

Effective **Health Care**

**Bulletin on
the effectiveness
of health service
interventions for
decision makers**

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Deliberate self-harm

- Deliberate self-harm involves intentional self-poisoning or injury, irrespective of the apparent purpose of the act. It is one of the top five causes of acute medical admissions for both women and men in the UK.
- All hospital attendance following deliberate self-harm should lead to a specialist psychosocial assessment. This should identify motives for the act, and those associated problems which are potentially amenable to intervention such as psychological or social problems, mental disorder, alcohol and substance misuse.
- Direct discharge from A&E should only be contemplated if a psychosocial assessment and aftercare plan can be arranged prior to discharge. Aftercare arrangements should include advice on the services available.
- GPs should have ready access to training and advice about the assessment and management of self-harm patients in primary care.
- Accessible and comprehensive services need to include a mechanism for engaging people who do not attend routine clinic appointments. Access to follow-up needs to be rapid as repetition can occur soon after the episode.
- Service providers should work to improve attitudes towards self-harming patients, for example through training aimed at increasing knowledge.
- There is insufficient evidence to recommend a specific clinical intervention after deliberate self-harm. Further research is needed to establish the effectiveness of potential interventions.

A. Background

Deliberate self-harm involves intentional self-poisoning or self injury, irrespective of the apparent purpose of the act.¹ Self-poisoning, for example an overdose, is the most common form followed by cutting.

Deliberate self-harm is one of the top five causes of acute medical admissions for both women and men.² Most cases of deliberate self-poisoning present to general hospitals; in the UK there are about 150,000 such attendances annually. The most common substances ingested are analgesics, particularly paracetamol and paracetamol containing compounds.³

Over the last 50 years, there has been a rise in incidence of self-harm, with a marked increase from the early 1960s. Rates levelled off in the late 1970s, there was a modest decline until the mid 1980s, but since then rates have risen continuously (see Fig. 1).^{4,176} It is difficult to get an accurate picture of the epidemiology of deliberate self-harm; Oxford is the only UK centre with a continuous monitoring system. Nonetheless, a reasonable estimate is that current rates are around 400 per 100,000 population per annum – similar to the highest rates of the late 1970s.³ This incidence is higher than most others recorded in Europe.⁵

Of known risk factors for completed suicide, deliberate self-harm has the strongest association. In the year after an episode of deliberate self-harm, the suicide rate is 100 times that of the general population.³³ About a quarter of all suicides attend a general hospital after a non-fatal act of self-harm in the 12 months before they die.^{6,7} Effective intervention after deliberate self-harm, if it were available, could therefore be an important means of achieving the targets for reduction of the suicide rate which are outlined in the *Health of the Nation*⁸ and in the recent Green Paper *Our Healthier Nation*.⁹

Although there were once between 2 or 3 times as many

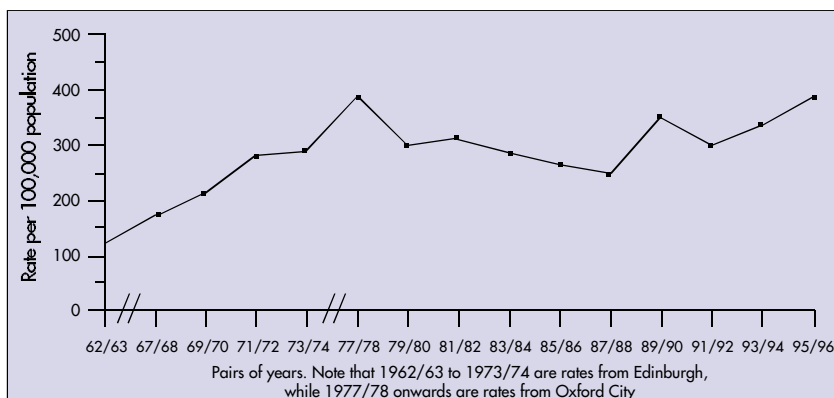


Fig. 1 Rates of deliberate self-harm 1962 to 1996^{4,176}

episodes in females, the sex-specific rates have steadily drawn closer together, so that self-harm is now only slightly more common among women than men.^{2,3,10} Some general hospitals now deal with more referrals of men than women.¹¹ This trend is worth noting, because it is among young men that the suicide rate has been increasing in the last ten years. The mean age of the self-harm population is in the early 30s for both sexes, the peak age for presentation being 15–24 years for women and 25–34 years for men.^{12,13}

