insurance. This may very well mean an underestimation of the incidence of suicidal ideation among trauma sufferers, given that those not covered by insurance are likely to have higher rates of psychological distress due to the lower level of medical and mental health care available to them.

Implications:

In 2005–2006, the work-related injury rate was 64 per 1,000 employed people in Australia; it has dropped to 53 injuries per 1,000 in 2009–2010. This fall in the overall work-related injury rate was determined to have occurred due to a reduction among males (from 74 to 55 per 1,000), while the rate among women did not change (at 51 per 1000). In total numbers, 640,700 people experienced an occupational injury in 2009–10. Further, the highest rates of occupational injuries have been reported in ‘agriculture, forestry and fishing’, with, the highest suicides rates apparently in agriculture. Unfortunately, there is very limited research on the topic in Australia; furthermore, to our knowledge, there are no studies on the link between occupational injuries and suicidal behaviours, and studies on topic should be endorsed.

The findings of current study from Taiwan indicated that sufferers of an occupational injury are at greater risk of suicidal ideation have important implications. Those recovering from an injury, especially those who have been injured severely or spent an extended period in hospital (more than a week), require follow-up not only by a physician, but also by a mental health professional. This is particularly the case for individuals not in a relationship and those who have had an intracranial injury. Physicians need to be aware of these risk factors, and care needs to be taken about the amount and type prescription medication prescribed and dispensed to those at risk. A psychiatric evaluation and treatment plan should take place before hospital discharge.

Endonotes


The railway suicide death of a famous German football player: Impact on the subsequent frequency of railway suicide acts in Germany

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Background: The railway suicide of Robert Enke, an internationally respected German football goal keeper, sent shockwaves throughout the world of football. We analyzed its impact on the frequency of subsequent railway suicide acts (RS).

Methods: Two analytic approaches were performed applying German Railway Event database Safety (EDS) data: first, an inter-year approach comparing the incidence of RS during a predefined ‘index period’ with identical time windows in 2006 to 2008; second, an intra-year approach comparing the number of RS 28 days before and after the incidence. To analyze a possible ‘compensatory deficit’, the number of RS in the subsequent first quarter of 2010 was compared with the identical time windows in the preceding three years. Incidence ratios with 95% confidence intervals were estimated by Poisson regression. Findings were controlled for temperature.

Findings: Compared to the preceding three years, the incidence ratio (IR) of the number of RS in the index period increased by 1.81 (1.48–2.21; \( p < 0.001 \)), leading to an overall percentage change of 81% (48–121%; \( p < 0.001 \)). Comparing the number of suicides 28 days before and after the incidence revealed an even more pronounced increase of IR (2.2; 1.6–3.0). No modifications of these associations were observed by daytime, by location of the suicide and fatality. No compensatory deficit occurred in the post-acute period.

Interpretation: The substantial increase of RS in the aftermath of the footballer’s suicide death brought about copycat behavior in an unforeseen amount, even though the media reporting was largely sensitive and preventive measures were taken.

Comment

Main findings: The so-called ‘Werther effect’ is a phenomenon whereby extensive media coverage of a celebrity suicide can generate suicide contagion, or copycat suicides, in the general population. Social learning theory contends that behaviour of a socially superior model can be readily imitated, making celebrities and their behaviour prime candidates for such ‘vertical identification’. This is of particular concern when the media frame the suicide of a famous person in heroic terms, but it has also been found that repetitive reporting of the suicide of a famous person can bring about an increase in suicide rates. Although generally the media handled the event in a sensitive manner, the widespread nature of the coverage of the death by railway suicide and funeral of a famous 32-year-old German soccer player in 2009 did have an apparent effect on suicides in the general population in Germany. Against WHO guidelines, the media presented
the means of death and displayed scenes of the coffin. Indeed, results of the study showed that the suicide resulted in roughly a doubling of railway suicides during the period analysed. The authors argue that the magnitude of the spike in suicides has not previously been observed in Europe.

Although this study controlled for the possible confounding effect of weather phenomena during the period under analysis, it did not control for sex or age of those who died by suicide and therefore lacks valuable information about those potentially affected by the media coverage. Young people are known to be particularly prone to suicide contagion originating from the death of a celebrity featured prominently in the media. The study was also unable to assess the extent to which there was a switch in means to railway suicide among those already susceptible to taking their lives due to the unavailability of the necessary data at the time of publication. Finally, there was no analysis of the details of any of the rail suicide cases to be able to determine the extent to which the individuals followed the media coverage. That is, the exact trigger in each case cannot be determined.

Implications: Sensitive coverage of suicides in the media, particularly of celebrities or other well-known people, is vital. Analyses of the media coverage after the death of famous musical artist Kurt Cobain in his home area (the Seattle King County area in the US) in 1994, showed responsible and balanced reporting, including information about the crisis center and community outreach interventions. This potentially avoided from the expected ‘Werther effect’; however, there was a significant increase in suicide crisis calls. Consequently, Mindframe guidelines developed for Australia should be carefully followed. This is especially the case when highly lethal and readily available means such rail suicide are used. This particular example demonstrates that, although generally carefully conducted, when the media provide widespread and extensive coverage of a suicide and reveal substantial information of the means of death, the outcome can be tragic.

Endnote

Objective: To study the incidence and risk factors of psychiatric inpatient suicide within a national cohort representing all psychiatric hospital admissions.

Method: This national prospective register-based study followed all psychiatric hospital admissions in Denmark from the date of patient admission until patient discharge or inpatient suicide over a 10-year study period from 1997 through 2006. By using survival analysis techniques, this study was the first to take the inpatient time at risk into account in the estimation of the suicide rate and the predictors of suicide among hospital-admitted psychiatric patients.

Results: Among 126,382 psychiatric inpatients aged 14 years or older, 279 suicides occurred. The risk of inpatient suicide was high: 860 suicides per 100,000 inpatient years. Of those individuals who completed suicide, 50% died within 18 days of admission. The inpatient suicide rate significantly decreased, about 6% each year (HR = 0.94; 95% CI, -0.90–0.99), over this 10-year period. Several significant predictors of suicide were found, including the following: Patients with a bachelor's degree had a significantly higher hazard ratio (HR) of suicide compared with those with a primary school education (HR = 0.41; 95% CI, = 0.29–0.60) or those with vocational training (HR = 0.54; 95% CI, = 0.39–0.77). Having a personality disorder as a secondary diagnosis (all psychiatric diagnoses were made according to ICD-10) raised the risk of suicide (HR = 1.60; 95% CI, 1.01–2.53), as did having recent contact (within the last year) with a private psychologist (HR = 1.85; 95% CI, 1.05–3.28). Recent suicide attempt before admission to the hospital was associated with the highest risk of inpatient suicide (HR = 4.99; 95% CI, 3.57–6.96).

Conclusions: This study demonstrated a high risk of psychiatric inpatient suicide in Denmark of 860 per 100,000 inpatient years and also revealed several significant predictors of psychiatric inpatient suicide. Furthermore, the inpatient suicide rate decreased from 1997 through 2006 in Denmark.

Comment

Main findings: Psychiatric inpatients are known to be at higher risk of suicide than the general population. The current Danish study is the first national prospective follow-up study on this high-risk group. It is also the first study to investigate the risk associated with a secondary diagnosis of a personality disorder. While the finding that risk of suicide is extremely elevated for this group is not novel or surprising, the methodological rigour of the study allows the results to be interpreted with confidence. As has been previously found in other studies, the risk factors for psychiatric inpatients run counter to those of the general population. Patients with a higher education and level of income are at higher risk of suicide, while the opposite is true for the general population. The authors hypothesise that
this phenomenon is due to an inability to cope with the stresses of hospitalisation among these individuals, who are accustomed to dealing well with the issues of daily life in society, given their relatively higher social and economic status. Another important finding is that patients who had recently consulted a private psychologist were at higher risk of suicide. In Denmark, where the study was conducted, citizens can receive state-subsidised treatment by a private psychologist if they have made a previous suicide attempt, which could explain this association.

Although the number of demographic covariates gathered for the study was large, the research is somewhat limited by the fact that the demographic variables were recorded during the year prior to admission. Therefore, certain risk factors may have not been recorded if, for example, the individual lost their job or underwent a change in marital status in the interim. The data are also of limited clinical use due to the fact that the risk factors surveyed are relatively common and more detailed information about the patients, such as details contained in case notes, were not available for analysis.

**Implications:** Despite the fact that the findings of this study are not new, they confirm the need for careful consideration of the risk factors for suicide associated with specific groups in clinical settings. Clinical personnel need to be aware of the possibility that once an individual becomes an inpatient, protective factors in society such as higher education and level of income can turn into risk factors in the psychiatric hospital environment. Furthermore, patients who have recently attempted suicide are at the highest risk of suicide in clinical settings and their behaviour and access to means should be carefully monitored. However, an Australian study suggested that all psychiatric patients should receive optimal treatment, an individualised risk assessment, and follow-up¹. Additionally, given that Australia has recently provided government-subsidised access to private psychologists², it is also important to consider the finding of this study that recent contact with a private psychologist is a risk factor for future completed suicide and follow-up should be encouraged.

**Endnotes**

Suicide has become a serious and growing public health problem in many countries. To address the problem of suicide, some countries have developed comprehensive suicide prevention programs as a collective political effort. However, no prior research has offered a systematic test of their effectiveness using cross-national data. This paper evaluates whether the national suicide prevention programs in twenty-one OECD nations had the anticipated effect of reducing suicide rates. By analyzing data between 1980 and 2004 with a fixed-effect estimator, we test whether there is a statistically meaningful difference in the suicide rates before and after the implementation of national suicide prevention programs. Our panel data analysis shows that the overall suicide rates decreased after nationwide suicide prevention programs were introduced. These government-led suicide prevention programs are most effective in preventing suicides among the elderly and young populations. By contrast, the suicide rates of working-age groups, regardless of gender, do not seem to respond to the introduction of national prevention programs. Our findings suggest that the presence of a national strategy can be effective in reducing suicide rates.

Comment

**Main findings:** Suicide mortality is a leading cause of death in many countries, particularly among young people. Finland was the first country to implement a national suicide prevention program in 1992, with Australia introducing a nationwide program in 1995 targeting youth, which was expanded in 1999 to include the entire population. Although several Western countries have implemented national suicide prevention programs, there has been no research systematically evaluating their effectiveness using cross-national data. This is therefore the first study to investigate whether various comprehensive government-led nationwide programs are effective in reducing the suicide rate. The results show that there is indeed an association between the implementation of a national suicide prevention program and a reduction in suicide rates in the 21 OECD countries included in the analysis (11 with and 10 without a national suicide prevention program as of 2004). The effect remained even after controlling for stronger results from individual countries and for a potential one-year lag effect following the implementation of each program. The effect is particularly strong among youth and the elderly, while there was limited impact on the working-age population. Furthermore, there was a larger effect on males than females. The authors speculate that this may due to the fact that some programs (e.g., Sweden and the USA) have targeted a reduction in access to firearms or an improvement in firearm education. Others (such as Ireland and the UK) have specifically targeted male subpopulations.
While the results of the analysis are robust, they are nonetheless correlational and cannot provide evidence that the implementation of a prevention program actually causes a reduction in suicide rates. Nevertheless, the authors contend that their results “strongly suggest” a link between a prevention program and a reduction in suicides. Indeed, in addition to controlling for the confounding variables already mentioned, country-specific linear time trends were also included in the analysis to check whether the findings were simply the result of a pre-existing negative trend in suicide rates. While the effect of program implementation remained, the authors caution that the simultaneous relationship cannot be completely untangled by statistical analyses. One further limitation of this research is the fact that it did not control for differences within national programs.

**Implications:** The main implication of this cross-country comparison is that national suicide prevention activities should continue to be strongly supported, given the robust suggestion that they are indeed effective in reducing suicide rates. The finding that the Australian national suicide prevention program is generally effective is encouraging. However, it is important to consider data reliability issues in Australia in the last decade¹. Additionally, the fact that suicide among the working-age population goes largely unaffected by preventative strategies requires further attention and ways to specifically address this group need to be identified. Furthermore, cross-national comparison needs to examine more closely the particular features of suicide prevention programs in order to identify which aspects work best at targeting particular subpopulations.

**Endnote**

The natural history of self-harm from adolescence to young adulthood: A population-based cohort study

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Background: Knowledge about the natural history of self-harm is scarce, especially during the transition from adolescence to young adulthood, a period characterised by a sharp rise in self-inflicted deaths. From a repeated measures cohort of a representative sample, we describe the course of self-harm from middle adolescence to young adulthood.

Methods: A stratified, random sample of 1943 adolescents was recruited from 44 schools across the state of Victoria, Australia, between August, 1992, and January, 2008. We obtained data pertaining to self-harm from questionnaires and telephone interviews at seven waves of follow-up, commencing at mean age 15.9 years (SD 0.49) and ending at mean age 29.0 years (SD 0.59). Summary adolescent measures (waves three to six) were obtained for cannabis use, cigarette smoking, high-risk alcohol use, depression and anxiety, antisocial behaviour and parental separation or divorce.

Findings: 1802 participants responded in the adolescent phase, with 149 (8%) reporting self-harm. More girls (95/947 [10%]) than boys (54/855 [6%]) reported self-harm (risk ratio 1.6, 95% CI 1.2–2.2). We recorded a substantial reduction in the frequency of self-harm during late adolescence. 122 of 1652 (7%) participants who reported self-harm during adolescence reported no further self-harm in young adulthood, with a stronger continuity in girls (13/888) than boys (1/764). During adolescence, incident self-harm was independently associated with symptoms of depression and anxiety (HR 3.7, 95% CI 2.4–5.9), antisocial behaviour (1.9, 1.1–3.4), high-risk alcohol use (2.1, 1.2–3.7), cannabis use (2.4, 1.4–4.4), and cigarette smoking (1.8, 1.0–3.1). Adolescent symptoms of depression and anxiety were clearly associated with incident self-harm in young adulthood (5.9, 2.2–16).

Interpretation: Most self-harming behaviour in adolescents resolves spontaneously. The early detection and treatment of common mental disorders during adolescence might constitute an important and hitherto unrecognised component of suicide prevention in young adults.

Comment

Main findings: The transition from adolescence to young adulthood is a sensitive time period, which has been associated with an increase in suicides; however, there is a lack of studies about changes in self-harm. The best method to study this phenomenon is a cohort study, as used in this Australian study of Victorian school pupils from 45 schools between August 1992 and January 2008. At the beginning, a sample aged 14–15 years (Year 9) was selected. During wave one, one intact class entered the study and six months later during wave two, the second class entered the study. Further, participants were reviewed 4 times with six month intervals
from age 14 to 19, and then 3 more times after that: at age 20–21, 24–25, and 28–29 (waves three to nine). Participants were not asked about self-harm until wave three. From the total sample of 2,032 students, 1,900 participants completed the self-harm items in at least one wave from waves three to nine, 1,802 participants at least once between waves three and six, and 1,750 at least once between waves seven and nine. In this representative cohort of young Australians, over 8% of the sample reported self-harm from age 14 to 19 years. A substantial reduction in reported self-harm occurred during early adulthood. The most common method of self-harm during adolescence was injury to the skin through cutting and burning, however, there was no predominant form of self-harm in young adulthood. The incidence of self-harm during adolescence was independently associated with the presence of depression and anxiety, antisocial behaviour, high-risk alcohol use, cannabis use, and cigarette smoking. The incidence of self-harm during young adulthood was independently associated with symptoms of anxiety and depression occurring during adolescence.

**Implications:** Most adolescent self-harming behaviours seem to resolve spontaneously. However, young people who self-harm often have mental health problems that might not resolve without treatment. This was evident from the finding that adolescent anxiety and depression strongly predicted the risk of self-harm in young adulthood. This indicates that early detection, intervention, and treatment of self-harm and mental health problems might have additional benefits in terms of reducing the suffering and disability associated with self-harm in later years. Considering the association between self-harm and suicide, the authors suggested that the treatment of common mental disorders during adolescence could constitute an important and hitherto unrecognised component of suicide prevention in young adults.
Absolute risk of suicide after first hospital contact in mental disorder

Nordentoft M, Mortensen PB, Pedersen CB (Denmark)
Archives of General Psychiatry 68, 1058-1064, 2011

Context: Estimates of lifetime risk of suicide in mental disorders were based on selected samples with incomplete follow-up.

Objective: To estimate, in a national cohort, the absolute risk of suicide within 36 years after the first psychiatric contact.

Design: Prospective study of incident cases followed up for as long as 36 years. Median follow-up was 18 years.

Setting: Individual data drawn from Danish longitudinal registers.

Participants: A total of 176,347 persons born from January 1, 1955, through December 31, 1991, were followed up from their first contact with secondary mental health services after 15 years of age until death, emigration, disappearance, or the end of 2006. For each participant, 5 matched control individuals were included.

Main outcome measures: Absolute risk of suicide in percentage of individuals up to 36 years after the first contact.

Results: Among men, the absolute risk of suicide (95% confidence interval [CI]) was highest for bipolar disorder, (7.77%; 6.01%–10.05%), followed by unipolar affective disorder (6.67%; 5.72%–7.78%) and schizophrenia (6.55%; 5.85%–7.34%). Among women, the highest risk was found among women with schizophrenia (4.91%; 95% CI, 4.03%–5.98%), followed by bipolar disorder (4.78%; 3.48%–6.56%). In the non-psychiatric population, the risk was 0.72% (95% CI, 0.61%–0.86%) for men and 0.26% (0.20%–0.35%) for women. Comorbid substance abuse and comorbid unipolar affective disorder significantly increased the risk. The co-occurrence of deliberate self-harm increased the risk approximately 2-fold. Men with bipolar disorder and deliberate self-harm had the highest risk (17.08%; 95% CI, 11.19%–26.07%).

Conclusions: This is the first analysis of the absolute risk of suicide in a total national cohort of individuals followed up from the first psychiatric contact, and it represents, to our knowledge, the hitherto largest sample with the longest and most complete follow-up. Our estimates are lower than those most often cited, but they are still substantial and indicate the continuous need for prevention of suicide among people with mental disorders.

Comment

Main findings: The elevated risk of suicide among individuals with mental illness is widely reported. This Danish study is the first to estimate the absolute risk of suicide after the initial psychiatric contact using a large national sample with a prospective long-term follow-up. The majority of previous research has been
based on rather small samples and used relatively short follow-up periods. Follow-ups in the present research extended as long as 36 years. The findings reveal that the risk of suicide increases sharply in the first few years following initial contact with psychiatric services. Absolute risk for different psychiatric conditions ranges from 2% to 8%, with higher risks found among men. For both sexes, the risks were highest for individuals with bipolar disorder, unipolar affective disorder, schizophrenia, and schizophrenia-like disorder. Risk was higher still for comorbid substance abuse and unipolar affective disorder, as well as for comorbid deliberate self-harm. The levels of risk identified in the present study are lower than those found in previous research, as earlier studies failed to take into account that people emigrate or die of other causes during the period of investigation. The authors contend that failure to account for emigration and death by other factors would bias results upwards by approximately 10%.

The study is limited by the fact that only individuals aged 51 years or younger were included in the analysis, and thus actual lifetime risk cannot be calculated. Furthermore, given that incidence of bipolar disorder peaks at a later age, individuals in this cohort may not have yet developed bipolar disorder. There is also the possibility that suicide risk changed during the period investigated due to changes in treatment and other factors.

**Implications:** Despite its limitations, it is clear from the present study that risk of suicide is high among individuals with all of the mental disorders investigated. Those with psychiatric conditions, and particularly those with a comorbid substance abuse disorder or a history of deliberate self-harm, should continue to be the focus of suicide prevention endeavours. Furthermore, there is a need for intensive early intervention services, as evidenced by the steep increase in suicide risk following initial psychiatric hospital contact. Close contact with patients and thorough follow-up, closely monitoring symptoms during this period are strongly recommended.
Effectiveness of Australian youth suicide prevention initiatives


**Background:** After an epidemic rise in Australian young male suicide rates over the 1970s to 1990s, the period following the implementation of the original National Youth Suicide Prevention Strategy (NYSPS) in 1995 saw substantial declines in suicide in young men. **AIMS:** To investigate whether areas with locally targeted suicide prevention activity implemented after 1995 experienced lower rates of young adult suicide, compared with areas without such activity.

**Method:** Localities with or without identified suicide prevention activity were compared during the period of the NYSPS implementation (1995–1998) and a period subsequent to implementation (1999–2002) to establish whether annual average suicide rates were lower and declined more quickly in areas with suicide prevention activity over the period 1995–2002.

**Results:** Male suicide rates were lower in areas with targeted suicide prevention activity (and higher levels of funding) compared with areas receiving no activity both during (RR = 0.89, 95% CI 0.80–0.99, \(P = 0.030\)) and after (RR = 0.86, 95% CI 0.77–0.96, \(P = 0.009\)) implementation, with rates declining faster in areas with targeted activity than in those without (13% vs. 10% decline). However, these differences were reduced and were no longer statistically significant following adjustment for sociodemographic variables. There was no difference in female suicide rates between areas with or without targeted suicide prevention activity.

