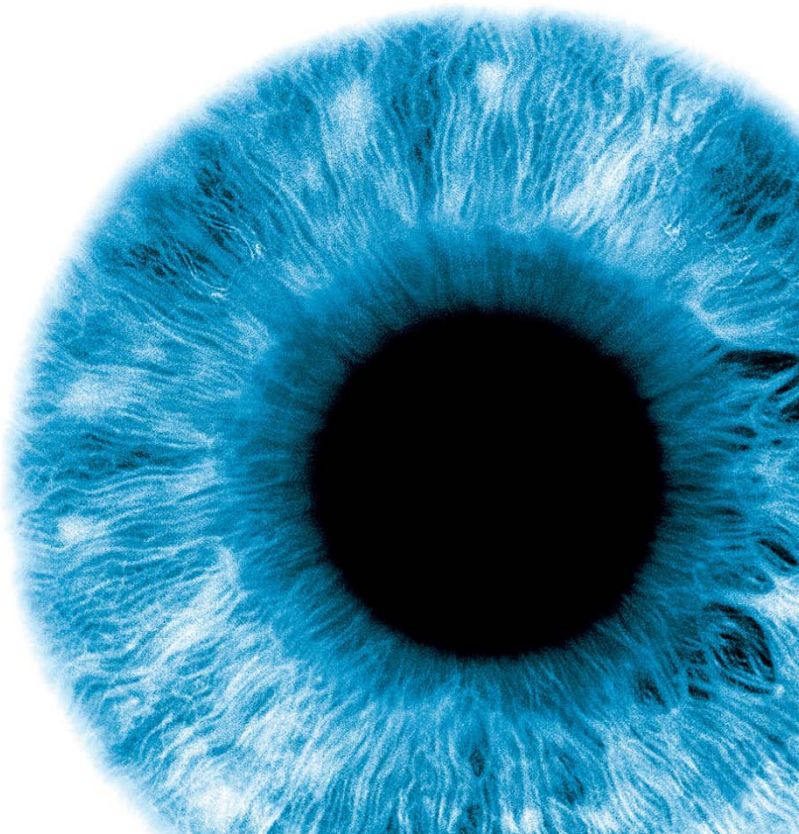
NICE National Institute for Health and Care Excellence

Self-harm: longer term management

Evidence Update April 2013

A summary of selected new evidence relevant to NICE clinical guideline 133 'Self-harm: longer term management' (2011)

Evidence Update 39



Evidence Updates provide a summary of selected new evidence published since the literature search was last conducted for the accredited guidance they relate to. They reduce the need for individuals, managers and commissioners to search for new evidence. Evidence Updates highlight key points from the new evidence and provide a commentary describing its strengths and weaknesses. They also indicate whether the new evidence may have a potential impact on current guidance. For contextual information, this Evidence Update should be read in conjunction with the relevant clinical guideline, available from the NICE Evidence Services topic page for self-harm.

Evidence Updates do not replace current accredited guidance and do not provide formal practice recommendations.

NICE Evidence Services are a suite of services that provide online access to high quality, authoritative evidence and best practice.

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Introduction

This Evidence Update identifies new evidence that is relevant to, and may have a potential impact on, the following reference guidance:

[1] **Self-harm: longer-term management. NICE clinical guideline 133 (2011).**

A search was conducted for new evidence from 25 January 2011 to 24 October 2012. A total of 926 pieces of evidence were initially identified. Following removal of duplicates and a series of automated and manual sifts, 11 items were selected for the Evidence Update (see Appendix A for details of the evidence search and selection process). An Evidence Update Advisory Group, comprising topic experts, reviewed the prioritised evidence and provided a commentary.

Although the process of updating NICE guidance is distinct from the process of an Evidence Update, the relevant NICE guidance development centres have been made aware of the new evidence, which will be considered when guidance is reviewed.

Feedback

If you have any comments you would like to make on this Evidence Update, please email contactus@evidence.nhs.uk

[1] NICE-accredited guidance is denoted by the Accreditation Mark

Key points

The following table summarises what the Evidence Update Advisory Group (EUAG) decided were the key points for this Evidence Update. It also indicates the EUAG's opinion on whether the new evidence may have a potential impact on the current guidance listed in the introduction. For further details of the evidence behind these key points, please see the full commentaries.

The section headings used in the table below are taken from the guidance.

Evidence Updates do not replace current accredited guidance and do not provide formal practice recommendations.

	Potential impact on guidance	
Key point	**Yes**	**No**
Primary care		
• Asking about suicidal ideation in people with signs of depression does not appear to increase feelings that life is not worth living.		✓
Psychosocial assessment in community mental health services and other specialist mental health settings: integrated and comprehensive assessment of needs and risks		
• There appears to be consistency in the predictive value of risk assessments for self-harm between junior psychiatrists and mental health nurses.		✓
• Limited evidence suggests that among those attempting suicide, taking precautions against discovery of the attempt may be a predictor of eventual suicide.		✓
• Evidence suggests that the SAD PERSONS and modified SAD PERSONS scales are poor predictors of future suicide attempts.		✓
Longer-term treatment and management of self-harm		
• An assertive outreach intervention does not appear to reduce subsequent suicide attempts versus standard treatment.		✓
• Problem-solving therapy to prevent self-harm does not appear to be more effective than usual care among people presenting with self-harm for the first time, but it may be more effective for those presenting with recurrent self-harm.		✓
• An outreach, problem solving, adherence, and continuity intervention may potentially reduce repeated suicide attempts, but further research is needed.		✓
• Evidence from a non-Western setting suggests that postcard communication following self-poisoning may reduce suicidal ideation and suicide attempts compared with treatment as usual.		✓
• There is a general insufficiency of evidence for the effectiveness of interventions for self-harm and suicide among adolescents and further research is needed.		✓
• A year-long mentalisation-based treatment programme may be more effective than treatment as usual in reducing self-harm among adolescents, but further research is needed.		✓

1 Commentary on new evidence

These commentaries analyse the key references identified specifically for the Evidence Update. The commentaries focus on the 'key references' (those identified through the search process and prioritised by the EUAG for inclusion in the Evidence Update), which are identified in bold text. Supporting references provide context or additional information to the commentary. Section headings are taken from the guidance.