In most cases, people report that they have taken an overdose in response to social problems.¹⁴ Common problems include difficulties with housing, unemployment, debt, poor personal health, and conflict or loss in personal relationships.¹⁵ There is some evidence that repetition of self-harm may occur despite resolution of personal problems.^{16,17}

Following an episode of deliberate self-harm, about 30–40% of general hospital attenders are given a psychiatric diagnosis, and about a third have had prior contact with the psychiatric services.¹⁸ The most common diagnosis is some form of depressive disorder.¹⁹ Alcohol dependence is diagnosed in about 10% of cases.^{20–22} Mental illnesses such as schizophrenia and bipolar disorder are diagnosed in less than 10% of episodes of deliberate self-harm.²³

Enduring psychological characteristics associated with self-harm include: hopelessness, which as a character trait may occur

independently of depression, hostility to others, antisocial behaviour and deficient problem-solving abilities.^{24–26} These psychological characteristics may be associated with self-harm because they confer vulnerability to mental disorder or social problems, or they may increase risk of self-harm in their own right.

A number of features which predict repetition or eventual suicide can be identified after an episode of self-harm, the best established are listed in Table 1.^{27–37}

Table 1 Features which predict non-fatal repetition of deliberate self-harm or eventual suicide

For non-fatal repetition

- a history of self-harm prior to the current episode;
- psychiatric history, especially as an inpatient;
- current unemployment;
- lower social class;
- alcohol or drug-related problems;
- criminal record;
- antisocial personality;
- uncooperativeness with general hospital treatment;
- hopelessness;
- high suicidal intent.

For suicide

- older age;
- male;
- previous attempts;
- psychiatric history;
- unemployment;
- poor physical health;
- living alone.

Risk of repetition is not uniformly distributed, and some people repeat self-harm on numerous occasions. In one study, 15% of people admitted to a poisons unit had taken at least 5 overdoses.³⁸ Although it is often assumed that

those who repeat self-harm frequently are predominantly women, the excess of women among chronic repeaters is probably no greater than among the self-harming population as a whole.³⁸ Little is known about multiple repeaters, except for a sub-group of women who meet criteria for borderline personality disorder, many of whom have been subject to abuse (not always sexual) in childhood.³⁹

B. Nature of evidence

Two systematic reviews evaluating the effectiveness of interventions after deliberate self-harm have recently been published.^{40,41} The review by Hawton et al. has been used in this bulletin to evaluate the effectiveness of such interventions, and has been updated to include two additional trials published after the review was completed.^{42,43} The review is a version of the Cochrane review available on the Cochrane Library (Update Software, Oxford). A review of the research evidence on the characteristics of an effective clinical service for the assessment and aftercare of people who present

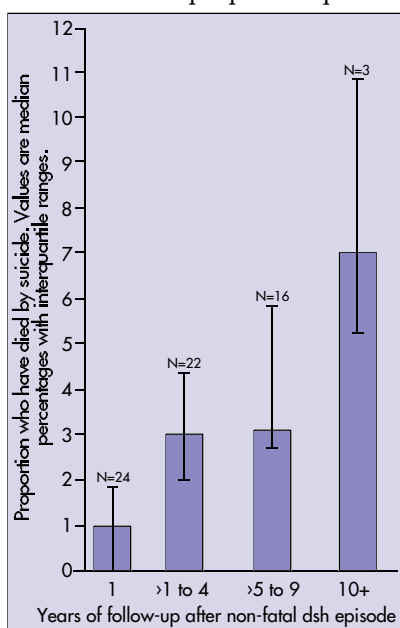


Fig. 2 Suicide after non-fatal deliberate self-harm (dsh) according to duration of follow-up. N refers to number of published studies in group.

following an episode of deliberate self-harm was also undertaken. A summary of the methodology is included in the appendix.