**Conclusions:** There was little discernible impact on suicide rates in areas receiving locally targeted suicide prevention activities in the period following the NYSPS.

**Comment**

**Main findings:** Between the 1970s and 1990s there was an epidemic rise in suicides in males aged 20–34 years. In response, the Australian Government implemented the first National Youth Suicide Prevention Strategy (NYSPS) 1995-1997. Was it effective? The authors of the current study aimed to evaluate the impact of the NYSPS on suicide rates in young adults during the period of initial implementation (1995-1998) and when suicide rates in young men began to decline (1999-2002) by comparing suicide rates in the areas receiving targeted suicide prevention activity to areas not receiving this. Findings revealed that suicide rates in young males were already lower in areas with locally targeted suicide prevention activities and declined faster in the following period (13% vs. 10%). However, this difference was not significant after adjusting for socioeconomic status, urban-rural residence, and migrant status. Also there was no significant difference in suicide rates in young women between areas receiving and not receiving targeted suicide prevention activities. Furthermore, effects did not differ significantly across strata of migrant status, socioeconomic status, urban-rural residence, or the previous level of suicide for both men and women.
**Implications:** The importance of evaluations of different programs and projects is widely acknowledged. Although the results of this study reflected little impact of the NYSPS, it had several limitations, such as potential underestimation of the total number of activities and programs implemented during the study period, and exclusion of programs, such as some non-government initiatives and initiatives that may have been implemented in the period after 1999 or funded under the subsequent national suicide prevention strategy. Furthermore, the analyses did not include some important factors, such as accessibility and availability of health services and geographic and socioeconomic differences in the consumption of antidepressants and in the prevalence of mental health disorders. There is also potential underestimation of suicide cases due to misclassification. The authors also provided some alternative explanations for the decline in suicide in young men, such as the changes in the role of primary care provision and the emergence of the discourse and policy responses related to primary mental healthcare. Further, there has been an increase in the consumption of antidepressant in the 1990s. Moreover, it is important to keep in mind the overall economic prosperity in Australia in the 1990s, and its likely effect on reduction of suicides in males.
Family connectedness moderates the association between living alone and suicide ideation in a clinical sample of adults 50 years and older
Purcell B, Heisel MJ, Speice J, Franus N, Conwell Y, Duberstein PR (Canada)

Objective: To investigate whether living alone is significantly associated with expression of suicide ideation among mood-disordered mental health patients and whether degree of family connectedness moderates the association between living alone and expression of suicide ideation.

Design: Cross-sectional survey design.

Setting: Inpatient and outpatient mental health services in Rochester, New York.

Participants: A total of 130-mood-disordered inpatients and outpatients 50 years and older.

Measurements: Patients completed a demographics form, an interviewer-rated measure of current suicide ideation (Scale for Suicide Ideation), and a self-report measure of family connectedness derived from the Reasons for Living Scale-Older Adult version.

Results: Patients who reported greater family connectedness were significantly less likely to report suicide ideation; this protective effect was strongest for those living with others (Wald $\chi^2[df = 1] = 3.987$, $p = 0.046$, OR = 0.905; 95% CI = 0.821–0.998). A significant main effect of family connectedness on suicide ideation suggested that having a stronger connection to family members decreased the likelihood of reporting suicide ideation (Wald $\chi^2[df = 1] = 9.730$, $p = 0.002$, OR = 0.852; 95% CI = 0.771–0.942).

Conclusions: These results suggest potential value in assessing the quality of interpersonal relationships when conducting a suicide risk assessment among depressed middle-aged and older adults.

Comment

Main findings: Middle-aged and older adults have higher rates of suicide than the general population in many countries. Given the ageing nature of the population in Western countries, there is a growing need to focus on the general and mental health concerns of older adults, including suicide prevention efforts. The majority of previous research on suicide among middle-aged and older adults has focused on risk rather than protective factors, however. While living alone is commonly considered to be a risk factor for suicide, having a close relationship with family and friends may well function as a protective factor. Given that research has shown that social support can decrease suicide risk and that social support is a potentially modifiable factor, this study investigates whether it is the quality of such relationships that protects against suicide risk. Higher family connectedness and perceived social support were both independently associated with lower inci-
dence of suicidal ideation in the current Canadian study. That is, the subjective experience of support may act as a protective factor, irrespective of actual living arrangements. Nevertheless, living with others and higher family connectedness together predicted lower suicidal ideation, with the protective effect of family connectedness being greatest among those who lived with others. While previous studies have been inconsistent in their findings regarding the suicide risk among older adults in relation to living arrangements, this study demonstrated that this may be due to their failure to investigate the quality of relationships within those arrangements. However, the inclusion of only clinical participants and the cross-sectional study design are the main limitations of the study.

Implications: While living arrangements of older adults may often be a principal concern of social workers and health professionals, the results of this study imply that it is important to investigate the quality as well as the nature of social networks. That is, perceived connectedness with family members and significant others can decrease feelings of isolation or burdensomeness, both theorised as risk factors for suicide. Social and health initiatives for older adults should thus not simply focus on promoting living arrangements with others, but also on improving the quality of the relationship with family and friends. Further, a previous Australian study showed a similar pattern among retired people and indicated that interventions should be developed to enhance the sense of belonging in the community among aging adults.

Further, the study should be repeated and extended into a prospective study in order to investigate the ways in which these protective factors behave over time. Additionally, with a more finely tuned measure of suicidal ideation, it would be possible to capture the degree to which suicidal ideation is attenuated or exacerbated through different social arrangements.

Endnote

Can receipt of a regular postcard reduce suicide-related behaviour in young help seekers? A randomized controlled trial


Aim: Suicide attempt, ideation and deliberate self-harm are common among adolescents. Limited evidence exists regarding interventions that can reduce risk; however, research indicates that maintaining contact with at-risk adults following discharge from services via letter or postcard can reduce risk. The aim of the study was to test a postcard intervention among people aged 15–24 who presented to mental health services but were not accepted, yet were at risk of suicide.

Methods: A randomized controlled trial of 3 years in duration was used. The intervention consisted of 12 postcards sent once a month for 12 months following presentation to the service. Key outcomes of interest were reduced rates of suicide attempt, suicidal ideation and deliberate self-harm, assessed at 12 and 18 months.

Results: Participants reported that they liked receiving the postcard and that they used the strategies recommended. However, no significant effect of the postcard intervention was found on suicide risk, although participants in both groups improved on measures of mental health over the course of the study.

Conclusions: There remains a need for further research into youth-friendly interventions for young people at risk of suicide.

Comment

Main findings: This randomised controlled trial tested the efficacy of postcard intervention in young people with a history of suicide attempt, suicide ideation, and/or deliberate self-harm who were not accepted for treatment into a specialist mental health service in Australia (Orygen Youth Health). Further, it aimed to determine whether sending positive postcards reduced symptoms of depression and hopelessness, or increased self-esteem, perceptions of social support, and help-seeking. The sample consisted 165 young people aged 15–24 living in Western or North-western Melbourne who were randomly allocated to intervention and treatment-as-usual groups. Participants were assessed face-to-face at baseline and at 12 and 18 months. The intervention group received a postcard once a month for 12 months; each postcard expressed an interest in the person’s wellbeing, reminded them about one of the sources of help identified at the baseline interview, and promoted one of six evidence-based self-help strategies which were rotated each month. Suicide-related behaviour reduced over time in both groups, however no significant differences were found between the two groups after 12 or 18 months. Over the course of the study, 59 participants (36%) were assisted with referrals for ongoing treatment by the study team due to concerns about their wellbeing and/or level of risk. The acceptability of the postcard inter-
vention was estimated at the 12-month follow-up via questionnaire. In the intervention group ($n = 81$), 70.4% completed this questionnaire; 75% reported that they liked receiving the postcard, 63% used the sources of help referred to in the messages, 46% used some of the health promotion messages, and 42% reported referring to the postcards often.

**Implications:** Although the current trial did not show a significant effect for sending postcards in youth as some previous studies have reported in the adult population, it is important to present studies which show no effect of intervention. It is still an important implication that this type of intervention is acceptable to young people. Furthermore, the study had several limitations such as small sample size, high attrition rates, and a sample which consisted of young help-seekers, which potentially reduced its effects. There is a lack of intervention studies in the field of suicidology and little is known about effective interventions, in particular among young people. The authors recommended trialling a similar, but shorter, e-based intervention among a psychologically healthier cohort. Future research needs to have sufficient statistical power to detect even small differences. Further, researchers need to work hard to ensure adequate rates of follow-up. Although this may be resource intensive, it is essential to develop effective means of reducing suicide-related behaviour among young people.
Is the emotional response of survivors dependent on the consequences of the suicide and the support received?

Schneider B, Grebner K, Schnabel A, Georgi K (Germany)

Crisis 32, 186-193, 2011

Background: Despite numerous studies that have assessed emotional reactions of people bereaved by suicide, many questions in this field are not yet clarified.

Aims: The purpose of the present study was to explore how emotional reactions of those bereaved by suicide depend on their gender, the relationship to the deceased, the consequences (‘only negative’, ‘negative and positive’, ‘predominantly positive’) of the death for the bereaved and the professional support received.

Methods: The relationship between emotional reactions and characteristics was assessed in 163 suicide bereaved. Most bereaved, including all the parents of the suicide victims, had experienced emotions that occurred so often and so strongly that they had disturbed everyday life. The most frequently reported emotions were guilt and depressed mood. Female gender and being parents or spouses were associated with increased risk for lack of energy. Furthermore, the emotions of the bereaved depended on the consequences of the suicide and the professional support received.

Conclusions: Professional support might be particularly important for suicide bereaved.

Comment

Main findings: The sample of this German study consisted of 163 suicide bereaved relatives (parents, spouses, children, and others) in 1999/2000 in the Frankfurt/Main area, analysing their emotional reactions. Most of the suicide survivors had experienced emotions after the suicide that occurred so often and so strongly that they had disturbed their everyday life; however, the longer the time period between the suicide and the interview, the less it disturbed everyday life. The most frequently reported emotions were guilt and depressed mood, whereas sympathy and admiration were rarely reported. Female suicide bereaved experienced lack of energy significantly more frequently than males. Some emotional responses were related to kinship. Parents and spouses were more affected by loss than adult children, and had a higher risk of developing a lack of energy; parents also experienced more guilt. Further, the emotional reactions of the bereaved depended on the consequences of the suicide and the received professional support. Negative consequences more often caused severe emotional reactions, such as sorrow, depressed mood, and overall disturbed everyday life. Bereaved who did not receive enough professional support also reported increased levels of sorrow, lack of energy, and guilt. The findings indicated that receiving sufficient professional support, if it is needed, diminishes the risk for negative feelings.

Implications: Suicide bereavement is considered as a specific type of grief which differs from other types of grief, although some studies have reported similarities
with bereavement after accidental death. However, studies indicate that suicide survivors are more likely to experience feelings of shame and guilt and also to perceive that others blame them for the suicide. They might also be less likely to seek or receive social support. The current study suggested that sufficient professional help reduces the risk of experiencing negative feelings. This indicates the need for professional help and for a reduction in barriers to help-seeking. Providing information about where to find help and the availability of resources might help to reduce these barriers. In Australia, Standby Response Services provides 24-hour crisis services specifically for people who have lost someone through suicide. Standby Response Services was found to be a cost-effective way to support people bereaved by suicide by a recent economic evaluation report.

The authors recommended that future research in this area should include (1) assessment of the different aspects of the experiences of suicide bereaved simultaneously, in order to reach a better understanding of both the complexity and the interrelatedness of their reactions; (2) study of the possible existence of subgroups with different reactions among suicide bereaved; and (3) the development of standardised instruments specifically aimed at investigating variables associated with reactions of those bereaved by suicide.

Endnotes
Contacts with mental health services before suicide: A comparison of Indigenous with non-Indigenous Australians
Sveticic J, Milner A, De Leo D (Australia)
*General Hospital Psychiatry* 34, 185-191, 2012

**Objective:** Most people who die by suicide never seek help, particularly members of ethnic minorities. This study compared the prevalence of contacts with mental health services, types of services accessed and factors related to help-seeking behaviors by Indigenous and non-Indigenous Australians.

**Method:** All suicides by Indigenous and non-Indigenous persons from Queensland, Australia, during the period 1994-2007 were analyzed using descriptive statistics and logistic regression models.

**Results:** Non-Indigenous suicide cases were almost two times more likely than Indigenous counterparts to have ever received help for mental health problems (43.3% vs. 23.8%). The most common source of help for Indigenous persons was inpatient care, while for non-Indigenous persons, it was general practitioners. Factors increasing the likelihood of service utilization by Indigenous persons were suicide attempt in last year, living in metropolitan area and not being married. Among non-Indigenous persons, these factors were recent communication of suicidal intent or suicide attempt, recent treatment for physical illness and problematic consumption of alcohol.

**Conclusions:** Indigenous Australians die by suicide at a rate twice higher than the non-Indigenous population, yet they are significantly less likely to seek professional help for mental health concerns. Help-seeking behavior among Indigenous Australians at risk of suicide should be promoted thorough provision of culturally appropriate services.

**Comment**

**Main findings:** This Australian study aimed to compare how many Indigenous and non-Indigenous persons who completed suicide were in contact with health services for mental health problems, what their main sources of help were, and which individual-level characteristics predicted utilisation of mental health services in the 3 months before the suicide. Data obtained from the Queensland Suicide Register consisted of 471 Indigenous and 6,655 non-Indigenous cases recorded between 1994 and 2007. Non-Indigenous suicide cases were significantly more likely to be in contact with mental health professionals during their lifetime than Indigenous cases, with 43.3% and 23.8%, respectively. The difference was more pronounced in females. An even bigger difference was seen between the two ethnicity groups during the 3 months prior to death, where 25.8% of non-Indigenous but only 9.8% of Indigenous suicide cases were in contact with mental health professionals. Logistic regression analysis showed that non-Indigenous females had 6.6-times greater odds of being in recent contact with these services before suicide than their Indigenous counterparts. In males, this difference was
Further, when adjusted for the prevalence of diagnosed mental disorders, the differences between the two ethnicity groups were significant for the utilisation of services in the 3 months prior to death for females, but not for males. Indigenous persons who died by suicide were most frequently receiving help from inpatient psychiatric care, while for non-Indigenous the most common source of help was the GP. Surprisingly, both groups received similar help from outpatient mental health services or other sources of help, such as support groups or telephone crisis centres. Further analyses revealed that Indigenous persons living in a metropolitan area who were not in a relationship at the time of suicide were significantly more likely to use mental health services in the 3 months prior to death. Among non-Indigenous, problematic consumption of alcohol, recent contact with health services for physical illness, and communication of intent of suicide in the year before suicide increased the likelihood of being in contact with mental health professionals 3 months prior to suicide. Attempting suicide in the previous 12 months significantly increased the odds of utilisation of mental health services in both suicide groups.

Implications: Although the study has some limitations, for example missing some sources of help present in many Aboriginal and Torres Strait Islander communities, such as traditional healers or other spiritual counsellors, it has several implications. The following, in particular, should be considered:

- Improvement in the accessibility of culturally relevant health services for Indigenous persons at risk for suicide.
- Help-seeking behaviours for mental health problems through contacts with GPs should also be vigorously promoted among Indigenous populations.
- Adequate involvement of Indigenous mental health workers in the management of Indigenous people experiencing mental distress in a culturally safe atmosphere.
- Strengthening non-Indigenous clinicians' knowledge of culturally specific manifestations of mental distress by Indigenous people.
- Suicide prevention programs need to intensively target and encourage help-seeking among Indigenous persons recognised as consuming excessive quantities of alcohol.
- Intensified aftercare management is required for a much larger number of Indigenous persons following a suicide attempt.
**Long term follow up of suicide in a clinically depressed community sample**

Thomson W (UK)


**Background:** The purpose of this study was to examine how sex differences in suicide rates unfolded in a long-term follow up of patients who had been diagnosed with major depression.

**Method:** Patients who were diagnosed with major depression in the Chichester/Salisbury Catchment Area Study were followed for 49 years. Recorded deaths from suicide were compared with rates that were predicted from historical data on suicide mortality rates from 1960 onwards.

**Findings:** An overall suicide rate of 3.4% was found in the present sample. Sixteen women and three men died from suicide. Women’s suicide rates were significantly higher than the level predicted based on general population trends. Men showed a barely non-significant trend in the same direction. The diagnosis of clinical depression was associated more strongly with increased risk for suicide among women compared with men. Of the female suicides, 13 had been diagnosed with endogenous depression.

**Conclusions:** While suicide rates are significantly higher for men in the general population, and for depressed patients of both sexes, the depression may be a particularly strong predictor of suicide risk among women. Limitations: The dataset does not provide information about processes that mediate the relationship between depression and suicide mortality.

**Comment**

**Main findings:** The present study assessed long-term effects of community care in a clinically depressed cohort in two health authorities in England. Within an extended follow up period of 49 years, the authors tested the association between depression and suicide by gender in a sample containing 566 patients who were diagnosed with endogenous or neurotic reactive depression.

Analyses were based on data from 1960 to 1999, as almost all of the male patients had died by the fortieth year of the study. The overall suicide rate in the depressed study cohort was 3.4% within the study period: 1.6% for male and 4.2% for female subjects. This indicates that depression is a particularly strong indicator of risk for suicide among women, but a higher suicide rate for males in the general population may reflect suicides by men who have been diagnosed with substance use or other conditions or who do not have any clinical diagnosis. Further, suicide was more prevalent among women with endogenous depression (13 suicides) compared to women with reactive depression (3 suicides). It is also important to note that suicide among women was most common during the decade following initial presentation of the condition.
Implications: The most important feature of this study is the long follow-up period. Although the initial sample size was relatively big for its time (the initial study being conducted in 1960), it is still not sufficient for analyses by gender for all 49 years. However, clinically depressed females are clearly at a higher risk of suicide, which means that their history of clinical depression should be considered when assessing their potential suicide risk, even in old age. Although males with a clinical history of depression had lower risk than females, they have higher rate of suicide, which may indicate that they may have other clinical or non-clinical conditions. Furthermore, it may reflect their lower help-seeking with depression or other clinical conditions, or specific traits of male depression. Studies have shown that males more often experience, in combination with depression, concomitant abusive and alcoholic behaviours, drug addiction, low stress tolerance, poor impulse control, and aggressive and violent acting out, which can lead to a misdiagnosis of another mental disorder, such as substance use disorder/ personality disorder1,2.

Endnotes
The reliability of suicide statistics: A systematic review
Tollefsen IM, Hem E, Ekeberg O (Norway)
BMC Psychiatry 12, 9, 2012

**Background:** Reliable suicide statistics are a prerequisite for suicide monitoring and prevention. The aim of this study was to assess the reliability of suicide statistics through a systematic review of the international literature.

**Methods:** We searched for relevant publications in EMBASE, Ovid Medline, PubMed, PsycINFO and the Cochrane Library up to October 2010. In addition, we screened related studies and reference lists of identified studies. We included studies published in English, German, French, Spanish, Norwegian, Swedish and Danish that assessed the reliability of suicide statistics. We excluded case reports, editorials, letters, comments, abstracts and statistical analyses. All three authors independently screened the abstracts, and then the relevant full-text articles. Disagreements were resolved through consensus.

**Results:** The primary search yielded 127 potential studies, of which 31 studies met the inclusion criteria and were included in the final review. The included studies were published between 1963 and 2009. Twenty were from Europe, seven from North America, two from Asia and two from Oceania. The manner of death had been re-evaluated in 23 studies (40–3,993 cases), and there were six registry studies (195–17,412 cases) and two combined registry and re-evaluation studies. The study conclusions varied, from findings of fairly reliable to poor suicide statistics. Thirteen studies reported fairly reliable suicide statistics or under-reporting of 0–10%. Of the 31 studies during the 46-year period, 52% found more than 10% under-reporting, and 39% found more than 30% under-reporting or poor suicide statistics. Eleven studies reassessed a nationwide representative sample, although these samples were limited to suicide within subgroups. Only two studies compared data from two countries.

**Conclusions:** The main finding was that there is a lack of systematic assessment of the reliability of suicide statistics. Few studies have been done, and few countries have been covered. The findings support the general under-reporting of suicide. In particular, nationwide studies and comparisons between countries are lacking.

**Comment**

**Main findings:** Reliability of suicide statistics is very important in order to analyse and compare suicide statistics worldwide; furthermore it is essential when testing different prevention and intervention activities. The current study aimed to assess the reliability of suicide statistics through a systematic review of the international literature. The authors identified 31 relevant studies between 1963 and October 2010. From the 31 studies included in this review, 13 were found to have fairly reliable suicide statistics or an underreporting of 0–10%. Of the 31 studies from the 46-year period, 52% were found to have more than 10% underreporting, and 39% found to have more than 30% underreporting or poor suicide statistics. Eleven
studies evaluated a nationwide sample, and only two studies compared data from two or more countries. Only three studies had a good quality sum score. The authors suggested that the reliability of suicide statistics is questionable and that, considering the lack of such studies, there is a need for further similar research.