1.1 General principles of care

No new key evidence was found for this section.

1.2 Primary care

Impact of asking questions about suicide

NICE clinical guideline (CG) 133 recommends that when assessing the risk of repetition of self-harm or risk of suicide, the specific risks for the person who self-harms should be identified and agreed, taking into account factors including current and past suicidal intent.

A multicentre, single-blind, randomised controlled trial (RCT; n=443) in London, UK reported by **Crawford et al. (2011)** assessed whether asking about suicide (including direct questions about suicidal ideation) could itself affect mental health. People aged over 18 years registered at 4 GP practices were assessed for depression using a 2-item questionnaire. People were asked if, over the last month they had felt bothered by: 'feeling down, depressed or hopeless', or 'little interest or pleasure in doing things' (the same 2 questions as recommended by 'Depression in adults' [NICE CG90]). Those who responded 'yes' to either question were asked to consent and take part in the study. Participants were told that the trial was to evaluate 'health and emotional problems'; no mention was made of depression, suicidal thoughts, or behaviour.

Those agreeing to participate (mean age=49 years, 69% female) were randomised to questions about suicidal ideation (n=213), or to questions on health and lifestyle (n=230). All study participants received 2 telephone interviews 10 to 14 days apart. During the first interview the questionnaire for depression was repeated, and mental health was assessed using the 12-item General Health Questionnaire (a score of 3 or more indicated a positive psychiatric case). In addition, participants in the suicidal ideation group were asked 6 questions on suicidal ideation and behaviour in the preceding 2 weeks, and whether people close to them had displayed any suicidal behaviour. The control group were asked 6 health and lifestyle questions. Follow-up interviews were conducted by a different researcher blinded to treatment group, and all participants were asked the 6 questions on suicidal ideation and behaviour. Follow-up data on the primary outcome (whether being asked about suicidal ideation had a short-term impact on the extent to which people felt that their life was not worth living) were retrieved from 351 (79%) participants.

From an intention-to-treat analysis, at the 2-week interview no differences between the suicidal ideation questions group and the health and lifestyle questions group were seen in terms of the proportion of participants reporting that: their life was not worth living (odds ratio [OR]=1.23, 95% confidence interval [CI] 0.76 to 1.98); they wished they were dead (OR=1.01, 95% CI 0.61 to 1.66); or they had thought of taking their life (OR=1.36, 95% CI 0.72 to 2.54).

Limitations of the study included that: the population was not specifically people who self-harmed; the study was small and insufficiently powered to explore differences in subgroups; baseline levels of suicidal ideation could not be collected from those in the health and lifestyle

group (which would have undermined the study design); the results may have been specific to the trial population (all participants were recruited from inner city practices and 40% were unemployed); and telephone interviews may have given different results from the usual clinical approach of face-to-face interviews.

The results suggest that questions about suicidal ideation in people who have signs of depression do not appear to increase feelings that life is not worth living. The evidence appears to be consistent with NICE CG133 and suggests that asking about suicidal ideas is not harmful.

Key reference

Crawford MJ, Thana L, Methuen C et al. (2011) Impact of screening for risk of suicide: randomised controlled trial. British Journal of Psychiatry 198: 379–84

1.3 Psychosocial assessment in community mental health services and other specialist mental health settings: integrated and comprehensive assessment of needs and risks

Risk assessment by psychiatrists versus mental health nurses following self-harm

NICE CG133 defines a risk assessment as a detailed clinical assessment that includes the evaluation of a wide range of biological, social and psychological factors that are relevant to the individual and, in the judgement of the healthcare professional conducting the assessment, relevant to future risks, including suicide and self-harm. It does not however make any specific distinction about the type of healthcare professionals who should perform the assessment.

A prospective cohort study in Manchester, UK reported by **Murphy et al. (2010)** evaluated the predictive ability of risk assessments by psychiatrists (n=865) compared with mental health nurses (n=2626) following hospital presentation of self-harm in people aged 16 years or over (median age=31 years, 59% female). Mental health nurses worked daytime hours in an emergency department, or in a specialist self-harm team. Psychiatrists were almost exclusively junior doctors (>99%), who were undertaking specialist psychiatry training and worked an out-of-hours on-call system. The objectives were to compare the 2 groups regarding the: positive predictive value of their risk assessments for subsequent self-harm; factors that informed their assessments; and immediate clinical management of participants assessed as high risk. Data were taken from emergency department psychiatric forms (which included a prompt to record the risk of further self-harm as either 'low', 'moderate', or 'high'). The positive predictive value of risk assessments was measured by repeat occurrence of self-harm and re-presentation to hospital within 12 months. To compare factors associated with different levels of risk rating by professional group, 12 key risk factors for repeat self-harm were identified from previous research.

The 12-month repetition rate of self-harm was similar between those assessed by mental health nurses (15.3%, 95% CI 13.8 to 17.0) and psychiatrists (14.8%, 95% CI 12.1 to 17.8). Mental health nurses identified more participants as high risk (11%) compared with psychiatrists (8%, p=0.02), but sensitivity in terms of correct identification of repeaters as high risk at initial assessment was not significantly different between groups (18% versus 12%, p=0.19). Most of the known risk factors for repeat self-harm had significant associations with an assessment of high risk by both assessor groups ($p<0.05$). Suicidal thoughts, suicidal plans, psychosis, previous self-harm, homelessness and being registered as sick or disabled were all correlated with an assessment of high risk by both nurses and psychiatrists.

In a model controlling for case-mix differences, among those deemed at high risk, significantly more people were admitted as inpatients by psychiatrists than by mental health nurses (35% versus 6%; relative risk [RR]=4.3, 95% CI 2.4 to 7.7, no p value reported), but there was no significant difference in outpatient referrals.

Limitations of the evidence included that: people were not randomly allocated to assessment groups; differences in working patterns of the psychiatrists and nurses may have affected results (for example, psychiatrists were more likely to assess people outside office hours [p<0.01] when fewer clinical options may have been available); the nurses in the study had specific experience and training in self-harm which may limit external validity of the data to less specialised nursing teams; clinical referrals may have influenced the number of repeat self-harm incidents (although results did not show a difference in repetition of self-harm between those referred for inpatient and outpatient treatment); and there was no collection of data for repeat self-harm incidents in the community.