The literature on deliberate self-harm is limited in two ways. First, the data come largely from studies on general hospital attenders, although up to a third of episodes may not lead to medical contact.⁴⁴ Second, most research has been conducted on deliberate self-poisoning rather than other forms of self-harm such as cutting. There is some overlap between these behaviours, but caution should be taken about generalising.

C. Outcome following deliberate self-harm

C.1 Suicide subsequent to deliberate self-harm

Twenty four studies reported suicide rates for the first year after an episode of self-harm.^{17,31,34,45-65} These ranged from 0% to 6% (median 1%, interquartile range 0% to 1.8%). The quality of these studies was variable. The most recent rigorous UK study³³ (an unselected patient group, adequate ascertainment of death, and survival analysis) reports a 1-year suicide rate of 1%, very similar to the median for all the reviewed studies, and 100 times the suicide rate of the general population.

Twenty two studies with follow-up of between 1 and 5 years after self-harm reported suicide rates ranging from 0.6% to 11% with a median of 3%.^{33-35,50,53,57,59,61,66-79} For 16 studies with follow-up of between 5 and 10 years, rates ranged from 2% to 13%, with a median of 3%.^{21,24,32,34,50,61,80-89} For three studies reporting follow-up longer than 10 years rates ranged from 4.7% to 18% with a median of 7%.⁹⁰⁻⁹²

The suicide rate is therefore highest in the first year after an episode of deliberate self-harm (see Fig.2),

and within that year it is highest in the first months.³⁴ However, deaths by suicide are not confined to the first year, and studies with longer-term follow-up show that suicide deaths after an episode of deliberate self-harm remain well above the rate for the general population.

C.2 Repetition of non-fatal deliberate self-harm

Thirty seven studies report a 1-year repetition rate for deliberate self-harm.^{2,3,5,25,27,31,35-37,40,45-49,51,54,55,61,63,93-109} Excluding 6 studies that only deal with selected sub-groups^{48,54,55,105,106,109} and one study of 44 patients¹⁰⁸ identified by frequent presentations, the remaining 30 studies reported repetition rates from 6% to 30% (median 16%, interquartile range 13% to 18%). The wide variation in repetition is apparently accounted for partly by differences in sample selection, but also by differences in rates in different places. Repetition usually occurs early, particularly when there have been previous episodes. Median time to repetition among those with a history of self-harm is about 72 days.^{37,97}

D. Current services

Guidelines for the assessment and management of deliberate self-harm were produced by the DHSS in 1984,¹¹⁰ and more recently by the Health Advisory Service¹¹¹ and by the Royal College of Psychiatrists.¹¹² These are not evidence-based, but they provide a view of professional consensus in this area.

D.1 Assessment

The DHSS guidelines¹¹⁰ recommend that every patient should have a specialist psychosocial assessment. The purpose of the assessment is to identify factors associated with suicidal behaviour, to determine motivation for the act, to identify potentially treatable mental disorder, and to assess continuing risk of suicidal behaviour. Based on the assessment, a plan for aftercare should be made before discharge from hospital.

Suicidal intent is the degree to which the person wished to die at the time of the act. It is difficult to assess, because most people are ambivalent and because reported intent may change fairly quickly.¹¹³ The most widely used standardised measure is the Suicide Intent Scale,²⁸ which assesses the circumstances of the act (such as planning and attempts to avoid rescue) and the person's reported intention to die. Suicidal intent is positively (but weakly) associated with the medical seriousness of the act.¹

Motivation, other than the desire to die, may be assessed by asking the patient or by inference from the circumstances. Examples include a desire to communicate distress, to obtain temporary escape from intolerable worries, to effect a change in the behaviour of another person, or to express another emotion such as anger. Assessment of motivation is unreliable as there are no widely used standardised measures