**Implications:** The registration and reliability of suicide statistics have been raised especially during the last decade as concerns in Australia, ending with changes in the procedures at the Australian Bureau of Statistics (ABS). In the current systematic review, two studies from Australia were included. Cantor et al (2001)\(^1\) found an underestimation of 5.5% in Queensland between 1990 and 1995. Further, a nationwide study by Elnour and Harrison (2009)\(^2\) found an underestimation of about 8% between July 2000 and 2005. However, a recent study from Queensland\(^3\), not included in the review, compared suicide data from the ABS with data from the Queensland Suicide Register (QSR, a high-quality, independent databank) for the years 1994–2007. For the years 1994–2002, the difference between the QSR and the ABS stayed under 10%, but then started to rise remarkably; for 2003–2005 it was 10–30% and for the years 2006–2007 already over 30%. The Senate Inquiry into suicide raised the issue of reliability of suicide statistics and in the final report, 'The Hidden Toll: Suicide in Australia', 6 out of 42 recommendations aimed at improving data collection and their publication.\(^4\)

**Endnotes**

Factors predicting coroners' decisions to hold discretionary inquests

Walter SJ, Bugeja L, Spittal MJ, Studdert DM (Australia)

*Canadian Medical Association Journal: CMAJ 184, 521–528, 2012*

**Background:** Coroners in Australia, Canada, New Zealand and other countries in the Commonwealth hold inquests into deaths in two situations. Mandatory inquests are held when statutory rules dictate they must be; discretionary inquests are held based on the decisions of individual coroners. Little is known as to how and why coroners select particular deaths for discretionary inquests.

**Methods:** We analyzed the deaths investigated by Australian coroners for a period of seven and one-half years in five jurisdictions. We classified inquests as mandatory or discretionary. After excluding mandatory inquests, we used logistic regression analysis to identify the factors associated with coroners' decisions to hold discretionary inquests.

**Results:** Of 20,379 reported deaths due to external causes, 1252 (6.1%) proceeded to inquest. Of these inquests, 490 (39.1%) were mandatory and 696 (55.6%) were discretionary. In unadjusted analyses, the rates of discretionary inquests varied widely in terms of age of the decedent and cause of death. In adjusted analyses, the odds of discretionary inquests declined with the age of the decedent; the odds were highest for children (odds ratio [OR] 2.17, 95% confidence interval [CI] 1.54–3.06) and lowest for people aged 65 years and older (OR 0.38, 95% CI 0.28–0.51). Using poisoning as a reference cause of death, the odds of discretionary inquests were highest for fatal complications of medical care (OR 12.83, 95% CI 8.65–19.04) and lowest for suicides (OR 0.44, 95% CI 0.30–0.65).

**Interpretation:** Deaths that coroners choose to take to inquest differ systematically from those they do not. Although this vetting process is invisible, it may influence the public's understanding of safety risks, fatal injury and death.

**Comment**

**Main findings:** In Anglo-American legal systems, coroners operate as an inquisitorial branch of the judiciary, investigating the cause and circumstances of deaths reported to them. A relatively small proportion of cases have to proceed to an inquest. Statutes governing coroners’ courts dictate that inquests must be held in certain specified circumstances (mandatory inquests). The standard trigger for mandatory inquests is a death that occurs in prison or police custody, or while the decedent is in the care of the state for reasons of serious mental or physical illness. For cases that fall outside the mandatory criteria, coroners may choose to hold an inquest (discretionary inquests).

This Australian study examined the characteristics of discretionary inquests, based on data from the National Coroners Information System (NCIS). Data included 20,379 deaths due to external causes from the Northern Territory (2000–2007), Queensland (2006–2007), South Australia (2002–2007), Tasmania...
(2000–2007), and Victoria (2000–2007). Out of 20,379 deaths due to external causes, 1,252 proceeded to inquest and 696 (55.6%) were discretionary inquests. Coroners’ decisions about whether to take a case to inquest depend on preventability of death, aberrance, and the preferences of the decedent’s family. Coroners were more likely to hold inquests for deaths involving children, deaths due to medical complications, deaths resulting from transport accidents, and deaths due to drowning, choking or suffocation. However, coroners were less likely to hold inquests for deaths due to suicide and deaths among the elderly (aged over 65 years).

Implications: Although most people have heard about coronial inquests, which are surrounded by publicity, the rest of it remains mystical. Governments around the world look to coroners to function as proactive agents of public health, not merely as passive investigators of death. However, there is a lack of research into coroners’ work and how they function. The current study enlightened the reader about the characteristics of discretionary inquests. Suicides were the least likely external causes of deaths to be sent to inquests by coroners in Australia. The authors suggest that this may be linked with a perception that suicide prevention is more challenging and arousal of complex questions, such as access to mental health services. Furthermore, Australian coroners typically consult family members about their wishes and families may prefer to avoid the public attention that inquests about suicide may provoke. Even so, the implications of emphasising certain types of deaths through inquests, and deemphasising others, should also be assessed.

Endnote
Suicide risk in primary care patients with major physical diseases: A case-control study

Webb RT, Kontopantelis E, Doran T, Qin P, Creed F, Kapur N (UK)

Archives of General Psychiatry 69, 256-264, 2012

Context: Most previous studies have examined suicide risk in relation to a single physical disease.

Objectives: To estimate relative risk across a range of physical diseases, to assess the confounding effect of clinical depression and effect modification by sex and age, and to examine physical illness multimorbidity.

Design: Nested case-control study.

Setting: Family practices (n = 593) registered with the General Practice Research Database from January 1, 2001, through December 31, 2008. The case-control data were drawn from approximately 10.6 million complete patient records, pertaining to approximately 8% of the total population of the United Kingdom, with complete linkage to national mortality records.

Participants: A total of 873 adult suicide cases and 17,460 living controls matched on age and sex were studied. The reference group for relative risk estimation consisted of people without any of the specific physical illnesses examined.

Main outcome measures: Suicide and open verdicts.

Results: Among all patients, coronary heart disease, stroke, chronic obstructive pulmonary disease, and osteoporosis were linked with elevated suicide risk, and, with the exception of osteoporosis, the increase was explained by clinical depression. The only significantly elevated risk in men was with osteoporosis. Female effect sizes were greater, with 2- or 3-fold higher risk found among women diagnosed as having cancer, coronary heart disease, stroke, chronic obstructive pulmonary disease, and osteoporosis. In women with cancer and coronary heart disease, a significant elevation persisted after adjustment for depression. Overall, heightened risk was confined to physically ill women younger than 50 years and to older women with multiple physical diseases.

Conclusions: Our findings indicate that clinical depression is a strong confounder of increased suicide risk among physically ill people. They also demonstrate an independent elevation in risk linked with certain diagnoses, particularly among women. Health care professionals working across all medical specialties should be vigilant for signs of undetected psychological symptoms.

Comment

Main findings: The majority of previous research on the association between somatic illness and suicide has been conducted on older people and has not compared illness types. The current study from the UK, the first of its type, was possible due to the fact that individuals are registered with a general practitioner soon after birth and their medical records are transferred in their entirety when they
move and are reassigned to another doctor. The findings of this study revealed that risk of suicide is elevated in younger females with a major physical illness and older females with multiple illnesses. The elevated risk of suicide remained after controlling for the effects of current or previous clinical depression, partially so for older females with multiple illnesses and fully so for younger women with a major illness. Younger women with cancer or coronary heart disease had two-fold higher odds of suicide, independent of depression. The findings of this study therefore partially challenge the traditional understanding of a pathway to suicide preceded by major physical illness and subsequent depression. The authors argue that, especially among younger women, the increased risk of suicide may be due to the high level of mortality associated with the particular illnesses.

**Implications:** The present study not only detected a substantial increased risk for sufferers of particular major illnesses, it was able to identify specific illnesses and narrowed these down by gender and age group. Use of systematic linkage to national mortality data assured sufficient statistical power to detect such differences. Research similar to the present study should be encouraged in other populations, including Australia, in order to identify those at elevated risk for suicide in people with major somatic disease to be able to inform prevention measures more accurately, especially as those living with major illness are often at a higher risk despite being in regular contact with health professionals. It is acknowledged that similar data may be difficult to obtain in Australia, due to differences in the public health system and its method of record keeping. However, an Australian study comparing deaths by accidents with those recorded as suicides indicated that of the chronic and terminal illnesses, HIV and cancer were probably the conditions likely to predict suicide compared to accidental deaths. Nevertheless, a study of Western Australian cancer patients found a low overall suicide rate, a peak in suicide in the first few months after diagnosis and a second smaller peak at 12–14 months, and a higher suicide rate in those with a poor prognosis, especially in males. Even so, those studies indicate the importance of screening suicidal ideation also in patients with major physical illnesses in clinical practice.

**Endnotes**


Background: Research investigating which aspects of mental health service provision are most effective in prevention of suicide is scarce. We aimed to examine the uptake of key mental health service recommendations over time and to investigate the association between their implementation and suicide rates.

Methods: We did a descriptive, cross-sectional, and before-and-after analysis of national suicide data in England and Wales. We collected data for individuals who died by suicide between 1997 and 2006 who were in contact with mental health services in the 12 months before death. Data were obtained as part of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. When denominator data were missing, we used information from the Mental Health Minimum Data Set. We compared suicide rates for services implementing most of the recommendations with those implementing fewer recommendations and examined rates before and after implementation. We stratified results for level of socioeconomic deprivation and size of service provider.

Findings: The average number of recommendations implemented increased from 0.3 per service in 1998 to 7.2 in 2006. Implementation of recommendations was associated with lower suicide rates in both cross-sectional and before-and-after analyses. The provision of 24 h crisis care was associated with the biggest fall in suicide rates: from 11.44 per 10,000 patient contacts per year (95% CI 11.12–11.77) before to 9.32 (8.99–9.67) after (p < 0.0001). Local policies on patients with dual diagnosis (10.55; 10.23–10.89 before vs 9.61; 9.18–10.05 after, p = 0.0007) and multidisciplinary review after suicide (11.59; 11.31–11.88 before vs 10.48; 10.13–10.84 after, p < 0.0001) were also associated with falling rates. Services that did not implement recommendations had little reduction in suicide. The biggest falls in suicide seemed to be in services with the most deprived catchment areas (incidence rate ratio 0.90; 95% CI 0.88–0.92) and the most patients (0.86; 0.84–0.88).

Interpretation: Our findings suggest that aspects of provision of mental health services can affect suicide rates in clinical populations. Investigation of the relation between new initiatives and suicide could help to inform future suicide prevention efforts and improve safety for patients receiving mental health care.

Comment

Main findings: The effects of implementation of changes to mental health provision are often unclear. Most research investigating the relationship between service interventions and suicide rates use small sample sizes and short follow-up times and are cross-sectional alone rather than being also prospective. They are
also rarely national in scope. This study, one of the largest of its type to date, is one of the first to find a positive effect for implementing service recommendations for suicide prevention. While the correlational nature of the results does not prove causation, the longitudinal design adds strength to the findings.

It is noteworthy that the service associated with the largest fall in suicide rates was the creation of a 24-hour crisis and home treatment team, given the community-based focus of mental health support services in the UK. It is also important to note that the largest effect of the implementation of recommended services was among those of lower socioeconomic groups, suggesting that there are unmet needs and/or greater vulnerabilities in this sector of the population. Furthermore, significantly lower rates of suicide were found in socioeconomically deprived areas implementing a greater number of changes. There was also an effect for the introduction of a policy for the management of patients with dual diagnosis (those with a psychiatric condition as well as alcohol or drug dependence). Follow-up of psychiatric patients within 7 days of discharge resulted in a significant reduction in suicides over a 3-month period following discharge. Similarly, introduction of assertive outreach policy for patients who miss appointments or are non-compliant with medication saw significant decreases in the suicide rate. Finally, the removal of ligature points in inpatient wards was associated with a fall in inpatient suicides in general and hanging in particular. Overall, the implementation of the recommendations seemed to have the greatest effect in larger organisations, presumably due to the concentration of expertise in those locations. It should be noted, however, that the reductions in suicide rates reported in this research are for patients in mental health care (per 10,000 patient contacts), not the general population, which is one of the main limitations of this study.

Implications: The findings of the study are of particular relevance to other countries, such as Australia, that have moved mental health support and provision into the community. The key services recommended by the UK National Confidential Inquiry (NCI) into Suicide and Homicide by People with Mental Illness and evaluated in this study all have analogous service provisions in Australia, with the exception of the requirement for front-line clinical staff to receive training in the management of suicide risk every three years. The recommendation for a 7-day follow-up following psychiatric inpatient discharge, shown to be effective by this study in the UK, is a state-level requirement, however; it is in force in Queensland, for example. With alcohol and drug misuse and lower socioeconomic status known risk factors for suicidal behaviour, the findings support efforts to reduce suicide that target these vulnerable groups in particular. Furthermore, this research highlights the importance of methodologically rigorous analysis of suicide prevention initiatives to identify which services are most effective, and for which sectors of the population. Although the requirements of the NCI are broadly in place in Australia, they should be further endorsed. Further, a similar approach should be applied in order to evaluate the efficacy of suicide prevention initiatives throughout the country.

Key Articles
Background: Prevention of the onset of depression in adolescence may prevent social dysfunction, teenage pregnancy, substance abuse, suicide, and mental health conditions in adulthood. New technologies allow delivery of prevention programs scalable to large and disparate populations.

Objective: To develop and test the novel mobile phone delivery of a depression prevention intervention for adolescents. We describe the development of the intervention and the results of participants’ self-reported satisfaction with the intervention.

Methods: The intervention was developed from 15 key messages derived from cognitive behavioral therapy (CBT). The program was fully automated and delivered in 2 mobile phone messages/day for 9 weeks, with a mixture of text, video, and cartoon messages and a mobile website. Delivery modalities were guided by social cognitive theory and marketing principles. The intervention was compared with an attention control program of the same number and types of messages on different topics. A double-blind randomized controlled trial was undertaken in high schools in Auckland, New Zealand, from June 2009 to April 2011.

Results: A total of 1348 students (13–17 years of age) volunteered to participate at group sessions in schools, and 855 were eventually randomly assigned to groups. Of these, 835 (97.7%) self-completed follow-up questionnaires at postprogram interviews on satisfaction, perceived usefulness, and adherence to the intervention. Over three-quarters of participants viewed at least half of the messages and 90.7% (379/418) in the intervention group reported they would refer the program to a friend. Intervention group participants said the intervention helped them to be more positive (279/418, 66.7%) and to get rid of negative thoughts (210/418, 50.2%)-significantly higher than proportions in the control group.

Conclusions: Key messages from CBT can be delivered by mobile phone, and young people report that these are helpful. Change in clinician-rated depression symptom scores from baseline to 12 months, yet to be completed, will provide evidence on the effectiveness of the intervention. If proven effective, this form of delivery may be useful in many countries lacking widespread mental health services but with extensive mobile phone coverage.

Comment

Main findings: Nowadays, developments in technology have enabled new and rapid forms of communication, such as mobile phones and e-communication. Mobile phones are a popular, low-cost and highly prevalent method of communication, especially among young people. Mobile phone texting could be used as a tool in health
behaviour change. This randomised controlled trial in New Zealand tested if mobile phone intervention applying cognitive behaviour therapy (CBT) messages can improve depressive symptoms (onset of depressive disorder) in adolescents. Students enrolled in the study did not have depressive disorder or risk of self-harm and all students with existing conditions were excluded. Students in the intervention group received CBT by 2 messages per day for 9 weeks, followed by monthly messages to access a mobile website which provides a summary of key messages and how to get help. This program was developed in focus groups. Students in the control group received the same amount of messages, but the subject of their messages focused on healthy eating, sustainability of the environment, and cybersafety.

From the 855 participants, 74.4% viewed at least half of the messages and 29.6% viewed most or all of the messages, and a great proportion of participants said they would recommend the program to a friend. The findings showed that more participants in the intervention group said that messages helped them to be more positive, to get rid of negative thoughts, to relax, to solve problems, to have fun, and to deal with issues in school. However, the intervention group participants and the control group had similar knowledge about where to go for help. Participants suggested that the number of messages should be reduced, which is important for future research.

**Implications:** There is additional growing evidence that the use of text messaging is effective in health interventions. For example, a recent review found that 13 of 14 intervention studies using SMSs produced positive behaviour change1. The current study further showed that key messages from CBT can be delivered by mobile phone and that young people consider these messages helpful. Mobile phone programs could be a cost-effective method for delivering basic CBT techniques to a wider audience. Such programs can be easily scaled up to reach large disparate populations, regardless of geographic location. Promotion through schools is one option, as shown in the study, but other distribution options may also be possible. Also, the concepts and key messages in this intervention may translate to other populations through adaptation to the local context. Mobile phones are popular in Australia: approximately 83% of teenagers have their own cell phone2,3 and mental health interventions using mobile phones should be encouraged.

As depressive disorder commonly starts in adolescence, and its effect on young people is pervasive with respect to overall development, early interventions of CBT could help to prevent attempted and completed suicide later in life. Mobile phone intervention should also be considered for following up current depression and suicidal behaviour.

**Endnotes**

Involvement in bullying and suicide-related behavior at 11 years: A prospective birth cohort study

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To study the prospective link between involvement in bullying (bully, victim, bully/victim), and subsequent suicide ideation and suicidal/self-injurious behavior, in preadolescent children in the United Kingdom. A total of 6,043 children in the Avon Longitudinal Study of Parents and Children (ALSPAC) cohort were assessed to ascertain involvement in bullying between 4 and 10 years and suicide related behavior at 11.7 years. Peer victimization (victim, bully/victim) was significantly associated with suicide ideation and suicidal/self-injurious behavior after adjusting for confounders. Bully/victims were at heightened risk for suicide ideation (odds ratio [OR]; 95% confidence interval [CI]): child report at 8 years (OR = 2.84; CI = 1.81–4.45); child report at 10 years (OR = 3.20; CI = 2.07–4.95); mother report (OR = 2.71; CI = 1.81–4.05); teacher report (OR = 2.79; CI = 1.62–4.81), as were chronic victims: child report (OR = 3.26; CI = 2.36–4.75); mother report (OR = 2.49; CI = 1.64–3.79); teacher report (OR = 5.99; CI = 2.79–12.88). Similarly, bully/victims were at heightened risk for suicidal/self-injurious behavior: child report at 8 years (OR = 2.67; CI = 1.66–4.29); child report at 10 years (OR = 3.34; CI = 2.17–5.15); mother report (OR = 2.09; CI = 1.36–3.20); teacher report (OR = 2.44, CI = 1.39–4.30); as were chronic victims: child report (OR = 4.10; CI = 2.76–6.08); mother report (OR = 1.91; 1.22–2.99); teacher report (OR = 3.26; CI = 1.38–7.68). Pure bullies had increased risk of suicide ideation according to child report at age 8 years (OR = 3.60; CI = 1.46–8.84), suicidal/self-injurious behavior according to child report at age 8 years (OR = 3.02; CI = 1.14–8.02), and teacher report (OR = 1.84; CI = 1.09–3.10). Children involved in bullying, in any role, and especially bully/victims and chronic victims, are at increased risk for suicide ideation and suicidal/self-injurious behavior in preadolescence.

Comment

Main findings: Bullying as a suicide risk factor has received little research attention. This UK birth cohort study investigated the prospective relationship between involvement in bullying (being a bully, a victim, and bully/victim status) and suicide behaviours and ideations in 6,043 preadolescent children. Data were collected at 2 different time points: at age 8 and 10 from children and at age 10 also from mothers and teachers. The study results showed that 4.8% of children reported having suicidal ideation, and 4.6% engaging in suicidal or self-injurious behaviour. More boys than girls engaged in suicidal or self-injurious behaviours; boys were also more often classified as bully/victims, victims, and bullies. Children identified as victims and particularly bully/victims across different informants (child, mother, teacher) were more likely to have suicide ideation and engage in suicidal/self-injurious behaviour compared to non-victims, even after controlling
for potential confounders such as pre-existing emotional and conduct problems, abuse, domestic violence, and hostile parenting relationships. Both overt and relational victimization were associated with future suicide ideation and suicidal self-injurious behaviour. Further, chronic victimization was strongly predictive of suicide ideation and suicidal/self-injurious behaviour according to child, mother and teacher report. Pure bullies, according to child- (8 years) and teacher-report, were more likely to engage in suicidal/self-injurious behaviour in particular, even after controlling for potential confounders.