The evidence suggests that there appears to be consistency in the predictive value of risk assessments for self-harm between junior psychiatrists and mental health nurses (although psychiatrists may be more likely to make inpatient admissions). However, study limitations (particularly regarding the specialism of the nurses, and lack of randomisation to assessment groups) mean that findings may need wider corroboration in other settings. This evidence is unlikely to have implications for NICE CG133.

Key reference

Murphy E, Kapur N, Webb R et al. (2010) Risk assessment following self-harm: comparison of mental health nurses and psychiatrists. Journal of Advanced Nursing 67: 127–39

Prediction of suicide

NICE CG133 recommends taking into account current and past suicidal intent within a detailed clinical assessment.

A retrospective cohort study from Philadelphia, USA reported by **Wenzel et al. (2011)** examined predictors of suicide in participants followed up in 2005 who had been hospitalised for suicide ideation (n=207) or suicide attempt (n=499) between 1970 and 1975. Deaths were identified through the National Center for Health Statistics' National Death Index and were classified as suicide only if it was coded as such.

By 2005, there were 297 confirmed deaths including 55 suicides (8% of original sample, 19% of confirmed deaths) and 15 questionable or undetermined suicides. Nearly half (49%) of those who died by suicide did so within 5 years of being admitted to hospital. In multivariate analysis, those people who took active precautions against being discovered during their index suicide attempt were significantly more likely to die by subsequent suicide compared with those people who did not (OR=4.58, 95% CI 1.21 to 17.33, p=0.025). The odds of suicide for participants aged over 30 years were significantly less than for those aged under 30 years (OR=0.34, 95% CI 0.15 to 0.76, p=0.008), and African-American participants were less likely to die by suicide than white people (OR=0.26, 95% CI 0.11 to 0.61, p=0.002). Education level, psychotic disorder diagnosis, and endorsement of suicidal thoughts and wishes on the Beck Depression Inventory were not significant predictors.

Limitations of the evidence included that: the number of deaths by suicide after 30 years was still relatively low, which may limit the power to detect significant predictors; some of the variables under consideration described only a small number of people; the finding that people who took precautions against discovery were at high risk for eventual suicide only applied to participants who were hospitalised for suicide attempts rather than suicide ideation; and there was a possibility that suicides were under-reported or misclassified.

The results suggest that there may be factors predictive of death by suicide, particularly that taking precautions against the discovery of a suicide attempt may be a predictor of eventual suicide (which was also noted as a potential predictive factor in the full version of NICE CG133). However, limitations of the evidence mean that it is unlikely to have any additional impact on the recommendations in NICE CG133 that current and past suicidal intent should be assessed.

The importance of comprehensive assessments was reinforced by a recent cohort study by Bergen et al. (2012), which concluded that life expectancy and physical health appeared to be severely compromised in individuals who had self-harmed.

Key reference

Wenzel A, Berchick ER, Tenhave T et al. (2011) Predictors of suicide relative to other deaths in patients with suicide attempt and suicide ideation: a 30-year prospective study. Journal of Affective Disorders 132: 375–82

Supporting reference

Bergen H, Hawton K, Waters K et al. (2012) Premature death after self-harm: a multicentre cohort study. Lancet 380: 1568–74

Risk assessment tools

NICE CG133 recommends that risk assessment tools and scales to predict future suicide or repetition of self-harm should not be used.

A prospective cohort study (n=4019) reported by **Bolton et al. (2012)** evaluated the ability of the SAD PERSONS scale and the modified SAD PERSONS scale to predict suicide attempts. All consecutive adult referrals to psychiatric services in the 2 largest tertiary care hospitals in Manitoba, Canada were included. There were no exclusion criteria. All referrals were interviewed by a psychiatric resident who completed the SAFE Database Study form (Suicide Assessment form in Emergency Psychiatry), which included the 2 SAD PERSONS scales and the Columbia Classification Algorithm of Suicide Assessment (C-CASA).

SAD PERSONS is a 10-item scale (assessing: sex, age, depression, previous attempts, ethanol abuse, rational thinking loss, social support, organised plan, no spouse, and sickness) giving a score out of 10 which translates to a low, moderate, or high suicide risk. Modified SAD PERSONS is also a 10-item scale (but with the item 'sickness' replaced with 'stated future intent', and with weighting of certain risk factors) giving scores out of 14 which then also translate to a low, moderate or high risk. C-CASA classifies suicidal behaviour into 8 mutually exclusive categories. Based on C-CASA results, 2 groups were established: people presenting with suicide attempts, and people with no suicidal ideation or behaviour (reference group). The main outcomes were current suicide events (defined by C-CASA) and future suicide events (defined as people who had any index presentation and then presented within 6 months with a suicide attempt).

At baseline 4019 people (48% female) presented to emergency psychiatric services (14% with a suicide attempt, 31% with suicidal ideation, 43% with no suicidal ideation, and the remainder classified into other C-CASA groups such as 'self-injury, no suicidal intent'). Of these, 87 people (2.2%) were seen again by psychiatrists with a suicide attempt within 6 months of their previous assessment.

From binary logistic regression analysis, high-risk scores on both scales had a low sensitivity (namely greater chance of a false negative result) for identifying current suicide attempts (24% for SAD PERSONS and 41% for modified SAD PERSONS), and for predicting future suicide attempts (20% for SAD PERSONS and 40% for modified SAD PERSONS) compared with low-risk scores. From receiver operating characteristic curve analysis, when predicting future suicide attempt presentations within 6 months, the SAD PERSONS scale appeared to be no better than chance (area under the curve=0.57, 95% CI 0.51 to 0.64). Modified SAD

PERSONS performed better, but still had low accuracy (area under the curve=0.61, 95% CI 0.55 to 0.68).

Limitations of the evidence included that: the study only examined the outcome of suicide attempts so results will not directly apply to predicting completed suicide (which has a much lower incidence rate); data for suicide attempts was restricted to people who re-presented to the trial hospitals only and so did not capture suicide attempts among people who went to different hospitals or did not attend hospital; suicide attempts may have been incorrectly classified; and there may also have been unmeasured factors that linked initial and subsequent presentations to the emergency psychiatric services.