The DHSS guidelines¹¹⁰ acknowledged that assessment and aftercare planning could be undertaken by staff other than psychiatrists – social workers or psychiatric nurses for example – providing they had proper training and supervision. A number of studies have shown that the content and the quality of their assessments are comparable with those made by trainee psychiatrists.^{46,114–116} Non-medical staff, such as social workers, take longer over assessments than psychiatrists, and recommend psychiatric follow-up more often.¹¹⁶

One trial compared outcomes depending on whether an assessment and management decision was made by a psychiatrist or junior medical (non-psychiatric) staff.⁴⁵ There was no significant difference in repetition rate; 38/140 (27%) repeated within the year after assessment by the general medical team, compared with 43/133 (32%) after psychiatric assessment. However, caution needs to be applied in generalising from this

trial as it has not been replicated. In addition, junior medical staff received levels of training and supervision that are not available in many places, and not all staff or eligible patients participated.

Observational studies suggest that when Accident and Emergency (A&E) Department staff make assessments in routine clinical practice, the quality of note keeping is poor, and important information such as assessment of mental state or continuing suicidal thinking is frequently not recorded.^{20,117–120}

In practice, most assessments are undertaken by junior psychiatrists working on a rota. Standards of training and supervision are patchy,¹²¹ although it is unclear what effect this has on outcomes.

About three quarters of people who harm themselves arrive at hospital in the evening.¹²² It has been recommended that such patients should be admitted overnight, with a view to psychosocial assessment in the daytime.¹²³ The advantages of this policy are that assessment is likely to be of higher quality, and that aftercare is easier to arrange during office hours. Since the patient has consumed alcohol in about a half of episodes,^{20,22} or his or her judgement may be impaired by the drugs ingested, this argument has some appeal, but it is not widely accepted. In many hospitals, more than half of attenders are discharged from the A&E department.^{124–126} Patients who leave hospital direct from A&E, and especially those who leave without a psychosocial assessment, are less likely to have been offered follow-up.^{57,124,127,128}

D.2 Aftercare

Specialist aftercare, when it is arranged, usually involves referral to psychiatric outpatients and social services.^{107,129,130} About 5–10% of cases lead directly to psychiatric admission. In about a quarter of hospitals there is a dedicated multidisciplinary self-harm team, but such teams follow-up only a small minority of cases.^{124,131,132}

There is no evidence comparing the effectiveness of self-harm teams with that of generic services.

Non-statutory agencies, particularly in larger cities, may offer help not otherwise provided to people who self-harm. The best known of these agencies is the Samaritans. Early evaluations of the Samaritans produced conflicting evidence on its effectiveness.^{133,134} There has been no recent formal evaluation of the non-statutory agencies which offer help to self-harming patients.

D.3 Deficiencies and variations in practice

The DHSS guidelines on deliberate self-harm are not followed in many areas. Only about a half of hospital attenders receive a specialist psychosocial assessment before they leave,¹²⁴ many going home directly from the A&E department as soon as they are assessed as physically fit to do so.^{135,136} Fewer than half are offered any follow-up beyond the advice that they might see their general practitioner. Reports from several UK cities indicate that direct discharge without specialist assessment is becoming increasingly common.^{117,124,132,137–139}

There are large variations in practice between services in different regions, and also between clinical teams in the same district.^{126,128,137,140} For example, there are 3–4 fold differences in rates of discharge directly from the A&E department,^{124,126} and in rates for offering any form of psychiatric follow-up.

One trial has compared the outcomes after discharge from A&E with those after hospital admission.¹⁴¹ There were no significant differences in outcome; 3/27 admitted and 4/25 discharged from A&E repeated within 16 weeks. However these numbers were small and only a small proportion of eligible patients participated. Observational studies have examined rates of repetition in the following year for those who are admitted, compared to those

who go home from A&E.^{57,64} Those who are discharged without follow-up have fewer known risk factors for repetition, but their rates of repetition are the same as those admitted, suggesting that admission may confer some benefit.^{57,64}

People who harm themselves are not popular with health services staff.¹⁴²⁻¹⁴⁷ Similar negative attitudes are also found in the psychiatric services.¹⁴⁸ They suffer from the stigma of psychiatric problems, and they are often seen as undeserving and detracting from the clinical care of others whose illnesses are not perceived as self-inflicted. People who harm themselves repeatedly, particularly those who cut themselves, may feel especially susceptible to this problem.