**Implications:** Health practitioners should be made aware of the relationship between bullying and suicide. There is a need to recognise the very real risks, which may be evident earlier in the development of a child than commonly thought. Clinicians should routinely ask children about their peer relationships in consultations. Further, intervention strategies should target both overt and relational bullying, and start from primary school in order to help prevent chronic exposure to bullying, which may be especially harmful. The addition of emotional arousal assessments (physiological in addition to self-report) and consideration of peer rejection and personality factors should be further studied.

An association between bully-victim problems at school, poor mental health, and suicidal ideation has been shown in Australian research\(^1\). There are some activities against bullying in Australia. For example reachout.com addresses both bullying and suicidal/self-harming behaviours\(^2\). “Bullying. No Way!” is an activity developed by all Australian education authorities; they have declared 16 March as Australian National Day of Action Against Bullying and Violence, which is supported by the Kids Helpline, the Australian Government, and the Australian Communications and Media Authority\(^3\).

**Endnotes**


Grief experiences and expectance of suicide

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Suicide and Life-Threatening Behavior 42, 56–66, 2012

Suicide is generally viewed as an unexpected cause of death. However, some suicides might be expected to a certain extent, which needs to be further studied. The relationships between expecting suicide, feeling understanding for the suicide, and later grief experiences were explored. In total, 142 bereaved participants completed the Grief Experience Questionnaire and additional measurements on expectance and understanding. Results supported the prediction of a link between expecting suicide and understanding the suicide. Higher expectance and understanding were related to less searching for explanation and preoccupation with the suicide. There was no direct association with other grief experiences. We conclude that more attention should be brought to the relation between expecting the suicide of a loved one and later grief responses in research and in clinical practice.

Comment

Main findings: Although suicide is usually considered unexpected, this study focused on expectance of suicide in relation to grief experiences in 142 suicide bereaved adults from Belgium, Germany, and the Netherlands, on average 7 years after death. Expectance was measured with a four-item scale (‘Somehow I expected his/her suicide’; ‘I often thought that sooner or later he/she would take his/her life’; ‘Already before his/her death I was often occupied by thoughts about the possible loss and what it would do to me’; ‘I feel that in some way I had begun grieving already before his/her death’). Correlation analyses showed that higher expectance of the person’s suicide was associated with better understanding, with previous suicide attempts, and with an increased level of searching for explanation (possible reasons for and circumstances surrounding the death). However, expecting the suicide or feeling understanding was not associated with overall suicide grieving (including stigma, shame, guilt, and somatic reactions). Further, it is important to note that survivors who felt they had been able to say goodbye to the deceased had a higher expectance and understanding of death, and they had a reduced tendency to seek explanations and less overall grief.

Implications: The study showed that the suicide bereaved are not a homogenous group: they differ by the level of expectance, which most importantly increases their understanding of death and reduces the search for explanations. However, it does not change other grief reactions. This should be considered when planning an intervention or in clinical practice. Clinicians and other people who work in services providing support to suicide survivors should ask the bereaved about their previous expectations and feelings before the suicide. Moreover, the benefits of being able to say goodbye to the deceased loved one, which is related to expectance, in regard to later grief symptoms should be considered in the treatment of bereaved after suicide. However, this study did not analyse differences in expectance by kinship type and their potential change in time after suicide, and this area should be further studied.
Replication of ketamine's antidepressant efficacy in bipolar depression: A randomized controlled add-on trial

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**Background:** Currently, no pharmacological treatments for bipolar depression exist that exert rapid (within hours) antidepressant or antisuicidal effects. We previously reported that intravenous administration of the N-methyl-D-aspartate antagonist ketamine produced rapid antidepressant effects in patients with treatment-resistant bipolar depression. The present study sought to replicate this finding in an independent sample.

**Methods:** In this double-blind, randomised, crossover, placebo-controlled study, 15 subjects with DSM-IV bipolar I or II depression maintained on therapeutic levels of lithium or valproate received a single intravenous infusion of either ketamine hydrochloride (.5 mg/kg) or placebo on 2 test days 2 weeks apart. The primary outcome measure was the Montgomery-Asberg Depression Rating Scale, which was used to rate overall depressive symptoms at baseline; at 40, 80, 110, and 230 minutes postinfusion; and on days 1, 2, 3, 7, 10, and 14 postinfusion.

**Results:** Within 40 minutes, depressive symptoms, as well as suicidal ideation, significantly improved in subjects receiving ketamine compared with placebo ($d = .89$, 95% confidence interval = .61–1.16, and .98, 95% confidence interval = .64–1.33, respectively); this improvement remained significant through day 3. Seventy-nine percent of subjects responded to ketamine and 0% responded to placebo at some point during the trial. The most common side effect was dissociative symptoms, which occurred only at the 40-minute time point.

**Conclusions:** This study replicated our previous finding that patients with bipolar depression who received a single ketamine infusion experienced a rapid and robust antidepressant response. In addition, we found that ketamine rapidly improved suicidal ideation in these patients.

**Comment**

**Main findings:** This double-blind, randomized, crossover placebo-controlled study was conducted to assess the efficacy and safety of a single intravenous infusion of ketamine on patients with bipolar disorder type I and II currently experiencing a major depressive episode of at least 4 weeks. The sample consisted of 15 patients who at the same time were treated with lithium or valproate. The study consisted of two phases in order to facilitate crossover: first, participants were randomly assigned to ketamine and placebo groups; two weeks later there was a crossover and the placebo group received ketamine and the previous ketamine group was switched to a placebo. However, only 11 patients completed both phases of the study and were assessed. Analyses showed that a single intravenous infusion of ketamine significantly reduced depressive and anxiety symptoms and
suicidality in patients with bipolar disorder compared with those who received placebo, and this effect occurred 40 minutes postinfusion and, according to some scales, lasted up to 3 days. Altogether, 79% of patients responded to ketamine at some point during the study and nobody responded to the placebo. No serious adverse events were reported during the study.

**Implications:** Past research has indicated that bipolar disorder is considered one of the most lethal psychiatric disorders, remarkably increasing the risk of suicide\(^1\). Furthermore, there is a lack of effective rapid treatment to reduce depressive symptoms and suicidal behaviours in people with bipolar disorders. This study is important as it suggests that the antidepressant and antisuicidal effects of ketamine are rapid but not long-lasting for most of the patients. Therefore, the authors indicated the need to develop alternate strategies to prolong the effect of ketamine. Considering the small sample size of the study, the effect of ketamine should be further tested.

**Endnote**

Recommended Readings
Ante- and perinatal circumstances and risk of attempted suicides and suicides in offspring: The Northern Finland birth cohort 1966 study

Alaräisänen A, Miettunen J, Pouta A, Isohanni M, Rasanen P, Mäki P (Finland)
Social Psychiatry and Psychiatric Epidemiology. Published online: 11 February 2012. doi: 10.1007/s00127-012-0479-8, 2012

Purpose: To investigate those ante- and perinatal circumstances preceding suicide attempts and suicides, which have so far not been studied intensively.

Methods: Examination of the Northern Finland Birth Cohort 1966 (n = 10,742), originally based on antenatal questionnaire data and now followed up from mid-pregnancy to age 39, to ascertain psychiatric disorders in the parents and offspring and suicides or attempted suicides in the offspring using nationwide registers.

Results: A total of 121 suicide attempts (57 males) and 69 suicides (56 males) had occurred. Previously unstudied antenatal factors (maternal depressed mood and smoking, unwanted pregnancy) were not related to these after adjustment. Psychiatric disorders in the parents and offspring were the risk factors in both genders. When adjusted for these, the statistically significant risk factors among males were a single-parent family for suicide attempts (OR 3.71, 95% CI 1.62–8.50) and grand multiparity for suicides (OR 2.67, 95% CI 1.15–6.18). When a psychiatric disorder in females was included among possible risk factors for suicide attempts, it alone remained significant (OR 15.55, 8.78–27.53).

Conclusions: A single-parent family was a risk factor for attempted suicides and grand multiparity for suicides in male offspring even after adjusting for other ante- and perinatal circumstances and mental disorders in the parents and offspring. Mothers’ antenatal depressed mood and smoking and unwanted pregnancy did not increase the risk of suicide, which is a novel finding.

An emergency department intervention for linking pediatric suicidal patients to follow-up mental health treatment

Psychiatric Services 62, 1303-1309, 2011

Objective: Suicide is the third leading cause of death among adolescents. Many suicidal youths treated in emergency departments do not receive follow-up treatment as advocated by the National Strategy for Suicide Prevention. Two strategies for improving rates of follow-up treatment were compared.

Methods: In a randomized controlled trial, suicidal youths at two emergency departments (N = 181; ages ten to 18) were individually assigned between April 2003 and August 2005 to one of two conditions: an enhanced mental health intervention involving a family-based cognitive-behavioral therapy session designed to increase motivation for follow-up treatment and safety, supplemented by care
linkage telephone contacts after emergency department discharge, or usual emergency department care enhanced by provider education. Assessments were conducted at baseline and approximately two months after discharge from the emergency department or hospital. The primary outcome measure was rates of outpatient mental health treatment after discharge.

**Results:** Intervention patients were significantly more likely than usual care patients to attend outpatient treatment (92% versus 76%; \( p = .004 \)). The intervention group also had significantly higher rates of psychotherapy (76% versus 49%; \( p = .001 \)), combined psychotherapy and medication (58% versus 37%; \( p = .003 \)), and psychotherapy visits (mean 5.3 versus 3.1; \( p = .003 \)). Neither the emergency department intervention nor community outpatient treatment (in exploratory analyses) was significantly associated with improved clinical or functioning outcomes.

**Conclusions:** Results support efficacy of the enhanced emergency department intervention for improving linkage to outpatient mental health treatment but underscore the need for improved community outpatient treatment to prevent suicide, suicide attempts, and poor clinical and functioning outcomes for suicidal youths treated in emergency departments.

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**Unarmed and dangerous: The holistic preparation of soldiers for combat**

Barrett CC (USA)

*Ethical Human Psychology and Psychiatry* 13, 95-114, 2011

Within the U.S. military, incidents of suicide and posttraumatic stress disorder (PTSD) continue to escalate unabated despite efforts to provide reactive, post-trauma treatment. A new focus on proactive, preemptive physical, mental, and moral/ethical training is required prior to combat. Methods pioneered and validated in the early 1990s are available and are ready for implementation, but the military must use a holistic, focused strategy to do so.

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**Diabetes and raised blood glucose as risk factors for future suicide: Cohort study of 1,234,927 Korean men and women**

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*Journal of Epidemiology & Community Health.* Published online: 13 March 2012. doi: 10.1136/jech-2011-200464, 2012

**Background:** A diagnosis of diabetes has been shown to be a risk factor for suicide in selected studies. The link between blood glucose and future suicide has yet to be examined.

**Aim:** To examine if diabetes and blood glucose level are associated with a raised risk of suicide.
**Methods:** The Korean Cancer Prevention Study is a cohort of 1,329,525 individuals (482,808 women) aged 30–95 years at baseline. A fasting serum specimen was assayed for blood glucose, and diabetes status was categorised into five groups based on existing definitions. Study members were followed for mortality experience over 14 years.

**Results:** There were 472 suicide deaths (389 in men and 83 in women) during the follow-up. In men, there was a 'J'-shaped diabetes-suicide death relation. Thus, while the highest suicide rates were apparent in those with type 2 diabetes and there was an incremental fall in suicide risk with decreasing blood glucose level, an inflection was seen in the low-normal group. Similar results were apparent in women, although there was no raised risk in the lowest blood glucose group.

**Conclusion:** In the present cohort, diabetes (both existing and study detected) but not raised blood glucose was a risk factor for completed suicide.

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**Suicidal attempts in bipolar disorder: Results from an observational study (EMBLEM)**


*Bipolar Disorders* 13, 377-386, 2011

**Objectives:** To compare patients with and without a history of suicidal attempts in a large cohort of patients with bipolar disorder and to identify variables that are associated with suicidal behavior.

**Methods:** European Mania in Bipolar Longitudinal Evaluation of Medication (EMBLEM) is a two-year, prospective, observational study that enrolled 3,684 adult patients with bipolar disorder and initiated or changed oral treatment for an acute manic/mixed episode. Of those, 2,416 patients were eligible for the two-year follow-up. Only baseline characteristics were studied in the present study, included sociodemographic data, psychiatric history and comorbidities, history of suicide attempts, history of substance use problems, compliance with treatment, inpatient admissions, and functional status. Symptom severity was assessed using the Clinical Global Impression-Bipolar Disorder (CGI-BP) scale, the Young Mania Rating Scale (YMRS), and the 5-item Hamilton Depression Rating Scale (HAMD-5). A logistic regression model identified baseline variables independently associated with a history of suicidal behavior.

**Results:** Of the 2,219 patients who provided data on their lifetime history of suicide attempts, 663 (29.9%) had a history of suicidal behavior (at least one attempt). Baseline factors associated with a history of suicidal behavior included female gender, a history of alcohol abuse, a history of substance abuse, young age at first treatment for a mood episode, longer disease duration, greater depressive symptom severity (HAMD-5 total score), current benzodiazepine use, higher overall symptom severity (CGI-BP: mania and overall score), and poor compliance.

**Conclusions:** These factors may be considered as potential characteristics to identify subjects at risk for suicidal behavior throughout the course of bipolar disorder.
Real-time predictors of suicidal ideation: Mobile assessment of hospitalized depressed patients

Ben-Zeev D, Young MA, Depp CA (USA)

Suicidal ideation is a risk factor for suicide attempt and completion. Cross-sectional or retrospective studies cannot capture the dynamic course and possible predictors of suicidal ideation as it occurs in daily life. This study utilizes an experience sampling paradigm to identify real-time predictors of suicidal ideation in inpatients with major depressive disorder. Thirty-one depressed patients admitted to a psychiatric unit were signaled by a mobile device to record suicidal ideation, affect, and other symptoms, multiple times a day over 1-week. Participants completed a total of 1350 questionnaires. Seventy-four percent of the sample reported suicidal ideation during the week. Time-lagged analyses revealed that momentary ratings of Sadness, Tension, and Boredom (as well as suicidal ideation itself) predicted subsequent suicidal thoughts in the following hours. Baseline severity of depression and past suicide attempts were both correlated with mean ideation severity during the week. A number of predictors identified in prior research (e.g. hopelessness) were unrelated to subsequent suicidal ideation in the current study. Momentary interventions that guide individuals through activities designed to reduce levels of Sadness, Tension, and Boredom in real-time (e.g., thought challenging, relaxation, behavioral activation) may be especially warranted.

Information sources used by the suicidal to inform choice of method

Journal of Affective Disorders 136, 702-709, 2012

**Background:** Choice of suicide method strongly influences the outcome of an attempt public knowledge of possible methods is an important but less frequently considered aspect of the accessibility of suicide. This qualitative study explored the sources of information shaping the near-fatal suicide attempts of 22 individuals.

**Methods:** Respondents were recruited from nine hospitals in England. Semi-structured interviews were conducted to gain detailed narratives of the planning of the suicide attempt. Interviews were recorded, transcribed, then subjected to thematic analysis utilising constant comparison techniques.

**Results:** Information sources discussed most frequently were television, news stories, the Internet, and previous self-harm. Others were professional resources, personal knowledge of others’ attempts and information gleaned from healthcare professionals. Many respondents reported seeing media portrayals or reports of suicide, which had contributed to their awareness of suicide methods. Several provided examples of direct imitation. Some had deliberately sought information
about methods when planning their attempt - mostly from the Internet. Past experience was used to identify 'best' methods and perfect implementation.

**Limitations:** The frequency with which sources of information are 'used' by particular groups and their relative import cannot be inferred from a qualitative sample. Near-fatal cases may differ from completed suicides.

**Conclusions:** The media is an important contributor to the cognitive availability of suicide in society and could be used for prevention through carefully crafted portrayals of suicide designed to generate negative social perceptions of popular methods. Understanding of how sources of information can influence perceptions of suicide could inform the content of clinical conversations with patients.

**Drivers of disparity: Differences in socially based risk factors of self-injurious and suicidal behaviors among sexual minority college students**

Blosnich J, Bossarte R (USA)  
*Journal of American College Health* 60, 141–149, 2012

Lesbian, gay, and bisexual (ie, sexual minority) populations have increased prevalence of both self-injurious and suicidal behaviors, but reasons for these disparities are poorly understood.

**Objective:** To test the association between socially based stressors (eg, victimization, discrimination) and self-injurious behavior, suicide ideation, and suicide attempt.

**Participants:** A national sample of college-attending 18- to 24-year-olds.

**Methods:** Random or census samples from postsecondary educational institutions that administered the National College Health Assessment during the Fall 2008 and Spring 2009 semesters.

**Results:** Sexual minorities reported more socially based stressors than heterosexuals. Bisexuals exhibited greatest prevalence of self-injurious and suicidal behaviors. In adjusted models, intimate partner violence was most consistently associated with self-injurious behaviors.

**Conclusions:** Sexual minorities’ elevated risks of self-injurious and suicidal behaviors may stem from higher exposure to socially based stressors. Within-group differences among sexual minorities offer insight to specific risk factors that may contribute to elevated self-injurious and suicidal behaviors in sexual minority populations.
The prediction of discharge from in-patient psychiatric rehabilitation: A case-control study
Bredski J, Watson A, Mountain DA, Clunie F, Lawrie SM (UK)
BMC Psychiatry 11, 149, 2011

**Background:** At any time, about 1% of people with severe and enduring mental illness such as schizophrenia require in-patient psychiatric rehabilitation. In-patient rehabilitation enables individuals with the most challenging difficulties to be discharged to successful and stable community living. However, the length of rehabilitation admission that is required is highly variable and the reasons for this are poorly understood. There are very few case-control studies of predictors of outcome following hospitalisation. None have been carried out for in-patient rehabilitation. We aimed to identify the factors that are associated with achieving discharge from in-patient rehabilitation by carrying out a case-control study.

**Methods:** We compared two groups: 34 people who were admitted to the Rehabilitation Service at the Royal Edinburgh Hospital and discharged within a six year study period, and 31 people who were admitted in the same period, but not discharged. We compared the groups on demographic, illness, treatment and risk variables that were present at the point of their admission to rehabilitation. We used independent t tests and Pearson Chi-Square tests to compare the two groups.

**Results:** We found that serious self harm and suicide attempts, treatment with high dose antipsychotics, antipsychotic polypharmacy and previous care in forensic psychiatric services were all significantly associated with non-discharge. The non-discharged group were admitted significantly later in the six year study period and had already spent significantly longer in hospital. People who were admitted to rehabilitation within the first ten years of developing psychosis were more likely to have achieved discharge.

**Conclusions:** People admitted later in the study period required longer rehabilitation admissions and had higher rates of serious self harm and treatment resistant illness. They were also more likely to have had previous contact with forensic services. This change over time is likely to be due to the drive in Scotland to manage mentally disordered offenders in conditions of lower security. There is a growing need for secure longer-term in-patient rehabilitation, particularly for people previously treated in forensic services. Admission to rehabilitation earlier in a person’s illness may improve their outcome.

Impaired decision making in adolescent suicide attempters
Bridge JA, McBee-Strayer SM, Cannon EA, Sheftall AH, Reynolds B, Campo JV, Pajer KA, Barbe RP, Brent DA (USA)

**Objective:** Decision-making deficits have been linked to suicidal behavior in adults. However, it remains unclear whether impaired decision making plays a
role in the etiopathogenesis of youth suicidal behavior. The purpose of this study was to examine decision-making processes in adolescent suicide attempters and never-suicidal comparison subjects.

**Method:** Using the Iowa Gambling Task, the authors examined decision making in 40 adolescent suicide attempters, 13 to 18 years old, and 40 never-suicidal, demographically matched psychiatric comparison subjects.

**Results:** Overall, suicide attempters performed significantly worse on the Iowa Gambling Task than comparison subjects. This difference in overall task performance between the groups persisted in an exact conditional logistic regression analysis that controlled for affective disorder, current psychotropic medication use, impulsivity, and hostility (adjusted odds ratio = 0.96, 95% confidence interval = 0.90–0.99, \( p < 0.05 \)). A two-way repeated-measures analysis of variance revealed a significant group-by-block interaction, demonstrating that attempters failed to learn during the task, picking approximately the same proportion of disadvantageous cards in the first and final blocks of the task. In contrast, comparison subjects picked proportionately fewer cards from the disadvantageous decks as the task progressed. Within the attempter group, overall task performance did not correlate with any characteristic of the index attempt or with the personality dimensions of impulsivity, hostility, and emotional lability.

**Conclusions:** Similar to findings in adults, impaired decision making is associated with suicidal behavior in adolescents. Longitudinal studies are needed to elucidate the temporal relationship between decision-making processes and suicidal behavior and to help frame potential targets for early identification and preventive interventions to reduce youth suicide and suicidal behavior.

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**Falling through the cracks: The gap between evidence and policy in responding to depression in gay, lesbian and other homosexually active people in Australia**

Carman M, Corboz J, Dowsett GW (Australia)

*Australian and New Zealand Journal of Public Health* 36, 76-83, 2012

**Objective:** To examine the evidence for a national policy response to depression among gay, lesbian and other homosexually active people in Australia.