Although methodologically limited, the evidence suggests that both the SAD PERSONS and modified SAD PERSONS scales have poor predictive ability for future suicide attempts. This appears to be consistent with recommendations in NICE CG133 that risk assessment scales should not be used to predict future suicide.

Key reference

Bolton JM, Spiwak R, Sareen J et al. (2012). Predicting suicide attempts with the SAD PERSONS scale: a longitudinal analysis. Journal of Clinical Psychiatry 73: e735–e741

1.4 Longer-term treatment and management of self-harm

Interventions for self-harm

NICE CG133 recommends considering 3 to 12 sessions of a psychological intervention that is specifically structured for people who self-harm, with the aim of reducing self-harm. In addition:

- The intervention should be tailored to individual need, and could include cognitive-behavioural, psychodynamic or problem-solving elements.
- Therapists should be trained and supervised in the therapy they are offering to people who self-harm.
- Therapists should also be able to work collaboratively with the person to identify the problems causing distress or leading to self-harm.

Assertive outreach

A parallel group superiority RCT (n=243) in Copenhagen, Denmark by **Morthorst et al. (2012)** evaluated whether an assertive outreach intervention after a suicide attempt reduced future suicide attempts. Included patients were those aged 12 years or older (including people with severe personality disorders, alcohol misuse, or with no offer of subacute treatment meeting the need for suicide prevention), admitted to intensive care, paediatric, or emergency (including psychiatric emergency) units after a suicide attempt in the last 14 days. Patients with self-injury such as cutting were included only if they also met the definition of non-habitual behaviour. People were excluded if they: had schizophrenia spectrum disorders, severe depression, severe bipolar disorder, and severe dementia; or were receiving outreach services from social service agencies, or resident in institutions.

Patients (mean age=31 years, 76% female) were randomised to standard treatment or to the 'assertive intervention for deliberate self-harm' (AID) intervention. Standard treatment consisted of referral to relevant treatments following psychiatric evaluation (such as psychotherapy or treatment for alcohol abuse). The AID intervention involved case management with crisis intervention, problem solving, assertive outreach through motivational support, and assisting participants to and from appointments to improve compliance. It included 8 to 20 consultations over 6 months with psychiatric nurses trained in suicidology, in addition to standard treatment. Family consultations were also offered to adolescents and their relatives, and frequency of contact was intensified at stressful times. A minimum of

4 personal contacts was defined as adherence to treatment. In both study groups, drug treatment was continued or prescribed as relevant, and participants who were not abusing substances and not receiving other ongoing treatments were also offered 6 to 8 therapy sessions by the Copenhagen Centre of Excellence in Suicide Prevention.

Data for repeated suicide attempts, and death by suicide, were recovered from hospital registration, medical records, and self-reported data. Services received by each of the patients in the AID group included a median of 9 home consultations, 1 attendance to healthcare services, and several phone calls (12 to patients and relatives, 2.5 to healthcare and 5 to social services). The services provided also included a total of 91 crisis interventions (such as phone calls when severe suicidal impulses were present).

During 1-year follow-up, there was no difference in the number of suicide attempts between the AID and the standard care groups based on either hospital records (20/123 versus 13/120 respectively; OR=1.60, 95% CI 0.76 to 3.38, p=0.22), or self-reported data (11/95 versus 13/74 respectively; OR=0.61, 95% CI 0.26 to 1.46, p=0.27). Analyses following imputation of missing data for the self-reported outcomes, or combining hospital with self-reported data, did not significantly alter results.

Limitations of the evidence included that: the treatment available to those in the control group, particularly the 6 to 8 therapy sessions by the Copenhagen Centre of Excellence in Suicide Prevention, could potentially have lessened the relative impact of the AID intervention (although qualifying participants from both groups were able access these sessions); findings may not apply to patients with any of the psychiatric disorders that were excluded from the trial; differing levels of baseline antidepressant use between groups may have been a source of bias (although adjustment for this did not indicate any); the study may not have been powered to detect the smaller differences between groups present in the trial; and there was some disagreement between hospital and self-reported data which may have been a result of underestimation or overestimation of suicide attempts in self-reports.

The evidence suggests that an assertive outreach intervention does not appear to reduce the frequency of subsequent suicide attempts when compared with standard treatment. It is therefore unlikely to have an impact on NICE CG133.

Key reference

Morthorst B, Krogh J, Erlangsen A et al. (2012) Effect of assertive outreach after suicide attempt in the AID (assertive intervention for deliberate self harm) trial: randomised controlled trial. BMJ 345: e4972

Problem-solving therapy

A Zelen RCT (randomisation performed before informed consent is given) from New Zealand reported by **Hatcher et al. (2011)** evaluated the effect of problem-solving therapy in adults presenting to hospital with self-harm (defined as intentional self-poisoning or self-injury, irrespective of motivation). Participants were eligible if they: were not at school and not cognitively impaired; were aged over 16 years; were not receiving therapy for borderline personality disorder; had a management plan which precluded short-term therapy; and had not been admitted to a psychiatric unit following the index presentation for longer than 48 hours. After a psychosocial assessment from a mental health clinician, a research therapist determined eligibility. Patients (mean age=34 years, 69% female) were then randomised to problem-solving therapy plus usual care (n=522, of whom 253 consented), or usual care alone (n=572, of whom 299 consented).

Problem-solving therapy consisted of at least 4, and up to 9 sessions (including problem orientation, problem listing and definition, brainstorming, and devising an action plan) starting as soon as possible after the index episode and lasting for up to 3 months. The clinicians delivering therapy received 1 week of training in problem-solving therapy, and weekly group supervision and fortnightly individual supervision. Usual care was variable and consisted of referral to multidisciplinary teams (for psychiatric or psychological intervention), mental health

crisis teams, alcohol and drug treatment centres, or other services. Data were gathered from patients both by researchers masked to treatment allocation, and from hospital records. Follow up-data on hospital re-presentation were obtained for 100% of randomised patients. The primary outcome was presentation to hospital with self-harm in the 12 months following index presentation.