E. Effectiveness

E.1 Are there effective interventions?

The results of the systematic review conducted by Hawton et al.⁴¹ are summarised in Table 2, which also contains details of two trials reported since the review was published.^{42,43}

The main interventions which have been evaluated in the trials are: a brief psychological therapy (problem-solving therapy); more intensive but conventional psychiatric care (special clinics, outreach, continuity of therapist, routine general hospital admission, longer-term contact); provision of a crisis card; intensive psychological therapy (dialectic behaviour therapy, inpatient therapy) and drug therapy (antidepressants, flupenthixol).

The trials varied in both the nature of the intervention and their aims. For example, they included medical treatment aimed at reducing depressive symptoms or impulsivity; psychological treatment designed to enhance problem-solving skills or to help the patient control self-injurious behaviours; and provision of information intended to encourage effective use of standard services

during a crisis. This heterogeneity in aims, coupled with widely varying study populations and interventions, meant that little pooling of data was possible.

The methodological quality of the reviewed randomised controlled trials was poor. In particular, many studies were small, and none included enough participants to give a reliable answer to the important question about the effect of intervention on repetition rates. Not all trials were analysed using an intention-to-treat analysis. Few used standardised measures of outcomes (such as mood or quality of life) other than repetition. The trials recruited highly selected patient groups, and their results cannot be readily generalised to routine clinical practice. For example, clinical trials do not include patients who leave hospital early, and often only include those who have accepted psychiatric referral; thus their samples are not representative of the self-harm population.

No intervention produced a statistically significant reduction in repetition, although for some there was a trend in that direction. However, three interventions seem promising.

The first of these involves providing patients with a crisis card which carries advice about seeking help in the event of future suicidal feelings. In the Bristol study,⁵⁵ which included only people who had taken their first-ever drug overdose, possession of the card enabled its holder to speak to a psychiatrist at short notice and to request psychiatric admission in a crisis. Although the majority did not avail themselves of any of the offers on the card, there was a suggestion of a reduction in repetition. However, an attempted replication (not yet published) has produced a negative result, perhaps because repeaters were also included in the intervention.¹⁴⁹ From a clinical perspective, it is reasonable to expect that people who attend hospital after an episode of self-

harm should be given advice about local services which could be used in a crisis or when self-harm is contemplated. But because the best mode of delivering this advice (or its likely benefits) is unknown, further research is needed.

The second intervention is problem-solving therapy. This is a brief treatment aimed at helping the patient to acquire basic problem-solving skills, by taking him or her through a series of steps: identification of personal problems; constructing a problem list which clarifies and prioritises them; reviewing possible solutions for a target problem; implementing the chosen solution; reappraising the problem; reiterating the process; training in problem-solving skills for the future.¹⁵⁰ This usually involves about 6 one hour sessions, with some reading materials, and work to be undertaken between sessions. It can be delivered by any experienced mental health professional, with suitable training and supervision. Standardisation can also be improved by using a therapy manual.

Problem-solving has a theoretical basis since there is evidence that people who harm themselves are poor problem-solvers, which may be linked to other important characteristics such as hopelessness. Problem-solving therapy has been shown to be an effective treatment for depression in other settings,¹⁵⁰ and in self-harm studies it has led to improvement in other relevant outcomes such as mood and social adjustment.¹¹ It may therefore be suitable for some individuals, although the scope of its applicability is unclear from the existing evidence.