**Methods:** A literature review using database searches on depression among non-heterosexual people then a web-based search of national policy investigating how mental health needs in this population are addressed in Australia.

**Results:** The literature review found that non-heterosexual people experience depression at higher rates, but the literature on interventions was sparse. The policy analysis found no mention of depression or the broader mental health needs of non-heterosexual people in key national mental health policy documents. These documents outline a policy approach for population groups with a higher prevalence of mental health problems, and stigma and discrimination are
relevant associated factors, but only the National Suicide Strategy considers non-heterosexual people an 'at-risk group'.

Conclusions: The results suggest that the evidence on higher rates of depression in non-heterosexual people is strong, but that this is not recognised in current national policy. Implications: Defining non-heterosexual people as an 'at-risk' group is appropriate, as is prioritising access to mental health services that are socially and culturally appropriate. Addressing homophobia as an associated factor would require a strategic policy approach across a range of sectors.

Adiposity, its related biologic risk factors, and suicide: A cohort study of 542,088 Taiwanese adults
Chang S-S, Wen CP, Tsai MK, Lawlor DA, Yang YC, Gunnell D (Taiwan)
American Journal of Epidemiology 175, 804–815, 2012

Recent studies in Western nations have shown inverse associations between body mass index (BMI, measured as weight (kg)/height (m)(2)) and suicide. However, it is uncertain whether the association is similar in non-Western settings, and the biologic pathways underlying the association are unclear. The authors investigated these issues in a cohort of 542,088 Taiwanese people 20 years of age or older who participated in a health check-up program (1994–2008); there were 573 suicides over a mean 8.1 years of follow up. There was a J-shaped association between BMI and suicide risk (P for the quadratic term = 0.033) but limited evidence of a linear association (adjusted hazard ratio per 1-standard-deviation increase = 0.95 (95% confidence interval: 0.85, 1.06)); compared with individuals whose BMI was 18.5–22.9, adjusted hazard ratios for those with a BMI <18.5 or ≥35 were 1.56 (95% confidence interval: 1.07, 2.28) and 3.62 (95% confidence interval: 1.59, 8.22) respectively. A high waist-to-hip ratio was associated with an increased risk of suicide. There was some evidence for a reverse J-shaped association of systolic blood pressure and high density lipoprotein cholesterol with suicide and an association of higher triglyceride level with increased suicide risk; these associations did not appear to mediate the associations of BMI and waist-to-hip ratio with suicide.

Suicide attempts versus nonsuicidal self-injury among individuals with anxiety disorders in a nationally representative sample
Chartrand H, Sareen J, Toews M, Bolton JM (Canada)
Depression and Anxiety. Published online: 21 September 2011. doi: 10.1002/da.20882, 2011

Background: This study is aimed to determine whether anxiety disorders are associated with suicide attempts with intent to die and to further investigate the characteristics of deliberate self-harm (DSH) among anxiety disorders.

Method: Data came from the Collaborative Psychiatric Epidemiological Surveys (N = 20,130; age 18 years and older; response rate = 72.3%). DSM-IV anxiety disorders were assessed using the World Mental Health Composite International
Diagnostic Interview. People with an anxiety disorder endorsing a history of DSH were subcategorized as those who made suicide attempts \((n = 159;\) individuals who intended to die), versus those who made nonsuicidal self-injuries \((n = 85;\) individuals who did not intend to die).

**Results:** Anxiety disorders were associated with both suicide attempts and nonsuicidal self-injury (NSSI). People with generalized anxiety disorder and social phobia who engaged in DSH were more likely to have made a suicide attempt than a NSSI, independent of the effects of mood and substance use disorders. In addition, individuals with generalized anxiety disorder and social phobia who engaged in DSH were more likely to engage in this behavior multiple times, and at least one of those times was a suicide attempt.

**Conclusion:** This study suggests that anxiety disorders are associated with suicide attempts with intent to die. Social phobia and generalized anxiety disorder appear to be associated with the more worrisome patterns of DSH including multiple suicide attempts.

**Community-based case management for the prevention of suicide reattempts in Kaohsiung, Taiwan**

Chen WJ, Chen CC, Ho CK, Lee MB, Lin GG, Chou FH (Taiwan)

*Community Mental Health Journal.* Published online: 3 February 2012. doi: 10.1007/s10597-012-9480-7, 2012

Although a previous suicide attempt constitutes a major risk factor for an eventual completed suicide, few interventions specifically designed to prevent suicide reattempts have been evaluated. The aim of this study was to determine the effectiveness of case management for the prevention of suicide reattempts. A total of 4,765 subjects with a recent suicide attempt referred from medical and non-medical organizations were consecutively recruited from July 2006 to June 2008. The suicide prevention program of Kaohsiung Suicide Prevention Center (KSPC) provided case management and followed up suicide-attempt cases for 6 months. Survival analysis showed that the risk of suicide reattempt was significantly lower in the case management group than in the non-contact group throughout a six-month follow-up period (hazard ratio = 2.93; 95% CI = 2.47-3.47). The hazard ratio (HR) of the Cox proportional hazard model for sex was 0.77 (95% CI = 0.65-0.91). Case management appears to be effective in preventing suicide reattempts in patients with a recent prior attempt. In addition, case management appeared to be more beneficial in preventing suicide reattempts in male subjects.
Suicide mortality of suicide attempt patients discharged from emergency room, nonsuicidal psychiatric patients discharged from emergency room, admitted suicide attempt patients, and admitted nonsuicidal psychiatric patients

Choi JW, Park S, Yi KK, Hong JP (South Korea)

*Suicide and Life-Threatening Behavior.* Published online: 1 March 2012. doi: 10.1111/j.1943-278X.2012.00085.x, 2012

The suicide mortality rate and risk factors for suicide completion of patients who presented to an emergency room (ER) for suicide attempt and were discharged without psychiatric admission, patients who presented to an ER for psychiatric problems other than suicide attempt and were discharged without psychiatric admission, psychiatric inpatients admitted for suicide attempt, and psychiatric inpatients admitted for other reasons were examined. The records of 3,897 patients who were treated at a general hospital in Seoul, Korea, from July 2003 to December 2006 were reviewed. Forty-three of the 3,897 subjects died by suicide during the 2.5-year observation period. Compared to the general Korean population, the suicide mortality rate was 82-fold higher for suicide attempt patients, admitted; 54-fold higher for suicide attempt patients, discharged; 21-fold higher for nonsuicidal patients, admitted; and 11-fold higher for nonsuicidal patients, discharged. In all four groups, diagnosis of a depressive disorder and suicide attempt at presentation were each significant independent risk factors for suicide completion. These results highlight the need for suicide prevention strategies for depressed patients who present to the ER or are admitted to a psychiatric ward after a suicide attempt.

The cultural theory and model of suicide

Chu JP, Goldblum P, Floyd R, Bongar B (USA)


A growing body of research has demonstrated important variations in the prevalence, nature, and correlates of suicide across ethnic and sexual minority groups. Despite these developments, existing clinical and research approaches to suicide assessment and prevention have not incorporated cultural variations in any systematic way. In addition, theoretical models of suicide have been largely devoid of cultural influence. The current report presents a comprehensive analysis of literature describing the relationship between cultural factors and suicide in three major ethnic groups (African Americans, Asian Americans, and Latinos) and LGBTQ1 1’LGBTQ’ populations are also referred to as ‘sexual minorities’. LGBTQ is an abbreviation for lesbian, gay, bisexual, and transgender or transsexual individuals, and people questioning their sexual orientation.

**Sexual minority groups:** We utilized an inductive approach to synthesize this variegated body of research into four factors that account for 95% of existing cultur-
ally specific risk data: cultural sanctions, idioms of distress, minority stress, and social discord. These four cultural factors are then integrated into a theoretical framework: the Cultural Model of Suicide. Three theoretical principles emerge: (1) culture affects the types of stressors that lead to suicide; (2) cultural meanings associated with stressors and suicide affect the development of suicidal tendencies, one’s threshold of tolerance for psychological pain, and subsequent suicidal acts; and (3) culture affects how suicidal thoughts, intent, plans, and attempts are expressed. The Cultural Model of Suicide provides an empirically guided cohesive approach that can inform culturally competent suicide assessment and prevention efforts in future research and clinical practice. Including both ethnic and sexual minorities in our investigations ensures advancement along a multiple identities perspective.

The next generation of psychological autopsy studies: 
Part I. Interview content
Conner KR, Beautrais AL, Brent DA, Conwell Y, Phillips MR, Schneider B (USA) 
Suicide and Life-Threatening Behavior 41, 594-613, 2011

The psychological autopsy (PA) is a systematic method to understand the psychological and contextual circumstances preceding suicide. The method requires interviews with one or more proxy respondents (i.e., informants) of decedents. The methodological challenges that need to be addressed when determining the content of these research interviews for PA studies are described and recommendations are made for meeting these challenges in future PA investigations. Ways to improve the data collected about mental disorders and life events-domains that are assessed in almost all PA studies-are discussed at length. Other understudied content areas considered include the role of personality traits, medical illness and functional limitations, availability of lethal agents, medications, and select distal variables including child maltreatment and family history of mental disorders and suicide. The benefits and challenges to using common protocols across studies are also discussed.

The next generation of psychological autopsy studies: 
Part 2. Interview procedures
Conner KR, Beautrais AL, Brent DA, Conwell Y, Phillips MR, Schneider B (USA) 
Suicide and Life-Threatening Behavior 42, 86–103, 2012

The psychological autopsy (PA) is a systematic method of assessing the psychological and contextual circumstances preceding suicide. The method requires interviews with one or more proxy respondents (i.e., informants) of suicide decedents. Procedural challenges that need to be addressed to conduct PA interviews are described in this article and recommendations for meeting these challenges in future PA investigations are made. Procedures addressed include determining the timing of PA interviews after suicide, designing the structure and flow of inter-
views, selection of proxy respondents, integrating interview data with information gathered from records, and selecting and training interviewers. This methodological article is the second in a two-part series—the first article focused on interview content.

**Personality subtypes of adolescents who attempt suicide**

Cross D, Westen D, Bradley B (USA)

*The Journal of Nervous and Mental Disease* 199, 750–756, 2011

Research suggests that personality pathology is shared among a considerable portion of adolescents presenting suicidal behavior. Furthermore, heterogeneity of personality within this population suggests a need to tease apart different types of attempters. The goal of this study was to identify the personality subtypes of adolescents who attempt suicide. We analyzed data on 266 adolescents, ages 13 to 18 years, with a history of at least one suicide attempt who were selected by treating clinicians for having at least some degree of personality problems. We used a Q-factor analysis to identify subtypes based on the Shedler-Westen Assessment Procedure-II for Adolescents (a 200-item measure of personality pathology used by clinically experienced observers). We derived six subtypes: Externalizing, Internalizing, Emotionally dysregulated, High functioning, Narcissistic, and Immature. The subtypes differed on measures of adaptive functioning, axis I and II pathology, and etiology. Adolescents who attempt suicide constitute a heterogeneous group, and they vary meaningfully on a measure of personality pathology. Interventions targeting suicidal behaviors in adolescents should consider individual differences.

**Social connectedness and one-year trajectories among suicidal adolescents following psychiatric hospitalization**

Czyz EK, Liu Z, King CA (USA)


This study examined the extent to which posthospitalization change in connectedness with family, peers, and nonfamily adults predicted suicide attempts, severity of suicidal ideation, and depressive symptoms across a 12-month follow-up period among inpatient suicidal adolescents. Participants were 338 inpatient suicidal adolescents, ages 13 to 17, who were assessed at 3, 6, and 12 months posthospitalization. General liner models were fitted for depressive symptoms and suicidal ideation outcomes, and logistic regression was used for the dichotomous suicide attempt outcome. The moderating effects of gender and multiple attempt history were examined. Adolescents who reported greater improvements in peer connectedness were half as likely to attempt suicide during the 12-month period. Improved peer connectedness was also associated with less severe depressive symptoms for all adolescents and with less severe suicidal ideation for female individuals, but only at the 3-month assessment time point. Improved family con-
connectedness was related to less severe depressive symptoms and suicidal ideation across the entire year; for suicidal ideation, this protective effect was limited to nonmultiple suicide attempters. Change in connectedness with nonfamily adults was not a significant predictor of any outcome when changes in family and peer connectedness were taken into account. These results pointing to improved posthospitalization connectedness being linked to improved outcomes following hospitalization have important treatment and prevention implications given inpatient suicidal adolescents’ vulnerability to suicidal behavior.

**Suicide attempters classification: Toward predictive models of suicidal behaviour**


Suicide is a major public health issue with considerable human and economic cost. Previous attempts to delineate techniques capable of accurately predicting suicidal behavior proved unsuccessful. This paper aims at classifying suicide attempters (SA) as a first step toward the development of predictive models of suicidal behavior. A sample of 883 adults (347 SA and 536 non-SA) admitted to two university hospitals in Madrid, Spain, between 1999 and 2003 was used. Five multivariate techniques (linear regression, stepwise linear regression, decision trees, Lars-en and support vector machines) were compared with regard to their capacity to accurately classify SA. These techniques were applied to the Holmes-Rahe social readjustment rating scale and the international personal disorder examination screening questionnaire. Combining both scales, the Lars-en and stepwise linear regression techniques achieved 83.6% and 82.3% classification accuracy, respectively. In addition, these classification results were obtained using less than half of the available items. Multivariate techniques demonstrated to be useful in classifying SA using a combination of life events and personality criteria with reasonable accuracy, sensitivity and specificity.

**Do depression and anxiety converge or diverge in their association with suicidality?**


Depressive disorders have been strongly linked to suicidality, but the association with anxiety disorders is less well established. This exploratory study aims to examine whether anxiety and depressive disorders are both independent risk factors for suicidal ideation and attempted suicide, and additionally examined the role of specific clinical characteristics (disorder type, severity, duration, onset age) in suicidality. Data are from 1693 persons with a current (6-month) CIDI based
depressive or anxiety disorder and 644 healthy controls participating in the baseline measurement of the Netherlands Study of Depression and Anxiety, which is an existing dataset. Suicidal ideation in the week prior to baseline and attempted suicide ever in life were assessed. Results showed that compared to persons with only an anxiety disorder, persons with a depressive disorder were at significantly higher risk to have current suicidal ideation or a history of attempted suicide. When examining the association between type of disorder and suicidality the odds ratio for MDD was significantly higher than those for the separate anxiety disorders. Although depression and anxiety severity were univariate risk indicators for suicidal ideation and attempted suicide, only depression severity remained a risk indicator for suicidal ideation and attempted suicide in multivariate analyses. Additional risk indicators were an early age at disorder onset for both suicidal ideation and attempted suicide, male gender for suicidal ideation and lower education for attempted suicide. These findings suggest that although anxiety and depression tend to converge in many important areas, they appear to diverge with respect to suicidality.

Differences between children and adolescents who commit suicide and their peers: A psychological autopsy of suicide victims compared to accident victims and a community sample
Freuchen A, Kjelsberg E, Lundervold AJ, Groholt B (Norway)
Child and Adolescent Psychiatry and Mental Health 6, 1, 2012

**Background:** The purpose of this study was to gain knowledge about the circumstances related to suicide among children and adolescents 15 years and younger.

**Methods:** We conducted a psychological autopsy, collecting information from parents, hospital records and police reports on persons below the age of 16 who had committed suicide in Norway during a 12-year period (1993–2004) \(n = 41\). Those who committed suicide were compared with children and adolescents who were killed in accidents in the same time period \(n = 43\) and with a community sample.

**Results:** Among the suicides 25% met the criteria for a psychiatric diagnosis and 30% had depressive symptoms at the time of death. Furthermore, 60% of the parents of suicide victims reported the child had some kind of stressful conflict prior to death, whereas only 12% of the parents of the accident victims reported such conflicts.

**Conclusion:** One in four of the suicide victims fulfilled the criteria for a psychiatric diagnosis. The level of sub-threshold depression and of stressful conflict experienced by youths who committed suicide did not appear to differ substantially from that of their peers, and therefore did not raise sufficient concern for referral to professional help.
Farming suicides during the Victorian drought: 2001-2007
Guiney R (Australia)

**Objective:** The objective of this study was to determine whether farming suicides increased in Victoria during the prolonged drought in south eastern Australia and gain an understanding of Victorian farming suicides during the period.

**Method:** Intentional self-harm deaths of farmers and primary producers notified to the Victorian State Coroner from 2001 to 2007 were examined to identify characteristics and determine whether the annual number of farming suicides increased.

**Results:** Farming suicides accounted for just over 3% of Victorian suicides. The total number of farming suicides was 110 for the period and ranged between 11 and 19 deaths per year, rising and falling inconsistently from year to year. Males accounted for nearly 95% of farming suicides, with firearms and hanging the most frequently used methods, and most deaths occurring between 30 and 59 years of age.

**Conclusions:** The small number of relevant cases and fluctuations in the annual number of deaths provides no evidence of a pattern of increasing farming suicides during the drought years, when there was approximately one suicide every 3 weeks. Given the elevated suicide risk in male farmers and association with multiple psychosocial and environmental factors, it cannot be concluded, however, that suicide risk itself did not increase during this period of heightened uncertainty and stress. Drought should not be dismissed among the many risk factors, and it is possible that increased mental health awareness and community support programs targeting drought-affected areas contributed to improved management of stress and suicide risk in regional and rural Victoria over the past decade.

Effect of parental bereavement on health risk behaviors in youth: A 3-year follow-up
Hamdan S, Mazariegos D, Melhem NM, Porta G, Walker Payne M, Brent DA (USA)
*Archives of Pediatrics and Adolescent Medicine* 166, 216-223, 2012

**Objective:** To examine the course of health risk behaviors (HRBs) during a 3-year period after a parent’s death in bereaved youth compared with nonbereaved youth (control subjects).

**Design:** A longitudinal population-based study.

**Setting:** Bereaved families were recruited through coroner records and by advertisement. Control families were recruited using random-digit dialing and by advertisement.

**Participants:** Two hundred forty parentally bereaved offspring were compared with 183 nonbereaved control offspring.
**Main Exposure:** Sudden parental death due to accident, suicide, or sudden disease-related (natural) death.

**Main Outcome Measures:** The sum of the total number of HRBs at a clinically significant frequency threshold assessed 9, 21, and 33 months after the parent’s death.

**Results:** The bereaved group showed a higher number of HRBs over time compared with the nonbereaved group (univariate effect sizes, 0.22–0.52; \( p < .04 \)), even after taking into account correlates of bereavement and of HRBs, such as youth aggression, as well as antisocial and anxiety disorders of the deceased parent.

**Conclusions:** Parental bereavement is associated with higher HRBs in youth over time, even after controlling for other covariates associated with bereavement and HRBs. Clinicians should be aware that bereaved youth may be vulnerable to HRBs. Further work is warranted on interventions to attenuate the negative effect of bereavement on HRBs.

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**Atmospheric pressure and suicide attempts in Helsinki, Finland**

Hiltunen L, Ruuhela R, Ostamo A, Lonnqvist J, Suominen K, Partonen T (Finland)


The influence of weather on mood and mental health is commonly debated. Furthermore, studies concerning weather and suicidal behavior have given inconsistent results. Our aim was to see if daily weather changes associate with the number of suicide attempts in Finland. All suicide attempts treated in the hospitals in Helsinki, Finland, during two separate periods, 8 years apart, were included. Altogether, 3,945 suicide attempts were compared with daily weather parameters and analyzed with a Poisson regression. We found that daily atmospheric pressure correlated statistically significantly with the number of suicide attempts, and for men the correlation was negative. Taking into account the seasonal normal value during the period 1971–2000, daily temperature, global solar radiation and precipitation did not associate with the number of suicide attempts on a statistically significant level in our study. We concluded that daily atmospheric pressure may have an impact on suicidal behavior, especially on suicide attempts of men by violent methods \( (p < 0.001) \), and may explain the clustering of suicide attempts. Men seem to be more vulnerable to attempt suicide under low atmospheric pressure and women under high atmospheric pressure. We show only statistical correlations, which leaves the exact mechanisms of interaction between weather and suicidal behavior open. However, suicidal behavior should be assessed from the point of view of weather in addition to psychiatric and social aspects.
Interpersonal trauma and discriminatory events as predictors of suicidal and nonsuicidal self-injury in gay, lesbian, bisexual, and transgender persons

House AS, van Horn E, Coppeans C, Stepleman LM (USA)

Traumatology 17, 75–85, 2011

Recent research suggests that gay, lesbian, bisexual, and transgender (GLBT) persons are at greater risk for mental health problems, including suicidal and nonsuicidal self-injury, than heterosexuals. However, few studies have investigated factors that may be linked to this increased risk. This study investigated interpersonal violence, victimization, and discriminatory events as possible predictors of suicidal and nonsuicidal self-injury in a sample of sexual minorities (i.e., a GLBT sample). Participants were 1,126 self-identified gay, lesbian, bisexual, and/or transgender (GLBT) individuals who responded to an Internet-based survey. Results indicated that both experiences of interpersonal trauma and sexual discrimination were associated with increased likelihoods of engaging in suicidal and nonsuicidal self-injury. In addition, participants at the greatest risk were those experiencing high levels of both interpersonal trauma and sexual discrimination. Clinical implications of these results are discussed.