After a year, there were 120 presentations of self-harm in the problem-solving group and 124 in the usual care group. In an intention-to-treat analysis, among patients whose index episode was their first presentation for self-harm, there was no significant difference in the proportion of repeat self-harm between the groups (p=0.37). However, for those initially presenting with repeat self-harm, problem-solving therapy was associated with significantly less re-presentation at 12 months (RR=0.39, 95% CI 0.07 to 0.60, p=0.03). Among this sub-group, there was also a significantly shorter time to repetition of self-harm (hazard ratio [HR]=0.58, 95% CI 0.36 to 0.94, p=0.03) than usual care (the authors' explanation was that once this group had started therapy, they were unlikely to present again so most re-presentations occurred before starting therapy or in the first few sessions). Findings were consistent for hospital re-presentations, self-reported self-harm, and in a per protocol analysis comparing participants who had given consent.

One potential limitation of the study related to the Zelen design of asking for consent after randomisation. This introduced the possibility of selection bias as those who consented to the 2 arms may have differed from one another in some way. However in this trial, those consenting to problem solving had poorer prognostic markers at baseline than those consenting to usual care, which may add weight to the significant differences observed.

The data suggest that although problem-solving therapy appeared to be no more effective than usual care in preventing repetition of self-harm among people presenting with self-harm for the first time, for those presenting with recurrent self-harm it may be more effective than standard care. These benefits are broadly consistent with the recommendation in NICE CG133 that potential interventions to be considered for self-harm could include problem solving.

Key reference

Hatcher S, Sharon C, Parag V et al. (2011) Problem-solving therapy or people who present to hospital with self-harm: Zelen randomised controlled trial. British Journal of Psychiatry 199: 310–16

An outreach, problem solving, adherence, and continuity intervention

In addition to the psychological interventions recommended by NICE CG133, the guideline also recommends that health and social care professionals should maintain continuity of therapeutic relationships wherever possible, and should receive support from senior colleagues in consideration of the emotional impact of self-harm on the professional.

A single-blind RCT from Copenhagen, Denmark by **Hvid et al. (2011)** compared an outreach, problem solving, adherence, and continuity intervention (OPAC; n=69) with TAU (n=64) in preventing repeated suicide attempts. People aged 12 years or over who presented with attempted suicide at the emergency room or clinical departments of a single hospital were included. Exclusion criteria (based on diagnosis by 2 separate psychiatrists) were: schizophrenia and psychotic states; bipolar affective disorder and severe or psychotic depression; intellectual disability; and severe dementia.

Participants (mean age=37 years, 71% women, 94% of suicide attempts classed as non-violent, such as self-poisoning and drowning) were randomised to either the OPAC intervention or TAU. OPAC (based on the Norwegian Baerum Model) comprised active outreach, rapid response, tailored contact, solution-focused counselling, support for adherence to therapy, and contact with the same nurse throughout the programme where possible. It was delivered via home visits and other contact (such as telephone or text messages) by a hospital-based team of 1 consultant psychiatrist and 2 nurses (who

themselves received regular psychological supervision). Follow-up visits were maintained after hospital discharge, by personal contact, telephone calls, letters, text messages, and e-mails. The TAU group (following initial psychiatric assessment) did not receive any services as part of the study, and on discharge following the index suicide attempt were recommended to visit their GP for referral to psychiatric or psychological therapy if deemed appropriate.

During the 6-month intervention period and 6-month observation period, data for the primary outcome of repetition of a suicidal act were verified by an independent clinical event committee of 3 psychiatrists (blinded to treatment allocation), and completed suicide was verified by the coroner's office. The average number of home visits in the OPAC group was 8 (range 3 to 22) and the range of number of contacts per person was 5 to 36.

From an intention-to-treat analysis, at the end of the 12-month study period, significantly fewer participants receiving OPAC repeated a suicidal act (n=6, including 2 drop-outs) compared with TAU (n=14, including 2 drop-outs; p=0.04). There were 2 suicides in the OPAC group (including 1 drop-out) and 1 suicide in the TAU group. Previous suicidal behaviour was significantly associated with suicide attempts, but OPAC retained a significant effect when controlling for this (p=0.04).

Limitations of the evidence included that: the Danish setting may reduce the applicability of evidence to the UK; conclusions were limited by the relatively small size of the trial and the small number of events (particularly suicides) involved; there was no effect of OPAC in a sub-analysis of males therefore results may potentially be applicable to women only; TAU appeared to be very sparse in the study which may have enhanced the apparent effect of the intervention; OPAC was described by the authors as 'a flexible sort of enhanced care' which makes it difficult to express as a specific formula and increases its sensitivity to personal factors; and the authors also indicated that the included patients were quite heterogeneous, which although may better represent the spectrum of patients who self-harm, makes the applicability of the evidence to specific groups more difficult to interpret. The authors additionally noted that the effect of OPAC was mainly seen in the 6 months after the intervention had ended, and further study may be needed to examine this delay.

The data suggest that an OPAC intervention (based on the Norwegian Baerum Model) may potentially reduce repeated suicide attempts after 12 months. The nature of the intervention is consistent with some recommendations in NICE CG133 (such as the focus on continuity of care and psychological supervision of professionals) but differed from the guideline in that the main effects were observed after 6 months and the intervention had a strong focus on continuing personalised contact over a period of time (whereas current recommendations state only 3 to 12 sessions should be offered). However, limitations of the evidence mean that further research is needed (for example, to validate results in a UK setting against usual treatment) and therefore this evidence is currently unlikely to have an impact on NICE CG133.

Key reference

Hvid M, Vangborg K, Sørensen HJ et al. (2011) Preventing repetition of attempted suicide-II. The Amager project, a randomized controlled trial. Nordic Journal of Psychiatry 65: 292–8

Postcard intervention

NICE CG133 does not make any recommendations for interventions involving the use of postcards to communicate with people who self-harm.

An RCT (n=2300) by **Hassanian-Moghaddam et al. (2011)** in Tehran, Iran examined whether a postcard intervention reduced suicidal behaviour. Participants aged 12 years or over admitted to a specialist poisons hospital with self-poisoning (which was not recreational, habitual misuse, accidental, or caused by medical treatment) were included. Exclusion criteria were treatment only in the emergency department, psychosis, and having no fixed address.

Participants (mean age=24.1 years, 66% female) were randomised to the postcard intervention plus treatment as usual (TAU; standard follow-up for self-poisoning) or TAU only. In the intervention, postcards (in the form of a 4-page greeting card, each with a different message) were mailed at 1, 2, 3, 4, 6, 8, 10, and 12 months after discharge, and also on the participant's birthday. The first postcard enclosed a return envelope to make contact, change contact details, or withdraw from the study. Participants received replies to any questions or requests in the subsequent postcard. Data were obtained via a questionnaire asking direct questions about the 3 primary outcomes: suicidal ideation, suicide attempts, and self-cutting. Data were validated against hospital records only for suicide events with hospitalisation.

At 12 months, there was a significant reduction among the postcard group compared with TAU in the proportion of those with suicidal ideation (relative risk reduction [RRR]=0.31, 95% CI 0.22 to 0.38), proportion of suicide attempts (RRR=0.42, 95% CI 0.11 to 0.63), and number of suicide attempts per person (incidence rate ratio[IRR]=0.64, 95% CI 0.42 to 0.97). There was no significant reduction in self-cutting (RRR=0.14, 95% CI −0.29 to 0.42), or self-cutting events per person (IRR=1.03, 95% CI 0.76 to 1.39). The number of participants reporting no out-patient follow-up was similar in the postcard group (750) and TAU group (779).

One methodological consideration with this study was its non-Western setting which may significantly affect the applicability of results to the UK, for example: the authors noted that follow-up care for self-poisoning in Tehran is generally poor (for example, public and private sector care is not coordinated, and community-based programmes are rare); rates of suicide attempts in the study (3.0% with the intervention and 5.1% with control) were much lower than those seen in the UK; and cultural differences may further complicate interpretation of results. Other limitations included that some outcome data were collected via questionnaire and the research psychologist administering it was not masked to allocation.

Although the data suggest that a postcard intervention may reduce suicidal ideation and suicide attempts compared with TAU, the limitations of the study (particularly differences between the Iranian setting and the UK) mean that the evidence is unlikely to have an impact on NICE CG133. It should be noted that studies of postcard interventions from Australia and New Zealand were examined in the full version of NICE CG133, which concluded that there was insufficient evidence to determine clinical effects between interventions and routine care.

Key reference

Hassanian-Moghaddam H, Sarjami S, Kolahi A-A et al. (2011) Postcards in Persia: randomised controlled trial to reduce suicidal behaviours 12 months after hospital-treated self-poisoning. British Journal of Psychiatry 198: 309–16

Self-harm in adolescents

NICE CG133 does not make any specific recommendations about treatment interventions for self-harm in adolescents, but does recommend that children and young people who self-harm should have access to the full range of treatments and services recommended in the guideline within child and adolescent mental health services.

General interventions for self-harm and suicide

Two reviews recently examined interventions for self-harm and suicide among adolescents.

A systematic review by **Ougrin et al. (2012)** evaluated the effectiveness of interventions in reducing self-harm repetition in adolescents presenting with self-harm (defined as self-poisoning or self-injury, irrespective of the intent). RCTs in adolescents up to the age of 18 years who had self-harmed at least once were included. Studies were excluded if adolescents with self-harm were a minority of the study population or if self-harm occurred exclusively in the context of neurodevelopmental disorders. A total of 14 RCTs were identified (n=2036), which examined: developmental group psychotherapy (3 trials); youth nominated support teams (2 trials); problem-solving; cognitive behavioural therapy (CBT); home-based

family therapy; cognitive analytic therapy; attachment-based family therapy; therapeutic assessment for self-harm; emotion regulation group training; issuing tokens allowing readmission; and family intervention for suicide prevention.

A second systematic review by **Robinson et al. (2011)** evaluated interventions for adolescents and young adults who presented to a clinical setting with suicidal ideation, suicidal attempts, or deliberate self-harm. RCTs of interventions among people aged between 12 and 25 years, or interventions aimed at clinicians dealing with young people at risk, were included. Non-suicidal self-harm was excluded. A total of 15 published studies (n=1853) were included that assessed: individual-based psychological therapies (5 trials); group-based psychological therapies (3 trials); youth nominated support teams (2 trials); effects of medication and psychotherapy; emergency access card; home-based family intervention; compliance enhancement intervention; and attachment-based family therapy.

In Ougrin et al. (2012), no significant reduction in self-harm repetition compared with TAU was seen in any of the included trials except for 1 RCT (n=63) of developmental group therapy (at least 6 weekly sessions lasting 1 hour), which was shown to reduce the likelihood of 2 or more episodes of self-harm versus standard care at 29-week follow-up (RR=0.19, 95% CI 0.05 to 0.81). However, these findings were not replicated in 2 further trials (n=408) of group therapy. The full version of NICE CG133 also discussed the same 3 trials and drew the same conclusions. The review by Robinson et al. (2011) also examined group therapy (including meta-analysis) and found no statistical difference between group therapy and standard care.

Other findings by Robinson et al. (2011) included that in 1 RCT (n=90), CBT (versus TAU) was associated with significantly fewer self-harm incidents after 9 months (mean difference=−3.4, 95% CI −6.54 to −0.26) and significantly reduced suicidal ideation on the Suicide Cognition Scale (mean difference= −18.28, 95% CI −26.66 to −9.9). They also identified 1 RCT (n=24) of people with borderline personality disorder, with results suggesting that compared with client-centred therapy, dialectical behaviour therapy led to fewer suicide attempts (mean difference=−4.83, 95% CI −8.13 to −1.76) at 12 months. None of the other included studies showed any significant effects in terms of the outcomes of interest.

Limitations common to both reviews included that: studies were relatively small (sample sizes ranged from 22 to 448 across the 2 reviews); methodological reporting was poor, making assessment of bias difficult; there was a high rate of drop-out in some studies; and there was an absence of standardised definitions of key outcomes of interest, and variable outcome measures were used, which meant that pooling data was difficult or not possible.

Despite identifying studies in adolescents additional to those examined during the development of NICE CG133, the authors of both reviews concluded that there was a general insufficiency of evidence for the effectiveness of interventions for self-harm and suicide among adolescents and further research is needed. There is therefore unlikely to be an impact of this evidence on current guidance.