Ligature points and ligature types used by psychiatric inpatients who die by hanging

Hunt IM, Windfuhr K, Shaw J, Appleby L, Kapur N (UK)

Crisis 33, 87–94, 2012

**Background:** Approximately three-quarters of patients who die by suicide on psychiatric wards do so by hanging/strangulation. Increased awareness of the methods used by these patients may benefit prevention strategies in mental health services.

**Aims:** To describe the ligature points and ligatures used in ward hangings; to identify any trends over time in ligature points and ligatures used; and to compare these patient characteristics with other inpatient suicides.

**Methods:** A national clinical survey of suicide cases in recent (< 1 year) contact with mental health services in England and Wales (1999–2007).

**Results:** Of the 448 suicides that occurred on psychiatric wards, 77% were by hanging. The number of hanging cases, however, has fallen by 74% since 1999. The most common ligature points and ligatures were doors, hooks/handles, windows, and belts or sheets/towels, respectively. Use of shoelaces, doors, and windows increased over time. These patient suicides had high rates of self-harm, alcohol/drug misuse, and were more likely than other cases to have died early in admission and been formally detained for treatment.

**Conclusions:** Despite the decrease in inpatient suicides by hanging, regular reviews of ward structures are needed, particularly as ligatures and ligature points change.
Suicide incidence and risk factors in an active duty US military population

Hyman J, Ireland R, Frost L, Cottrell L (USA)

Objectives: The goal of this study was to investigate and identify risk factors for suicide among all active duty members of the US military during 2005 or 2007.

Methods: The study used a cross-sectional design and included the entire active duty military population. Study sample sizes were 2,064,183 for 2005 and 1,981,810 for 2007. Logistic regression models were used.

Results: Suicide rates for all services increased during this period. Mental health diagnoses, mental health visits, selective serotonin reuptake inhibitors (SSRIs), sleep prescriptions, reduction in rank, enlisted rank, and separation or divorce were associated with suicides. Deployments to Operation Enduring Freedom or Operation Iraqi Freedom were also associated with elevated odds ratios for all services in the 2007 population and for the Army in 2005.

Conclusions: Additional research needs to address the increasing rates of suicide in active duty personnel. This should include careful evaluation of suicide prevention programs and the possible increase in risk associated with SSRIs and other mental health drugs, as well as the possible impact of shorter deployments, age, mental health diagnoses, and relationship problems.

Patterns of treatment utilization before suicide among male veterans with substance use disorders

Ilgen MA, Conner KR, Roeder KM, Blow FC, Austin K, Valenstein M (USA)

Objectives: We sought to describe the extent and nature of contact with the health care system before suicide among veterans with substance use disorders (SUDs).

Methods: We examined all male Veterans Health Administration patients who died by suicide between October 1, 1999, and September 30, 2007, and who had a documented SUD diagnosis during the 2 years before death (n = 3132).

Results: Over half (55.5%; n = 1740) of the male patients were seen during the month before suicide, and 25.4% (n = 796) were seen during the week before suicide. In examining those with a medical visit in the year before suicide (n = 2964), most of the last visits before suicide (56.6%; n = 1679) were in a general medical setting, 32.8% (n = 973) were in a specialty mental health setting, and 10.5% (n = 312) were in SUD treatment.
**Conclusions:** Men with SUDs who died from suicide were frequently seen in the month before their death. Most were last seen in general medical settings, although a substantial minority of those with SUDs was seen in specialty mental health settings.

**Efficacy and suicidal risk for antidepressants in paediatric and adolescent patients**

Julious SA (UK)

*Statistical Methods in Medical Research.* Published online: 19 January 2012. doi: 10.1177/0962280211432210, 2012

A number of meta-analyses have been undertaken to assess both the safety and efficacy of antidepressants in paediatric and adolescent patients. This article updates the analyses with additionally reported trials. The aim of this analysis was to investigate whether antidepressant treatments are associated with an increased risk of suicide-related outcomes in paediatric and adolescent patients. Also, in the same population, to assess whether antidepressant treatments are beneficial in terms of efficacy. A meta-analysis of randomised controlled trials of antidepressant treatments compared with placebo in paediatric and adolescent patients was undertaken of 6039 individuals participating in 35 randomised controlled trials. For suicide-related outcomes suicidal behaviour, suicidal ideation and suicidal behaviour or ideation were examined. These data presented the additional problem of the events of interest being rare. An analysis was described in this article to account for the rare events that also included studies which had no events on either treatment arm. There were trends to indicate that active treatments increased the risk of these events in absolute terms. For efficacy, the results indicated that antidepressant treatments did have a statistically significant effects compared to placebo but the effect was less for the trials in depression. The results are in the main consistent with previous meta-analyses on a smaller number of trials. There was evidence of an increased risk in suicide-related outcomes on antidepressant treatments, while antidepressant treatments were also shown to be efficacious.

**Suicidal ideation and perceived burdensomeness in patients with chronic pain**

Kanzler KE, Bryan CJ, McGeary DD, Morrow CE (USA)


There is a clear relationship between suicide risk and chronic pain conditions. However, the exact nature of this link has been poorly understood, with risk attribution often limited to comorbid depression. Perceived burdensomeness has already been confirmed as a risk factor for suicidal ideation (SI) and suicide attempt in the general population. Self-perceived burden, studied among medically and terminally ill medical populations, has begun to receive a great deal of
attention as a suicide risk factor. However, this risk has not been considered in an outpatient chronic pain population, a group likely to experience perceived burdensomeness as a particular problem. Guidelines recommend routine suicide risk screening in medical settings, but many questionnaires are time-consuming and do not allow for the assessment of the presence of newly identified risk constructs, such as perceived burdensomeness. This retrospective study examined the relationship between depression, perceived burdensomeness, and SI in a patient sample seeking behavioral treatment for chronic pain management. A logistic regression model was developed, with preliminary results indicating perceived burdensomeness was the sole predictor of SI, even in the presence of other well-established risk factors such as age, gender, depressive symptoms, and pain severity. Findings highlight the potential utility of a single-item screening question in routine clinical care as an incrementally superior predictor of SI in a chronic pain population.

**War and first onset of suicidality: The role of mental disorders**


*Psychological Medicine.* Published online: 28 February 2012. doi: 10.1017/S0033291712000268, 2012

**Background:** Suicide rates increase following periods of war; however, the mechanism through which this occurs is not known. The aim of this paper is to shed some light on the associations of war exposure, mental disorders, and subsequent suicidal behavior.

**Method:** A national sample of Lebanese adults was administered the Composite International Diagnostic Interview to collect data on lifetime prevalence and age of onset of suicide ideation, plan, and attempt, and mental disorders, in addition to information about exposure to stressors associated with the 1975-1989 Lebanon war.

**Results:** The onset of suicide ideation, plan, and attempt was associated with female gender, younger age, post-war period, major depression, impulse-control disorders, and social phobia. The effect of post-war period on each type of suicide outcome was largely explained by the post-war onset of mental disorders. Finally, the conjunction of having a prior impulse-control disorder and either being a civilian in a terror region or witnessing war-related stressors was associated with especially high risk of suicide attempt.

**Conclusions:** The association of war with increased risk of suicidality appears to be partially explained by the emergence of mental disorders in the context of war. Exposure to war may exacerbate disinhibition among those who have prior impulse-control disorders, thus magnifying the association of mental disorders with suicidality.
Suicidal ideation and the subjective aspects of depression
Keilp JG, Grunebaum MF, Gorlyn M, Leblanc S, Burke AK, Galfalvy H, Oquendo MA, Mann JJ
(USA)

Background: Suicidal ideation is common in depression, but only moderately related to depression severity — in part because certain clusters of symptoms, such as those related to core mood disturbance, have a differential relationship to suicidal thinking.

Methods: 400 medication free participants with current major depression were assessed with either or both the Hamilton Depression Rating Scale (HDRS, n = 396) and Beck Depression Inventory (BDI, n = 366), and the Scale for Suicide Ideation (SSI). Depression rating scales were decomposed into symptoms clusters previously reported (Grunebaum et al., 2005), in order to evaluate their association to suicidal thinking.

Results: Correlations between overall depression severity ratings and the measure of suicidal ideation were modest, and reduced when specific items assessing suicidal thinking on these depression scales were removed. Symptom clusters assessing Psychic Depression (HDRS), Subjective Depression (BDI), and Self-Blame (BDI) were the strongest correlates of suicidal ideation; other somatic and vegetative symptoms had little or no association to suicidal ideation. Severity of these symptom clusters effectively discriminated those with (SSI > 0) and without (SSI = 0) ideation; severity of these symptom clusters was less strongly associated with the severity of ideation once ideation was present.

Limitations: This is a cross-sectional study, and the dynamic relationship between changes in the severity of various depressive symptoms and change in suicidal thinking remains to be explored.

Conclusions: Depression severity is moderately associated with suicidal ideation, and accounted for primarily by core mood disturbance symptoms and self-punitive thinking. These associations may explain why suicide risk might remain high during treatment even though somatic and vegetative symptoms improve.

The association between bankruptcy and hospital-presenting attempted suicide: A record linkage study
Kidger J, Gunnell D, Jarvik JG, Overstreet KA, Hollingworth W (UK)
Suicide and Life-Threatening Behavior 41, 676–684, 2011

The associations between admissions to an emergency department following attempted suicide and personal bankruptcy in the preceding and subsequent 2 years were evaluated. Records from a level 1 trauma center (June 1993-December 2002) in Seattle, WA, were linked with case files from the local U.S. District Bankruptcy Court (June 1991 onward). Univariable and multivariable logistic regression models were used to examine the risk of bankruptcy in (i) the 2 years after
and (ii) the 2 years before a suicide attempt using a violent method, compared to patients admitted for any other reason. After adjusting for several confounders, patients who had attempted suicide were more likely than other patients to experience bankruptcy in the following 2 years (OR = 2.10, 95% CIs: 1.29, 3.42). A somewhat weaker association was seen with bankruptcy in the preceding 2 years (OR = 1.68, 95% CIs 1.06; 2.67). Attempted suicide is therefore associated with bankruptcy in the preceding and following 2 years. Changes to legislation, improved mental health counselling for those in financial difficulty, and provision of financial advice to those admitted to hospital following a suicide attempt may reduce future cases of serious self-harm and completed suicide.

A cross-sectional survey of prevalence and correlates of suicidal ideation and suicide attempts among prisoners in New South Wales, Australia

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BMC Public Health 12, 14, 2012

Background: We aimed to estimate the prevalence of suicidal ideation and suicide attempt among prisoners in New South Wales, Australia; and, among prisoners reporting suicidal ideation, to identify factors associated with suicide attempt.

Methods: A cross-sectional design was used. Participants were a random, stratified sample of 996 inmates who completed a telephone survey. The estimated population prevalence of suicidal ideation and suicide attempt were calculated and differences by sex and Aboriginality were tested using chi2 tests. Correlates of suicidal ideation and suicide attempt were tested using logistic regression.

Results: One-third of inmates reported lifetime suicidal ideation and one-fifth had attempted suicide. Women and Aboriginal participants were significantly more likely than men and non-Aboriginal participants, respectively, to report attempting suicide. Correlates of suicidal ideation included violent offending, traumatic brain injury, depression, self-harm, and psychiatric hospitalisation. Univariate correlates of suicide attempt among ideators were childhood out-of-home care, parental incarceration and psychiatric hospitalization; however, none of these remained significant in a multivariate model.

Conclusions: Suicidal ideation and attempts are highly prevalent among prisoners compared to the general community. Assessment of suicide risk is a critical task for mental health clinicians in prisons. Attention should be given to ensuring assessments are gender- and culturally sensitive. Indicators of mental illness may not be accurate predictors of suicide attempt. Indicators of childhood trauma appear to be particularly relevant to risk of suicide attempt among prisoners and should be given attention as part of risk assessments.
Objective: In 2009 the U.S. Food and Drug Administration issued a warning regarding suicidality and antiepileptic drugs based on meta-analyses of 199 randomized trials (over 43,000 subjects with different illnesses) of 11 antiepileptics. The present study examines the hypothesis that the three antiepileptics approved for bipolar disorder (carbamazepine, lamotrigine, and valproate) are associated with an elevated risk of suicide attempts and suicides.

Method: A prospective observational study was conducted at five U.S. academic medical centers from 1978 to 2009. Analyses included 199 participants with bipolar disorder for whom 1,077 time intervals were classified as either exposed to an antiepileptic (carbamazepine, lamotrigine, or valproate) or not exposed to an antiepileptic, an antidepressant, or lithium during 30 years of follow-up.

Results: Participants who had more severe manic symptoms were more likely to receive antiepileptic drugs. Mixed-effects grouped-time survival models revealed no elevation in risk of suicide attempt or suicide during periods when participants were receiving antiepileptics relative to periods when they were not (hazard ratio = 0.93, 95% CI = 0.45–1.92), controlling for demographic and clinical variables through propensity score matching.

Conclusions: In this longitudinal observational study, the risk of suicide attempts or suicides was not associated with the antiepileptics approved for bipolar disorder.

Assessing and managing risk with suicidal individuals

The University of Washington Risk Assessment Protocol (UWRAP) and Risk Assessment and Management Protocol (UWRAMP) have been used in numerous clinical trials treating high-risk suicidal individuals over several years. These protocols structure assessors and treatment providers to provide a thorough suicide risk assessment, review standards of care recommendations for action, and allow for subsequent documentation of information gathered and actions taken. As such, it is a resource for providers treating high-risk populations across multiple contexts (e.g., primary care, outpatient psychotherapy, emergency department). This article describes both the UWRAP and UWRAMP. Taken together, these assessment and risk management tools include (a) assessment questions for gathering information to determine the level of risk, (b) action steps that can be taken to ensure safety, and (c) a companion therapist note where providers document their assessment and actions.
Prospective study of risk factors for increased suicide ideation and behavior following recent discharge


*General Hospital Psychiatry* 34, 88–97, 2011

**Objective:** The purpose of this study is to prospectively examine the association between predictors from the three thematic areas — suicidality, personal risk factors and patient care factors — and the occurrence of postdischarge suicide ideation and behavior in recently discharged patients.

**Methods:** The design is a prospective cohort study of all patients admitted to an inner city inpatient psychiatric service with a lifetime history of suicidal behavior and current suicidal ideation. Predictors of suicide ideation at 1, 3 and 6 months following discharge and suicide behavior over the 6 months of follow-up were examined.

**Results:** The incidence of death by suicide during the study period was 3.3% [95% confidence interval (CI) = 0.9%–8.3%], and 39.4% (95% CI = 30.0%–49.5%) of the surviving participants reported self-injury or suicide attempts within 6 months of hospital discharge. Risk factors such as recent suicide attempts, levels of depression, hopelessness and impulsivity were predictive of increased suicide ideation or behavior after discharge from the inpatient service.

**Conclusions:** The high risk of suicide ideation, suicide attempts and suicide demonstrated in these recently discharged patients supports the need to develop selective prevention strategies.

Suicidal ideation, friendships with delinquents, social and parental connectedness, and differential associations by sex

Logan JE, Crosby AE, Hamburger ME (USA)

*Crisis* 32, 299–309, 2011

**Background:** The association between suicidal ideation, friendships with delinquents, and social/parental connectedness among pre/early adolescents who reside in high-risk communities is poorly understood.

**Aims:** This study examined among high-risk youths: (1) the association between suicidal ideation and having delinquent friends, school connectedness, social support, and different parenting styles (i.e., caring only, supervision only, caring with supervision); and, (2) the differential associations by sex.

**Methods:** The associations were assessed among 2,598 pre/early adolescents using logistic regression. The analyses were adjusted for demographic, mental distress, illicit substance use, and peer/date violence victimization factors. The interaction terms determined differences by sex.
Results: After adjusting for demographic factors and mental distress, suicidal ideation was positively associated with having delinquent friends; however, after factoring in illicit substance use and violence victimization, this association was negative for males. After adjusting for all factors, suicidal ideation was negatively associated with school connectedness and all parenting styles; however, the association between suicidal ideation and having parental caring with supervision was stronger for females.

Conclusions: The results suggest the potential benefits of increasing school connectedness and improving parent-child interactions, particularly among females, and the potential benefits of violence and substance-abuse prevention strategies for youths, particularly males, connected with delinquent peers.

Caring letters project
Luxton DD, Kinn JT, June JD, Pierre LW, Reger MA, Gahm GA (USA)
Crisis 33, 5-12, 2011

Background: The Caring Letters Project (CLP) is a suicide prevention program that involves sending brief caring letters to discharged inpatients following psychiatric hospitalization. Several studies suggest that repeatedly sending caring messages may reduce suicides and suicide attempts in high-risk populations.

Aims: The aims of this study were to (1) evaluate feasibility of use in the military setting, (2) explore trends toward reduction of psychiatric rehospitalizations, (3) assess preference for and test e-mail correspondence, and (4) identify best practices and gather data to inform a randomized controlled study.

Methods: A total of 110 psychiatric inpatients at a military treatment facility consented, were interviewed, and then received personalized handwritten letters or e-mails at regular intervals following discharge. Data collected included demographics, clinical characteristics, preference for e-mail versus postal mail, rates of undeliverable and return correspondence, rehospitalizations, and adverse events requiring safety procedures.

Results: A total of 436 letters and e-mails have been sent to date. Most participants indicated preference for e-mail versus postal mail. Fifteen participants were readmitted for treatment compared to 20 patients in usual care. Twenty participants sent responses and all were positive statements about the program. There were no adverse events.

Conclusions: This program is feasible for use at a military treatment facility. A randomized controlled trial is needed to determine whether the intervention can reduce suicide rates among military and veteran populations.
Effect of mobile phone-based psychotherapy in suicide prevention: A randomized controlled trial in Sri Lanka

Marasinghe RB, Edirippulige S, Kavanagh D, Smith A, Jiffry MTM (Sri Lanka)

*Journal of Telemedicine and Telecare* 18, 151-155, 2012

We conducted a randomized controlled trial to test whether a Brief Mobile Treatment (BMT) intervention could improve outcomes relative to usual care among suicide attempters. The intervention included training in problem solving therapy, meditation, a brief intervention to increase social support as well as advice on alcohol and other drugs, and mobile phone follow-up. The effect of the intervention was measured in terms of a reduction in suicidal ideation, depression and self-harm at Baseline, six and 12 months. A wait-list control group received usual care. A total of 68 participants was recruited from a Sri Lankan hospital following a suicide attempt. Participants who received the intervention were found to achieve significant improvements in reducing suicidal ideation and depression than those receiving usual care. The BMT group also experienced a significant improvement of social support when compared to the control group. However, the BMT group did not demonstrate a significant effect in reducing actual self-harm and most substance use, and differential effects on alcohol use were restricted to men. Although the present study was limited in revealing which component of the intervention was more effective in preventing suicide, it showed its efficacy in reducing suicide as a whole.

Significant relationship between lifetime alcohol use disorders and suicide attempts in an Australian schizophrenia sample

McLean D, Gladman B, Mowry B (Australia)

*Australian and New Zealand Journal of Psychiatry* 46, 132-140, 2012

**Objective:** Suicide and attempted suicide are common in individuals with schizophrenia, and evidence exists for a link between substance use disorders and suicidality in this disorder. However, alcohol has not been consistently implicated. We examined the relationship between substance use disorders and suicide attempts in schizophrenia.

**Methods:** We recruited a schizophrenia sample in Australia (n = 821) for genetic analyses. We analysed demographic and clinical variables, including substance use disorders, and their relationship to suicide attempts using generalised equation modelling.

**Results:** A significant association was identified between lifetime alcohol abuse/dependence and suicide attempts (OR = 1.66; 95% CI, 1.23 to 2.24; p = 0.001) after adjustment for potential confounders, but not between cannabis abuse/dependence and suicide attempts, nor between other illicit drug abuse/dependence and suicide attempts. Polysubstance abuse/dependence was also not implicated.
Conclusions: These results suggest that the presence of alcohol abuse/dependence may be a risk factor for suicide attempts in individuals with schizophrenia, independent of comorbid substance abuse/dependence.

Sociodemographic and psychopathological risk factors in repeated suicide attempts: Gender differences in a prospective study


Journal of Affective Disorders 136, 35–43, 2012

Background: The prevention of the repetition of suicide attempts is an important feature of the care of attempters but current data fail to give actual predictors of repetition. The aim of this study was to characterize sociodemographic and psychopathological features and risk factors associated with future repetition of suicide attempts in two years. The study focused on differences between men and women.