A cohort study by Moran et al. (2012) recently concluded that self-harming behaviour in adolescents may resolve spontaneously, which could be an additional consideration in the management of self-harm in this population.

Additional information about the review by Robinson et al. (2010) is also available in an independent critical appraisal report produced for the Centre for Reviews and Dissemination's Database of Abstracts of Reviews of Effects.

Key references

Ougrin D, Tranah T, Leigh E et al. (2012) Practitioner review: self-harm in adolescents. Journal of Child Psychology and Psychiatry 53: 337–50

Robinson J, Hetrick SE, Martin C. (2011) Preventing suicide in young people: systematic review Australian and New Zealand Journal of Psychiatry 45: 3–26

Supporting references

Moran P, Coffey C, Romaniuk H et al. (2012) The natural history of self-harm from adolescence to young adulthood: a population-based cohort study. Lancet 379: 236–43

Centre for Reviews and Dissemination (2011) Preventing suicide in young people: systematic review. Database of Abstracts of Reviews of Effects

Mentalisation-based treatment

A double-blind RCT (n=80) in London, UK reported by **Rossouw et al. (2012)** evaluated mentalisation-based treatment for adolescents (MBT-A) compared with TAU in reducing self-harm among adolescents aged 12 to 17 years. People presenting to community mental health services or hospital emergency departments with intentional self-harm (excluding excessive recreational drug use) not needing inpatient treatment, and with at least 1 episode of self-harm within the last month, were included. People with comorbid psychosis, a severe learning disability, pervasive developmental disorder, chemical dependence, or an eating disorder in the absence of self-harm, were excluded.

Patients (mean age=14.7 years, 85% female) were randomised to MBT-A or TAU. The MBT-A programme (a form of psychodynamic psychotherapy rooted in attachment theory, and described in detail by a manual available from the authors) involved 1 year of weekly individual MBT-A sessions and monthly mentalisation-based family therapy sessions (all sessions 50 minutes in length), delivered by child and adolescent mental health workers following 6 days of training and ongoing supervision. Participants who were severely depressed were also likely to be offered antidepressants. TAU was provided by community-based adolescent mental health services based on recommendations in NICE CG16 ('Short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care') and comprised various interventions including counselling, CBT and psychotherapy. The MBT-A and TAU groups were similar in terms of the mean number of hours of clinical attention received (20.3 hours versus 17.3 hours) and the percentage of patients completing 12 months of treatment (50% versus 43%).

For the primary outcome of self-harm (assessed by self-report on the self-harm scale of the Risk-Taking and Self-Harm Inventory, and confirmed via interview), both TAU and MBT-A reduced the levels of self-harm behaviour from baseline to 12 months, however, self-harm scores were significantly lower for the MBT-A group (OR=−0.74, 95% CI −1.32 to −0.15, $p<0.01$). Reporting at least 1 incident of self-harm in the past 3 months was also significantly reduced for the MBT-A group (56%) compared with the TAU group (83%) at 12 months (OR=0.24, 95% CI 0.08 to 0.76, $p<0.01$). Interview data on self-harm confirmed the self-report result. In the TAU group, 68% of participants were rated as definitely self-harming by a blinded assessor, compared with only 43% of the MBT-A group ($p<0.05$).

Limitations of the study included that: the sample size was small; the comparison treatment was variable and did not comprise a specific protocol; the rigour of weekly supervision in the MBT-A group may have affected the outcome; and all clinical teams were supervised by a single individual which may limit the generalisability of results.

Evidence suggests that a year-long MBT-A programme may be more effective than TAU in reducing self-harm among adolescents at 12 months, but further research is needed to confirm findings (particularly cost-effectiveness analysis, because the length and intensive nature of the intervention may involve high costs). The results are currently unlikely to have an impact on NICE CG133.

Key reference

Rossouw TI, Fonagy P (2012) Mentalization-based treatment for self-harm in adolescents: a randomized controlled trial. Journal of the American Academy of Child and Adolescent Psychiatry 51: 1304–13

1.5 Treating associated mental health conditions

A search for new evidence was not performed for this section (see Appendix A for details of the evidence search and selection process).

2 New evidence uncertainties

During the development of the Evidence Update, the following evidence uncertainties were identified for the UK Database of Uncertainties about the Effects of Treatments (UK DUETs).

Longer-term treatment and management of self-harm

- Treatments (i.e. Signs of Suicide, family interventions, therapeutic assessment, dialectical behaviour therapy, cognitive behavioural therapy, pharmacological therapy) in adolescents with self-harm for prevention of recurrence
- Attachment-based family therapy in young people to prevent suicide and suicidal behaviours

Further evidence uncertainties for self-harm can be found in the UK DUETs database and in the NICE research recommendations database.

UK DUETs was established to publish uncertainties about the effects of treatments that cannot currently be answered by referring to reliable up-to-date systematic reviews of existing research evidence.

Appendix A: Methodology

Scope

The scope of this Evidence Update is taken from the scope of the reference guidance:

- Self-harm: longer term management. NICE clinical guideline 133 (2011).

The theme of treating associated mental health conditions was not covered because NICE clinical guideline 133 only nominally touched on this theme and mainly referred to other published NICE guidance on associated mental health disorders.

Searches

The literature was searched to identify studies and reviews relevant to the scope. Searches were conducted of the following databases, covering the dates 25 January 2011 (the end of the search period of NICE clinical guideline 133) to 24 October 2012.

- CDSR (Cochrane Database of Systematic Reviews)
- CENTRAL (Cochrane Central Register of Controlled Trials)
- CINAHL (Cumulative Index to Nursing and Allied Health Literature)
- DARE (Database of Abstracts of Reviews of Effects)
- EMBASE (Excerpta Medica database)
- HMIC (Health Management Information Consortium) database
- HTA (Health Technology Assessment) database
- MEDLINE (Medical Literature Analysis and Retrieval System Online)
- NHS EED (Economic Evaluation Database)
- PsycINFO

Table 1 provides details of the MEDLINE search strategy used, which was adapted to search the other databases listed above. The search strategy was used in conjunction with validated Scottish Intercollegiate Guidelines Network search filters for RCTs and systematic reviews.

Table 2 provides details of an additional search for prospective cohort studies of risk-assessment scales and checklists for self-harm (only executed in CINAHL, EMBASE, MEDLINE and PsycINFO).

1 other study (Rossouw et al. 2012) was also identified outside of the literature search.

Figure 1 provides details of the evidence selection process. The long list of evidence excluded after review by the Chair of the EUAG, and the full search strategies, are available on request from contactus@evidence.nhs.uk

There is more information about how NICE Evidence Updates are developed on the NICE Evidence Services website.

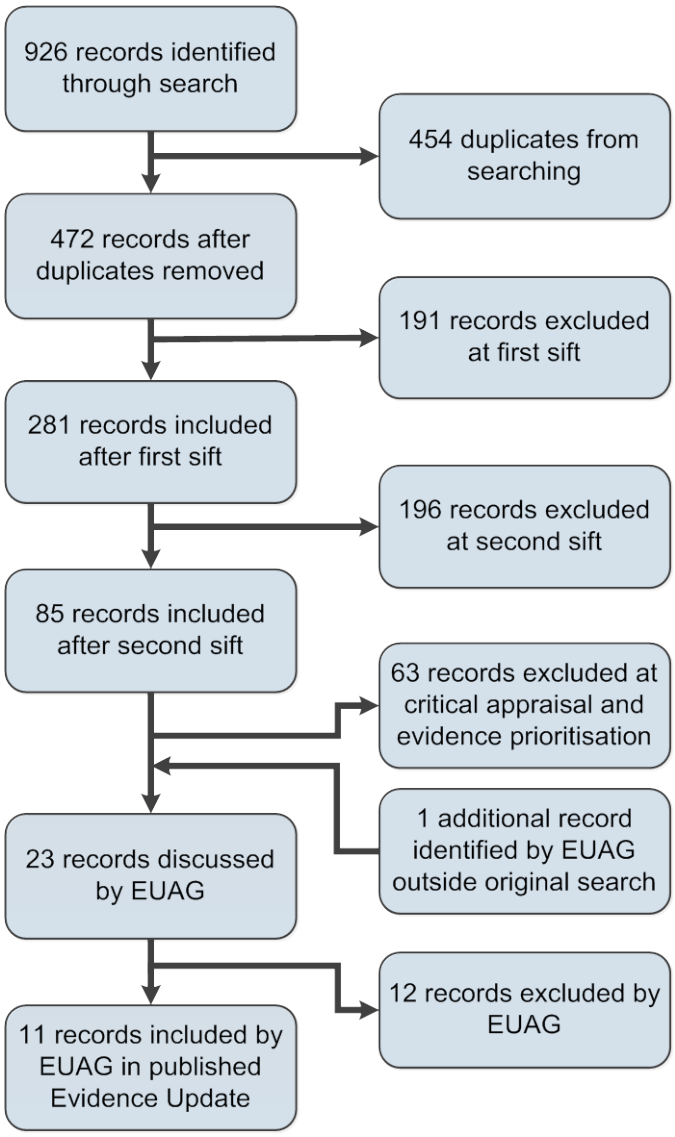
Table 1 MEDLINE search strategy (adapted for individual databases)

1	Overdose/
2	"Self Injurious Behavior"/
3	Self Mutilation/
4	Suicide/
5	Suicide, Attempted/
6	Suicidal Ideation/
7	((self or themsel$ or onesel$) adj2 (harm$ or cutt$ or immolat$ or inflict$ or injur$ or mutilat$ or poison$ or damag$ or destruct$)).tw.
8	(suicid$ not (assisted adj suicide?)).tw.
9	((auto adj (aggress$ or mutilat$)) or (autoaggress$ or automutilat$)).tw.
10	(parasuicid$ or para-suicid$).tw.
11	or/1-10

Table 2 Risk-assessment scales and checklists search strategy

1	Overdose/
2	"Self Injurious Behavior"/
3	Self Mutilation/
4	Suicide/
5	Suicide, Attempted/
6	Suicidal Ideation/
7	((self or themsel$ or onesel$) adj2 (harm$ or cutt$ or immolat$ or inflict$ or injur$ or mutilat$ or poison$ or damag$ or destruct$)).tw.
8	(suicid$ not (assisted adj suicide?)).tw.
9	((auto adj (aggress$ or mutilat$)) or (autoaggress$ or automutilat$)).tw.
10	(parasuicid$ or para-suicid$).tw.
11	or/1-10
12	Needs Assessment/
13	Risk Assessment/
14	Risk Factors/
15	Risk/
16	exp Probability/
17	Decision Support Techniques/
18	Mass Screening/
19	Checklist/
20	Questionnaires/
21	Psychological Tests/
22	Interview.hw.
23	"Outcome and Process Assessment (Health Care)"/ or "Outcome Assessment (Health Care)"/
24	exp Psychiatric Status Rating Scales/
25	Geriatric Assessment/
26	Severity of illness index/
27	exp Personality Assessment/
28	(risk or predict$ or prognos$ or assess$).tw.
29	(inventor$ or checklist? or scale? or rating or model? or tool? or rule or questionnaire? or interview? or index?? or indices).tw.
30	or/12-29
31	11 and 30
32	exp "Sensitivity and Specificity"/
33	Area under curve/
34	((area under adj2 curve) or auc or (diagnostic adj2 odds ratio$) or ((false or true) adj negative) or ((false or true) adj positive) or (likelihood adj3 ratio$) or ((pretest or pre test or posttest or post test) adj2 probabilit$) or (predict$ adj3 value$) or receiver operating characteristic or (roc adj2 (analy$ or curv$ or plot$)) or sensititiv$ or specificit$).tw.
35	(PPV or NPV).tw.
36	or/32-35
37	31 and 36
38	exp Cohort studies/
39	(cohort adj (study or studies or analys?s)).tw.
40	(prospective$ adj3 cohort).tw.
41	or/38-40
42	37 and 41
43	11 and 42

Figure 1 Flow chart of the evidence selection process



EUAG – Evidence Update Advisory Group

Appendix B: The Evidence Update Advisory Group and Evidence Update project team

Evidence Update Advisory Group

The Evidence Update Advisory Group is a group of topic experts who review the prioritised evidence obtained from the literature search and provide the commentary for the Evidence Update.

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