Methods: 273 participants selected in psychiatric emergency units after their admission for a suicide attempt (index) were included in the study. Subsequent suicide attempts occurring within a two year follow-up were identified from the regional observatory of suicide attempts. At inclusion, sociodemographic variables and psychopathological data were collected. In particular, psychometric evaluations were performed using the following scales: BDI-SF, SIS, BIS and BDHI. The lifetime history of suicide attempt was also noted.

Results: Repetition of suicide attempt in 2 years was associated with current follow up and treatment, a personal history of multiple suicide attempt, post traumatic stress disorder, current recurrent psychotic syndrome and substance misuse. Specific features of men and women repeaters have been identified. Men repeaters were characterized by substance use disorders whereas the re-attempt in women was associated with current follow up and treatment, post traumatic stress disorder and higher BDI-SF score.

Conclusions: Repeaters must be considered as a specific population among suicide attempters and gender differences must be taken into account in this particular population in order to promote more personalized prevention programs for suicidal recurrence and completed suicide.

Economic conditions and suicide rates in New York City

Nandi A, Prescott MR, Cerda M, Vlahov D, Tardiff KJ, Galea S (Canada)

American Journal of Epidemiology 175, 527–535, 2012

Extant analyses of the relation between economic conditions and population health were often based on annualized data and were susceptible to confounding by nonlinear time trends. In the present study, the authors used generalized additive models with nonparametric smoothing splines to examine the association between economic
conditions, including levels of economic activity in New York State and the degree of volatility in the New York Stock Exchange, and monthly rates of death by suicide in New York City. The rate of suicide declined linearly from 8.1 per 100,000 people in 1990 to 4.8 per 100,000 people in 1999 and then remained stable from 1999 to 2006. In a generalized additive model in which the authors accounted for long-term and seasonal time trends, there was a negative association between monthly levels of economic activity and rates of suicide; the predicted rate of suicide was 0.12 per 100,000 persons lower when economic activity was at its peak compared with when it was at its nadir. The relation between economic activity and suicide differed by race/ethnicity and sex. Stock market volatility was not associated with suicide rates. Further work is needed to elucidate pathways that link economic conditions and suicide.

Predictors of suicide and suicide attempt in subway stations: A population-based ecological study

Niederkrotenthaler T, Sonneck G, Dervic K, Nader IW, Voracek M, Kapusta ND, Etzersdorfer E, Mittendorfer-Rutz E, Dorner T (Austria)


Suicidal behavior on the subway often involves young people and has a considerable impact on public life, but little is known about factors associated with suicides and suicide attempts in specific subway stations. Between 1979 and 2009, 185 suicides and 107 suicide attempts occurred on the subway in Vienna, Austria. Station-specific suicide and suicide attempt rates (defined as the frequency of suicidal incidents per time period) were modeled as the outcome variables in bivariate and multivariate Poisson regression models. Structural station characteristics (presence of a surveillance unit, train types used, and construction on street level versus other construction), contextual station characteristics (neighborhood to historical sites, size of the catchment area, and in operation during time period of extensive media reporting on subway suicides), and passenger-based characteristics (number of passengers getting on the trains per day, use as meeting point by drug users, and socioeconomic status of the population in the catchment area) were used as the explanatory variables. In the multivariate analyses, subway suicides increased when stations were served by the faster train type. Subway suicide attempts increased with the daily number of passengers getting on the trains and with the stations’ use as meeting points by drug users. The findings indicate that there are some differences between subway suicides and suicide attempts. Completed suicides seem to vary most with train type used. Suicide attempts seem to depend mostly on passenger-based characteristics, specifically on the station’s crowdedness and on its use as meeting point by drug users. Suicide-preventive interventions should concentrate on crowded stations and on stations frequented by risk groups.
Recognising and responding to suicidal crisis within family and social networks: Qualitative study
BMJ 343, d5801, 2011

Objective: To shed light on the difficulties faced by relatives, friends, and colleagues in interpreting signs of suicidality and deciding whether and how to intervene.

Design: Qualitative study of completed suicides, based on in-depth interviews with multiple informants.


Participants: 31 lay informants (one to five for each case), including parents, partners, siblings, friends, and colleagues of 14 cases of suicide in which the deceased was aged 18-34 and was not in contact with secondary mental health services.

Results: Informants described both intellectual and emotional barriers to awareness and intervention within the family and social network. They reported that signs and communications of distress were often oblique and difficult to interpret, that they may have disregarded warning signals and focused instead on positive signs, and that, even when they were aware that something was seriously wrong, taking any action at all involved considerable personal risks.

Conclusions: As the suicidal process unfolds, significant others are faced with a highly complex task. Their proximity to the suicidal person and their emotional investment in the relationship make it difficult for them to see what is happening, to say anything to the person or to other members of the network, or to seek help outside the network. Efforts to strengthen the capacity of lay people to play a role in preventing suicide are urgently needed and should be informed by a thorough understanding of these difficulties. They should highlight the ambiguous nature of warning signs and should focus on helping people to acknowledge and overcome their fears about intervening.

Surveillance of Australian suicidal behaviour using the internet?
Page A, Chang SS, Gunnell D (Australia)
The Australian and New Zealand Journal of Psychiatry 45, 1020–2, 2011

Recent reports have suggested that variations in the volume of Internet searches relating to suicide, and risk factors for suicide such as depression and divorce, are associated with population suicide rates [1,2]. Furthermore, search activity in relation to specific methods of suicide have been shown to mirror high profile media reporting of an unusual method of suicide in the UK and Japan [3]. Seasonal variations in the volume of Internet searches relating to depression, mirroring seasonal fluctuations in the incidence of depression, have also been noted [4]. There is perhaps the potential to use trends in Internet searching relating to suicide as a kind of barometer of actual suicidal ideation and behaviour in a community [3], in the same way as it has been suggested it may be useful in identify-
ing the onset of epidemics of infectious disease [5]. Readily available Internet resources may be a way of augmenting routinely collected sources of mortality, hospital admissions and primary care sector data (the availability of which is often lagged by a number of years) as part of a strategy of syndromic surveillance of levels of suicidal behaviour and psychological distress in communities.

A community-based cluster randomised trial of safe storage to reduce pesticide self-poisoning in rural Sri Lanka: Study protocol


BMC Public Health 11, 879, 2011

Background: The WHO recognises pesticide poisoning to be the single most important means of suicide globally. Pesticide self-poisoning is a major public health and clinical problem in rural Asia, where it has led to case fatality ratios 20-30 times higher than self-poisoning in the developed world. One approach to reducing access to pesticides is for households to store pesticides in lockable ‘safe-storage’ containers. However, before this approach can be promoted, evidence is required on its effectiveness and safety.

Methods: A community-based cluster randomised controlled trial has been set up in 44,000 households in the North Central Province, Sri Lanka. A census is being performed, collecting baseline demographic data, socio-economic status, pesticide usage, self-harm and alcohol. Participating villages are then randomised and eligible households in the intervention arm given a lockable safe storage container for agrochemicals. The primary outcome will be incidence of pesticide self-poisoning over three years amongst individuals aged 14 years and over. 217,944 person years of follow-up are required in each arm to detect a 33% reduction in pesticide self-poisoning with 80% power at the 5% significance level. Secondary outcomes will include the incidence of all pesticide poisoning and total self-harm.

Discussion: This paper describes a large effectiveness study of a community intervention to reduce the burden of intentional poisoning in rural Sri Lanka. The study builds on a strong partnership between provincial health services, local and international researchers, and local communities. We discuss issues in relation to randomisation and contamination, engaging control villages, the intervention, and strategies to improve adherence.
US cultural involvement and its association with suicidal behavior among youths in the Dominican Republic

Pena JB, Zayas LH, Cabrera-Nguyen P, Vega WA (USA)

Objectives: We examined how US cultural involvement related to suicide attempts among youths in the Dominican Republic.

Methods: We analyzed data from a nationally representative sample of youths attending high school in the Dominican Republic (n = 8446). The outcome of interest was a suicide attempt during the past year. The US cultural involvement indicators included time spent living in the United States, number of friends who had lived in the United States, English proficiency, and use of US electronic media and language.

Results: Time lived in the United States, US electronic media and language, and number of friends who had lived in the United States had robust positive relationships with suicide attempts among youths residing in the Dominican Republic.

Conclusions: Our results are consistent with previous research that found increased risk for suicide or suicide attempts among Latino youths with greater US cultural involvement. Our study adds to this research by finding similar results in a nonimmigrant Latin American sample. Our results also indicate that suicide attempts are a major public health problem among youths in the Dominican Republic.

The incidence and repetition of hospital-treated deliberate self harm: Findings from the world’s first national registry

Perry IJ, Corcoran P, Fitzgerald AP, Keeley HS, Reulbach U, Arensman E (Ireland)
PLoS ONE 7, e31663, 2012

Background: Suicide is a significant public health issue with almost one million people dying by suicide each year worldwide. Deliberate self harm (DSH) is the single most important risk factor for suicide yet few countries have reliable data on DSH. We developed a national DSH registry in the Republic of Ireland to establish the incidence of hospital-treated DSH at national level and the spectrum and pattern of presentations with DSH and repetition.

Methods and Findings: Between 2003 and 2009, the Irish National Registry of Deliberate Self Harm collected data on DSH presentations to all 40 hospital emergency departments in the country. Data were collected by trained data registration officers using standard methods of case ascertainment and definition. The Registry recorded 75,119 DSH presentations involving 48,206 individuals. The total incidence rate fell from 209 (95% CI: 205–213) per 100,000 in 2003 to 184 (95% CI: 180-189) per 100,000 in 2006 and increased again to 209 (95% CI: 204–213) per 100,000 in 2009. The most notable annual changes were successive 10% increases in the male rate in 2008 and 2009. There was significant variation by age
with peak rates in women in the 15-19 year age group (620 [95% CI: 605–636] per 100,000), and in men in the 20-24 age group (427 [95% CI: 416–439] per 100,000). Repetition rates varied significantly by age, method of self harm and number of previous episodes.

Conclusions: Population-based data on hospital-treated DSH represent an important index of the burden of mental illness and suicide risk in the community. The increased DSH rate in Irish men in 2008 and 2009 coincided with the advent of the economic recession in Ireland. The findings underline the need for developing effective interventions to reduce DSH repetition rates as a key priority for health systems.

Trends in suicide case fatality in Italy, 1983-2007
Preti A (Italy)

The proportion of suicide attempts ending up in the death of the attempter was used in past studies as an index of suicide lethality, or case fatality. This study aimed at investigating whether case fatality of suicide has decreased in Italy over the latest 25 years using available data, as an alternative hypothesis to the proposed general decrease in suicidal behavior resulting from better identification and treatment of people with mental disorders. The official data on completed and attempted suicides by males and females in Italy, from 1983 to 2007, were analyzed with joinpoint regression analysis, to identify the points (i.e., ‘joinpoints’) where linear trends changed significantly in direction or magnitude. It should be noted that only the most severe suicide attempts are recorded in Italian official statistics. Suicide rates decreased in both sexes, particularly from 1990 onward. Attempted suicide rates increased progressively in males, while in females they reached their peak in 1996-1998 and then decreased. In both sexes suicide case fatalities significantly decreased from 1990 onward. Improved survival after a suicide act is probably the main reason behind this favorable trend. The spreading of emergency services may prevent suicide.

Belief in the harmfulness of antidepressants: Associated factors and change over 16 years
Reavley NJ, Jorm AF (Australia)
Journal of Affective Disorders 138, 375-386, 2012

Background: Negative views of psychiatric medications are a common in many countries and efforts have been made to improve these. Relatively little is known of the changes in beliefs about harmfulness of antidepressant medications.

Methods: A 2011 national survey of 2024 Australian adults assessed beliefs about the helpfulness or harmfulness of antidepressants for a person who is depressed or depressed/suicidal and the associations with sociodemographic characteristics,
exposure to depression, recognition of depression, and beliefs about other interventions, long-term outcomes, causes, and stigmatising attitudes. Changes in attitudes since previous surveys (conducted in 1995 and 2003/2004) were also assessed.

**Results:** Approximately 20% of Australian adults believe that antidepressants would be harmful for a person who is depressed or depressed/suicidal. This group was more likely to be male, born overseas, have less exposure to depression, show poorer depression recognition, have less positive views about other standard interventions, be less pessimistic about long-term outcomes and have greater stigmatising attitudes. Comparison with previous surveys showed that overall belief in the harmfulness of antidepressants for depression decreased between 1995 and 2003/2004 and between 1995 and 2011, particularly in young people and in those with a lower level of education. Limitations: The study did not explore the reasons for belief in harmfulness.

**Conclusions:** Belief in the harmfulness of antidepressants for depression fell in the 16 years prior to 2011. The higher proportions of males and those from non-English speaking backgrounds believing in harmfulness suggest that education about the role of antidepressants in the treatment of depression should focus on these groups.

**Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictors of suicidal ideation and behavior in young adults in the military**

Ribeiro JD, Pease JL, Gutierrez PM, Silva C, Bernert RA, Rudd MD, Joiner TE Jr (USA)

*Journal of Affective Disorders* 136, 743–750, 2012

**Background:** Sleep problems appear to represent an underappreciated and important warning sign and risk factor for suicidal behaviors. Given past research indicating that disturbed sleep may confer such risk independent of depressed mood, in the present report we compared self-reported insomnia symptoms to several more traditional, well-established suicide risk factors: depression severity, hopelessness, PTSD diagnosis, as well as anxiety, drug abuse, and alcohol abuse symptoms.

**Methods:** Using multiple regression, we examined the cross-sectional and longitudinal relationships between insomnia symptoms and suicidal ideation and behavior, controlling for depressive symptom severity, hopelessness, PTSD diagnosis, anxiety symptoms, and drug and alcohol abuse symptoms in a sample of military personnel (N = 311).

**Results:** In support of a priori hypotheses, self-reported insomnia symptoms were cross-sectionally associated with suicidal ideation, even after accounting for symptoms of depression, hopelessness, PTSD diagnosis, anxiety symptoms and drug and alcohol abuse. Self-reported insomnia symptoms also predicted suicide attempts prospectively at one-month follow up at the level of a non-significant trend, when controlling for baseline self-reported insomnia symptoms, depres-
sion, hopelessness, PTSD diagnosis and anxiety, drug and alcohol abuse symptoms. Insomnia symptoms were unique predictors of suicide attempt longitudinally when only baseline self-reported insomnia symptoms, depressive symptoms and hopelessness were controlled.

**Limitations:** The assessment of insomnia symptoms consisted of only three self-report items. Findings may not generalize outside of populations at severe suicide risk.

**Conclusions:** These findings suggest that insomnia symptoms may be an important target for suicide risk assessment and the treatment development of interventions to prevent suicide.

### Lithium treatment and the risk of suicide in affective disorders

Rihmer Z (Hungary)  

Despite suicidal behaviour being a very complex, multicausal phenomenon, untreated major affective (bipolar and unipolar) disorders are the most powerful predictors for it. As suicidal behaviour in people with mood disorders is a state-dependent phenomenon, long-term management is fundamental for suicide prevention. Naturalistic, retrospective and prospective follow-up studies, as well as randomised controlled trials, consistently show that long-term lithium treatment reduces the risk of completed and attempted suicide by approximately 80%, both in people with bipolar disorder and unipolar depression. The marked anti-suicidal potential of lithium seems to be more than the simple reflection of its phase-prophylactic effect, as a significant reduction in the number of suicide attempts was found not only in the excellent responders, but also in moderate responders and in non-responders. Current studies also show that the combination of lithium treatment with psychosocial interventions further improves the results.

### Impact on prisoners of participating in research interviews related to near-lethal suicide attempts

Rivlin A, Marzano L, Hawton K, Fazel S (UK)  
*Journal of Affective Disorders* 136, 54–62, 2012

**Background:** Prisoners have a high risk of suicide. Research studies have investigated factors contributing to this, some through interviews with survivors of suicide attempts, others with informants such as family and friends of suicide victims. However, there is little information regarding the effects of participating in such interviews.

**Aims:** To investigate the effects on participants of taking part in detailed interviews about suicidal behaviour and contributory factors.
Method: Case-control studies of 120 prisoners who made near-lethal suicide attempts (cases) and 120 prisoners who had never carried out near-lethal suicide attempts in prison (controls) were conducted. Information regarding effects on prisoners of participating in the interviews was collected using quantitative and qualitative methods.

Results: For both male cases and controls, and female controls, self-reported mood levels improved significantly by the end of the interviews. For female cases, the interviews had no negative effect on their self-reported mood. Whilst some prisoners found the interviews upsetting, nearly all said they were pleased to have participated.

Limitations: The same researchers carried out the interviews and collected data on the effects of participation. Also, several potential participants were excluded from the study and the likely effect of the interview on them is unknown.

Conclusions: We found little evidence that participation of prisoners in interview-based research on suicidal behaviour has negative effects on them; indeed, it can be beneficial. Inclusion of similar instruments to measure the effects of research participation in future investigations could provide valuable feedback to researchers and ethics committees.

Referral patterns for youths identified at risk for suicide by trained gatekeepers
Rodi MS, Garraza LG, Walrath C, Stephens RL, Condron DS, Hicks BB, McKeon R (USA)
*Crisis* 33, 113–119, 2012

Background: In order to better understand the posttraining suicide prevention behavior of gatekeeper trainees, the present article examines the referral and service receipt patterns among gatekeeper-identified youths.

Methods: Data for this study were drawn from 26 Garrett Lee Smith grantees funded between October 2005 and October 2009 who submitted data about the number, characteristics, and service access of identified youths.

Results: The demographic characteristics of identified youths are not related to referral type or receipt. Furthermore, referral setting does not seem to be predictive of the type of referral. Demographic as well as other (nonrisk) characteristics of the youths are not key variables in determining identification or service receipt.

Limitations: These data are not necessarily representative of all youths identified by gatekeepers represented in the dataset. The prevalence of risk among all members of the communities from which these data are drawn is unknown. Furthermore, these data likely disproportionately represent gatekeepers associated with systems that effectively track gatekeepers and youths.

Conclusions: Gatekeepers appear to be identifying youth across settings, and those youths are being referred for services without regard for race and gender or the settings in which they are identified. Furthermore, youths that may be at highest risk may be more likely to receive those services.
While unintentional work-related injury is increasingly recognised as important and preventable, population studies of the full range of work related suicides have received less attention. The objective of this study is to investigate the epidemiology of work-related suicide in Victoria, July 2000-December 2007. The study draws on a database of all work-related deaths reported to the Victorian Coroner, inclusive of broadly defined work-relatedness. Inclusion criteria for work-related suicide were at least one of: suicide means was work related, work stressors were identified in police reports to the Coroner or the Coroner’s finding, the suicide method involved another person’s work (e.g. rail suicide, heavy vehicle) or the suicide location was a workplace. Cases still open for investigation were excluded. Of 642 work-related suicides, 55% had an association with work stressors; 32% jumped or lay in front of a train or heavy vehicle; 7% involved a work location and 6% involved work agents. Work stressor cases identified included business difficulties, recent or previous work injury, unemployment/redundancy or conflict with supervisors/colleagues (including workplace bullying). Work-related suicide is a substantial problem, for which few detailed population wide studies are available. Further research is required to understand the contribution of work stressors and effective interventions.

The role of interpersonal components of perfectionism in suicide outcomes among youth was assessed and the Perfectionism Social Disconnection Model (PSDM) was tested by determining whether the links between socially prescribed perfectionism (SPP) and perfectionistic self-presentation (PSP) and suicide outcomes are mediated by experiences of social disconnection, as indicated by social hopelessness and being bullied. PSP, trait perfectionism, suicide outcomes, and experiences of being bullied and social hopelessness were measured in 152 psychiatric outpatient children and adolescents. Correlational tests confirmed that PSP and SPP were associated with suicide outcomes and these interpersonal perfectionism components were associated significantly with bullying and social hopelessness. Support was also obtained for the PSDM. The relationship between the PSP facets, particularly nondisplay of imperfections, and suicide outcomes were mediated by being bullied. Additionally, the relationship between all interpersonal components of perfectionism and suicide risk was mediated by social
hopelessness. Theoretical and clinical implications of interpersonal components of perfectionism and social disconnection in suicide outcomes for youth are discussed.

**Cyberbullying, school bullying, and psychological distress: A regional census of high school students**

Schneider SK, O’Donnell L, Stueve A, Coulter RWS (USA)

*American Journal of Public Health* 102, 171-177, 2012

**Objectives:** Using data from a regional census of high school students, we have documented the prevalence of cyberbullying and school bullying victimization and their associations with psychological distress.

**Methods:** In the fall of 2008, 20406 ninth- through twelfth-grade students in Metro West Massachusetts completed surveys assessing their bullying victimization and psychological distress, including depressive symptoms, self-injury, and suicidality.

**Results:** A total of 15.8% of students reported cyberbullying and 25.9% reported school bullying in the past 12 months. A majority (59.7%) of cyberbullying victims were also school bullying victims; 36.3% of school bullying victims were also cyberbullying victims. Victimization was higher among nonheterosexually identified youths. Victims report lower school performance and school attachment. Controlled analyses indicated that distress was highest among victims of both cyberbullying and school bullying (adjusted odds ratios [AORs] were from 4.38 for depressive symptoms to 5.35 for suicide attempts requiring medical treatment). Victims of either form of bullying alone also reported elevated levels of distress.

**Conclusions:** Our findings confirm the need for prevention efforts that address both forms of bullying and their relation to school performance and mental health.

**Predictors of suicide in patients with dementia**

Seyfried LS, Kales HC, Ignacio RV, Conwell Y, Valenstein M (USA)

*Alzheimer's & Dementia* 7, 567-573, 2011

**Background:** Assessing predictors of suicide and means of completion in patients with dementia may aid the development of interventions to reduce risk of suicide among the growing population of individuals with dementia.

**Methods:** This national, retrospective, cohort study used data from the Department of Veterans Affairs (fiscal years 2001–2005). The sample included patients ≥ 60 years old diagnosed with dementia (N = 294,952), of which 241 committed suicide. Potential predictors of suicide were identified using logistic regression. Suicide methods are also reported.
**Results:** Increased risk of suicide was associated with white race (OR: 2.4, 95% CI: 1.2, 4.8), depression (OR: 2.0, 95% CI: 1.5, 2.9), a history of inpatient psychiatric hospitalizations (OR: 2.3, 95% CI: 1.5, 3.5), and prescription fills of antidepressants (OR: 2.1, 95% CI: 1.6, 2.8) or anxiolytics (OR: 2.0, 95% CI: 1.5, 2.7). Nursing home admission was associated with lower suicide risk (OR: 0.3, 95% CI: 0.1, 0.8). Severity of medical comorbidity did not affect risk of suicide. Sensitivity analysis indicated that the majority of suicides occurred in those who were newly diagnosed with dementia. Firearms were the most common method of suicide (73%) used.

**Conclusions:** Given the higher rate of suicide in those receiving treatment for psychiatric symptoms and the high proportion that died using firearms, closer monitoring and assessment of gun access may be an important part of initial treatment planning for older male patients with dementia, particularly those with symptoms of depression or anxiety.

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**Structural brain abnormalities and suicidal behavior in borderline personality disorder**


**Background:** Structural brain abnormalities have been demonstrated in subjects with BPD in prefrontal and fronto-limbic regions involved in the regulation of emotion and impulsive behavior, executive cognitive function and episodic memory. Impairment in these cognitive functions is associated with increased vulnerability to suicidal behavior. We compared BPD suicide attempters and non-attempters, high and low lethality attempters to healthy controls to identify neural circuits associated with suicidal behavior in BPD.

**Methods:** Structural MRI scans were obtained on 68 BPD subjects (16 male, 52 female), defined by IPDE and DIB/R criteria, and 52 healthy controls (HC: 28 male, 24 female). Groups were compared by diagnosis, attempt status, and attempt lethality. ROIs were defined for areas reported to have structural or metabolic abnormalities in BPD, and included: mid-inf. orbitofrontal cortex, mid-sup temporal cortex, anterior cingulate, insula, hippocampus, amygdala, fusiform, lingual and parahippocampal gyri. Data were analyzed using optimized voxel-based morphometry implemented with DARTEL in SPM5, co-varied for age and gender, corrected for cluster extent (p < .001).

**Results:** Compared to HC, BPD attempters had significantly diminished gray matter concentrations in 8 of 9 ROIs, non-attempters in 5 of 9 ROIs. Within the BPD sample, attempters had diminished gray matter in Lt. insula compared to non-attempters. High lethality attempters had significant decreases in Rt. mid-sup. temporal gyrus, Rt. mid-inf. orbitofrontal gyrus, Rt. insular cortex, Lt. fusiform gyrus, Lt. lingual gyrus and Rt. parahippocampal gyrus compared to low lethality attempters.

**Conclusions:** Specific structural abnormalities discriminate BPD attempters from non-attempters and high from low lethality attempters.
Clinical correlates of suicidal thoughts in patients with advanced cancer
Spencer RJ, Ray A, Pirl WF, Prigerson HG (USA)
American Journal of Geriatric Psychiatry 20, 327-336, 2012

Objective: Cancer patients are at heightened risk of suicide. Clinical correlates of suicidal ideation in advanced cancer patients were examined to identify those at risk and to inform the development of interventions to reduce suicidal ideation in this vulnerable group.

Methods: Coping with Cancer (CwC) is an NCI- and NIMH-funded multiinstitutional investigation examining psychosocial influences on the quality of life and care of advanced cancer patients. Baseline face-to-face interviews that assessed mental and physical functioning, coping, spirituality, and use of mental health services were conducted with 700 advanced cancer patients.

Results: Compared with patients without suicidal ideation, the 8.9% of patients who reported suicidal thoughts were more likely to be white and report no affiliation with an organized religion ($p < 0.05$). Adjusted analyses revealed that cancer patients who met criteria for current panic disorder (adjusted odds ratio [95% confidence interval] 3.24 [1.01–10.4]) and posttraumatic stress disorder (3.97 [1.13–14.1]), who accessed mental health services (3.70 [2.07–6.67]), particularly psychotherapy (2.62 [1.20–5.71]), who were not feeling well physically, and who lacked a sense of self-efficacy, spirituality, and being supported were more likely than others to report thoughts of suicide ($p < 0.05$).

Conclusions: Advanced cancer patients who report suicidal thoughts are more likely to meet criteria for posttraumatic stress disorder and panic disorder, feel unsupported, lack a religious affiliation, spirituality, and a sense of self-efficacy, and experience more physical distress. Palliative care interventions that promote a sense of self-efficacy, spirituality, and support while minimizing physical distress may offer promise for reducing suicidal thoughts in this at-risk group.

The development of a population-level clinical screening tool for self-harm repetition and suicide: The ReACT Self-Harm Rule
Psychological Medicine. Published online: 7 March 2012. doi: 10.1017/S0033291712000347, 2012

Background: Self-harm is a common reason for Emergency Department (ED) attendance. We aimed to develop a clinical tool to help identify patients at higher risk of repeat self-harm, or suicide, within 6 months of an ED self-harm presentation.

Method: The tool, the ReACT Self-Harm Rule, was derived using multicentre data from a prospective cohort study. Binary recursive partitioning was applied to data from two centres, and data from a separate centre were used to test the tool. There were 29 571 self-harm presentations to five hospital EDs between January 2003 and
June 2007, involving 18,680 adults aged 16 years. We estimated sensitivity, specificity and positive and negative predictive values to measure the performance of the tool.

**Results:** A self-harm presentation was classified as higher risk if at least one of the following factors was present: recent self-harm (in the past year), living alone or homelessness, cutting as a method of harm and treatment for a current psychiatric disorder. The rule performed with 95% sensitivity [95% confidence interval (CI) 94-95] and 21% specificity (95% CI 21-22), and had a positive predictive value of 30% (95% CI 30-31) and a negative predictive value of 91% (95% CI 90-92) in the derivation centres; it identified 83/92 of all subsequent suicides.

**Conclusions:** The ReACT Self-Harm Rule might be used as a screening tool to inform the process of assessing self-harm presentations to ED. The four risk factors could also be used as an adjunct to in-depth psychosocial assessment to help guide risk formulation. The use of multicentre data helped to maximize the generalizability of the tool, but we need to further verify its external validity in other localities.

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**Gender roles, suicidal ideation, and self-harming in young adults**

Straiton ML, Roen K, Hjelmeland H (Norway)

*Archives of Suicide Research* 16, 29-43, 2012

This study investigates whether positive and negative conventional gender roles relate to suicidal ideation and self-harming in different ways among young adults. Participants completed an online survey about previous self-harm, recent suicidal ideation, and positive and negative aspects of conventional masculinity and femininity. Logistic regression analyses showed that negative femininity positively predicted self-harm and recent suicidal ideation status.Positive femininity was unrelated. Positive masculinity was negatively related to suicidal ideation and self-harming while negative masculinity was negatively related to self-harming only. The findings suggest that it is not the conventional feminine gender role per se that is associated with suicidality but specific negatively evaluated aspects. Conceptualizing gender as a multivariate construct may be useful in the gender socialization theory of suicidal behavior.

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**Social emotion recognition, social functioning, and attempted suicide in late-life depression**

Szanto K, Dombrovski AY, Sahakian BJ, Mulsant BH, Houck PR, Reynolds CF, Clark L (USA)

*American Journal of Geriatric Psychiatry* 20, 257-265, 2012

**Objectives:** Lack of feeling connected and poor social problem solving have been described in suicide attempters. However, cognitive substrates of this apparent social impairment in suicide attempters remain unknown. One possible deficit, the inability to recognize others’ complex emotional states has been observed not only in disorders characterized by prominent social deficits (autism-spectrum disorders and frontotemporal dementia) but also in depression and normal aging.
This study assessed the relationship between social emotion recognition, problem solving, social functioning, and attempted suicide in late-life depression.

**Design, Participants, Measurements:** There were 90 participants: 24 older depressed suicide attempters, 38 nonsuicidal depressed elders, and 28 comparison subjects with no psychiatric history. We compared performance on the Reading the Mind in the Eyes test and measures of social networks, social support, social problem solving, and chronic interpersonal difficulties in these three groups.

**Results:** Suicide attempters committed significantly more errors in social emotion recognition and showed poorer global cognitive performance than elders with no psychiatric history. Attempters had restricted social networks: they were less likely to talk to their children, had fewer close friends, and did not engage in volunteer activities, compared to nonsuicidal depressed elders and those with no psychiatric history. They also reported a pattern of struggle against others and hostility in relationships, felt a lack of social support, perceived social problems as impossible to resolve, and displayed a careless/impulsive approach to problems.

**Conclusions:** Suicide attempts in depressed elders were associated with poor social problem solving, constricted social networks, and disruptive interpersonal relationships. Impaired social emotion recognition in the suicide attempter group was related.

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**Patient suicides in psychiatric residencies and post-vention responses: A national survey of psychiatry chief residents and program directors**

Tsai A, Moran S, Shoemaker R, Bradley J (USA)

*Academic Psychiatry* 36, 34-38, 2012

**Objectives:** This report focuses on post-vention measures taken by U.S. psychiatry residencies when a resident-in-training experiences a patient suicide.

**Methods:** A survey distributed to program directors and chief residents obtained an estimate of the frequency of psychiatric residents’ experiencing a patient suicide and the frequency of numerous post-vention activities utilized by psychiatric residencies in 2008. The survey looked at the presence or absence of a post-vention protocol within a program and determined whether there was an effect on the number of patient suicides and the frequency of post-vention activities within a program. The data were compared with the results of a similar survey from 1994 to determine whether there had been significant progress in the practice of supportive post-vention activities within training institutions.

**Results:** There was a 21% response rate from chief residents (N = 54) and a 31.1% response rate from program directors (N = 94). Chief residents reported 1.44 suicides per residency, and program directors reported 0.88 suicides per residency for the 2008 calendar year. This corresponded to approximately 1 in 20 residents’ experiencing a patient suicide in the 12-month period. Both groups reported
approximately 1 in 5 psychiatry residency programs with written post-vention protocols, which was unchanged from the 1994 survey. When a protocol was in place, chief residents reported a statistically significant increase in timely notification of the program director, process groups, therapy or counseling, and emergency leave, whereas program directors reported a statistically significant decrease in post-vention therapy or counseling. Further statistical analysis revealed a tendency for programs with post-vention protocols to have more reported suicides.

**Conclusions:** Post-vention protocols may be developed by residencies as a need to address residents experiencing a patient suicide. Discrepancies in the reports of chief residents and program directors in post-vention activities may reflect a lack of consensus on post-vention training and education within psychiatric residencies.

**Does perceived burdensomeness erode meaning in life among older adults?**

Van Orden KA, Bamonti PM, King DA, Duberstein PR (USA)

_Aging & Mental Health_. Published online: 8 March 2012. doi: 10.1080/13607863.2012.657156, 2012

**Background:** Identification of risk factors for the loss of meaning in life among older adults is needed. In this article, we test hypotheses derived from the Interpersonal Theory of Suicide concerning the role of perceptions that one is a burden on others as a risk factor for lower meaning in life.

**Methods:** A prospective design was used to examine the temporal associations between perceptions of burdensomeness on others and perceived meaning in life among older adults (n = 65) seeking mental health treatment (primarily for depression and/or anxiety) at an outpatient geriatric mental health clinic. Participants completed self-report questionnaires within a month following intake. Follow-up questionnaires were completed over the phone two months later.

**Results:** Perceived burdensomeness predicted lack of meaning in life two months later, while accounting for depression severity. In contrast, baseline levels of meaning in life did not significantly predict the levels of burdensomeness at two months.

**Conclusion:** The findings suggest that burdensomeness may contribute to suicide morbidity and mortality in late-life by eroding meaning in life. Empirically supported treatments for late-life depression could be adapted to focus on perceptions of burdensomeness and its connections with meaning in life.

**A systematic review of validated methods for identifying suicide or suicidal ideation using administrative or claims data**

Walkup JT, Townsend L, Crystal S, Olfson M (USA)


As part of the Mini-Sentinel pilot program, under contract with the Food and Drug Administration, an effort has been made to evaluate the validity of algo-
rithms useful for identifying health outcomes of interest, including suicide and suicide attempt. Literature was reviewed to evaluate how well medical episodes associated with these events could be identified in administrative or claims data sets from the USA or Canada. Six studies were found to include sufficient detail to assess performance characteristics of an algorithm on the basis of International Classification of Diseases, Ninth Revision, E-codes (950-959) for intentional self-injury. Medical records and death registry information were used to validate classification. Sensitivity ranged from 13.8% to 65%, and positive predictive value range from 4.0% to 100%. Study comparisons are difficult to interpret, however, as the studies differed substantially in many important elements, including design, sample, setting, and methods. Although algorithm performance varied widely, two studies located in prepaid medical plans reported that comparisons of database codes to medical charts could achieve good agreement. Insufficient data exist to support specific recommendations regarding a preferred algorithm, and caution should be exercised in interpreting clinical and pharmacological epidemiological surveillance and research that rely on these codes as measures of suicide-related outcomes.

Childhood trajectories of anxiousness and disruptiveness explain the association between early-life adversity and attempted suicide

Wanner B, Vitaro F, Tremblay Re, Turecki G (Canada)

*Psychological Medicine.* Published online: 20 March 2012. doi:10.1017/S0033291712000438, 2012

**Background:** Suicidal behavior is frequently associated with a history of childhood abuse yet it remains unclear precisely how early life adversity may increase suicide risk later in life. As such, our aim was to examine whether lifetime trajectories of disruptiveness and anxiousness trait dysregulation explain the association between childhood adversity and suicidal behavior; and moreover, to test the potential modifying effects of mental disorders on these associations.

**Method:** A sample of 1776 individuals from a prospective school-based cohort followed longitudinally for over 22 years was investigated. We tested the influence of disruptiveness and anxiousness trajectories from age 6 to 12 years on the association between childhood adversity (i.e. sexual and physical abuse) and history of suicide attempts (SA) using logistic regression models. Both adolescent externalizing and internalizing Axis I disorders and gender were tested as potential modifiers of these associations.

**Results:** Four distinct longitudinal trajectories were identified for both disruptiveness and anxiousness. The high disruptiveness trajectory accounted for the association between childhood adversity and SA, but only for females. The high anxiousness trajectory also explained the association between adversity and SA; however, in this case it was not sex but mental disorders that influenced the potency of the mediating effect. More specifically, anxiousness fully explained the effect of adversity on SA in the presence of externalizing disorders, whereas in the
absence of these disorders, this effect was significantly attenuated.

**Conclusions:** This study provides evidence that both disruptiveness and anxiousness play an important role in explaining the relationship between childhood adversity and SA.

**The interaction of parental history of suicidal behavior and exposure to adoptive parents' psychiatric disorders on adoptee suicide attempt hospitalizations**

Wilcox HC, Kuramoto SJ, Brent D, Runeson B (USA)


**Objective:** The authors examined the risk of suicide attempt or other psychiatric hospitalization among adoptees whose biological parents died from or were hospitalized for suicidal behavior (BPSB) relative to adoptees whose biological parents had a psychiatric hospitalization but never for suicide attempt (BPPH). The authors examined whether risk was moderated by having an adoptive parent who had a psychiatric hospitalization during the adoptee’s childhood or adolescence.

**Method:** This retrospective cohort study used national longitudinal population-based Swedish registry data from 1973 to 2003 to identify 2,516 adoptees with BPSB and 5,875 adoptees with BPPH. Cox regression models compared the risk for suicide attempt and other psychiatric hospitalization in the two groups.

**Results:** The interaction of BPSB with adoptive mothers’ psychiatric hospitalization while the adoptee was younger than 18 years old increased the risk for an adoptee’s suicide attempt. Neither BPSB nor psychiatric hospitalization among adoptive mothers alone placed adoptees at greater risk for suicide attempt hospitalizations. The interaction results were specific to adoptee suicide attempt.

**Conclusions:** Exposure to the hospitalization of an adoptive mother because of a psychiatric disorder amplified an adoptee’s risk for suicide attempt hospitalization among those adoptees at high genetic risk of suicide or suicide attempt. These results imply that suicide attempts among those at biological risk might be prevented with the early recognition and care of parental psychiatric illness.

**Suicide and mental illness: A clinical review of 15 years findings from the UK National Confidential Inquiry into Suicide**

Windfuhr K, Kapur N (UK)

*British Medical Bulletin* 100, 101-121, 2011

**Introduction:** Suicide risk is most commonly associated with mental illness. In particular, suicide in people under mental health care presents distinct patterns of risk and opportunities for prevention due to their close proximity to specialist care.

**Sources of data:** The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Inquiry) is a unique UK-wide national database of all
Young people's beliefs about preventive strategies for mental disorders: Findings from two Australian national surveys of youth

Yap MB, Reavley N, Jorm AF (Australia)
Journal of Affective Disorders 136, 940-947, 2011

**Background:** Political interest in prevention of mental illness has increased in recent years. However, relatively little is known about the public’s beliefs about prevention, and the predictors of these beliefs. Since many disorders start in the first decades of life, a focus on young people is warranted.

**Methods:** Young people’s prevention beliefs were assessed by a national telephone survey of 3746 Australian youths aged 12–25 years in 2006. A similar survey was repeated in 2011 with 3021 youths aged 15–25. In both surveys, respondents were presented with a vignette portraying depression, psychosis, social phobia, or depression with alcohol abuse in a young person. The 2011 survey also included depression with suicidal thoughts and post-traumatic stress disorder. Respondents rated the helpfulness of seven potential prevention strategies, and reported on any experience of mental health problems and treatment in the past year, exposure to beyondblue and mental health information at school or work.

**Results:** Most respondents believed that regular contact with friends and family and regular physical activity would be helpful. Respondents who had recently experienced mental health problems, younger respondents, females, and those not exposed to beyondblue or mental health information were more likely to hold beliefs that differed from those of health professionals or available evidence. No significant changes were observed between surveys.
Limitations: Actual preventive actions and reasons behind respondents’ beliefs were not assessed.

Conclusions: Future prevention efforts should target subgroups with beliefs that differ from professionals and research evidence. Beyondblue and school and work settings may be promising avenues for these efforts.

A study of deliberate self-harm and its repetition among patients presenting to an emergency department

Yip PS, Hawton K, Liu K, Liu KS, Ng PW, Kam PM, Law YW, Wong TW (China)
Crisis 32, 217–224, 2011

Background: Marked differences have been found in the characteristics of people dying by suicide in Western and Asian countries. However, there is less information available on possible differences for deliberate self-harm (DSH).

Aims: To compare the characteristics of people presenting to hospital in Hong Kong and Oxford (UK) with DSH, and to assess the outcome of those persons in Hong Kong.

Methods: A sample of DSH patients admitted to the accident and emergency (A&E) department of a regional hospital in Hong Kong was assessed and followed up 6 months later to assess the risk of repetition of DSH, and was then compared with such patients in Oxford.

Results: The majority of patients in Hong Kong were female (male:female ratio of 1:2.4), young (59% were under 35), and had used self-poisoning (78%). Over one-third were single (37%) and one-fourth unemployed (26%). About half (49%) scored in the high or very high categories of the Beck’s Suicide Intent Scale, considerably more so than in Oxford; 44.6% of patients defaulted psychiatric outpatient service during the 6-month follow-up period. The repetition rate within the following 6 months was 16.7%. The number of self-reported adverse life problems, history of childhood sexual and physical abuse, and repetitive self-mutilation were shown to be the factors most strongly correlated with the risk of re-attempt. Alcohol problems were much lower than in Oxford.

Conclusions: The findings show that DSH patients in Hong Kong show some marked differences compared to those in Oxford. Implications for the prevention of repeated DSH in Hong Kong are discussed.
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