The third intervention, dialectic behaviour therapy, was introduced as a method of helping those who engage in chronic repetitive self-harm, particularly when they have associated borderline personality characteristics.³⁹ It is intensive, involving in its full form a year of individual therapy, group sessions, social skills training and access to crisis contact. The interest it has

Table 2 Summary of participants, interventions, size of trial, and proportion (%) of participants who repeated behaviour during follow-up

Study	Details of participants	Interventions	Proportion (%) of participants who repeated behaviour during follow-up	
			Experimental	Control
Problem-solving therapy v standard aftercare				
Gibbons et al. (UK, 1978) ⁹⁶	Patients over 17 years who presented to A&E department after deliberate self-poisoning; repeaters (1 or more attempt) and first timers; 71% female	Experimental (n=200): crisis orientated, time limited, task centred social work at home (problem solving intervention). Control (n=200): routine service – 54% GP referral, 33% psychiatric referral, 13% other referral	27/200 (13.5)	29/200 (14.5)
Hawton et al. (UK, 1987) ⁴⁹	Patients over 16 years admitted to general hospital for self-poisoning; 31% repeaters; 66% female	Experimental (n=41): outpatient problem orientated therapy by non-medical clinicians. Control (n=39): GP care (e.g., individual support, marital therapy) after advice from clinician	3/41 (7.3)	6/39 (15.4)
Salkovskis et al. (UK, 1990) ¹⁶⁴	Patients aged 16–65 years (mean 27.5) referred by duty psychiatrist after antidepressant self-poisoning assessed in A&E department; all repeaters with high risk of further repetition; 50% female	Experimental (n=12): domiciliary cognitive behavioural problem solving treatment. Control (n=8): treatment as usual (GP care)	3/12 (25.0)	4/8 (50.0)
McLeavey et al. (Ireland, 1994) ¹⁶⁵	Patients aged 15–45 years (mean 24.4) admitted to A&E department after self-poisoning; 35.6% repeaters; 74% female	Experimental (n=19): interpersonal problem-solving skills training. Control (n=20): brief problem-solving therapy	2/19 (10.5)	5/20 (25.0)
Intensive care plus outreach v standard care				
Chowdhury et al. (UK, 1973) ¹⁶⁶	Patients (all repeaters) admitted to general hospital after deliberate self-harm; 57% female	Experimental (n=71): special aftercare – regular outpatient appointments; patients also seen without appointments; home visits to patients who missed appointments; emergency 24 hour telephone access. Control (n=84): normal aftercare – outpatient appointment with psychiatrist and/or social worker; non-attenders not pursued	17/71 (23.9)	19/84 (22.6)
Welu (USA, 1977) ¹⁶⁷	Suicide attempters over 16 years brought to A&E department; 60% repeaters; % female not given	Experimental (n=63): special outreach programme – community mental health team contacted patient immediately after discharge; home visit arranged; weekly/twice weekly contact with therapist. Control (n=57): routine care – appointment for evaluation at the community mental health centre next day at request of treating physician	3/62 (4.8)	9/57 (15.8)
Hawton et al. (UK, 1981) ⁴⁸	Patients aged 16 years and over (mean 25.3) admitted to general hospital after deliberate self-poisoning; 32% repeaters; 70% female	Experimental (n=48): domiciliary therapy (brief problem orientated) as often as therapist thought necessary; open telephone access to general hospital service. Control (n=48): outpatient therapy once a week in outpatient clinic in general hospital	5/48 (10.4)	7/48 (14.6)
Allard et al. (Canada, 1992) ⁶⁸	Patients seen in A&E department for suicide attempt; 50% repeaters; 55% female	Experimental (n=76): intensive intervention – schedule of visits was arranged including at least one home visit; therapy provided when needed; reminders (telephone or written) and home visits made if appointments missed. Control (n=74): treatment by another staff team in the same hospital	22/63 (34.9)	19/63 (30.2)
Van Heeringen et al. (Belgium, 1995) ¹⁵⁶	Patients aged 15 years and over treated in A&E department after suicide attempt; 30% repeaters; 43% female	Experimental (n=258): special care – home visits by nurse to patients who did not keep outpatient appointments, reasons for not attending discussed and patient encouraged to attend. Control (n=258): outpatient appointments only; non-compliant patients not visited	21/196 (10.7)	34/195 (17.4)
Van der Sande et al. (Netherlands, 1997) ⁴⁵	Patients aged 16 years and over (mean 36.3) admitted to hospital after suicide attempt; 73% repeaters; 66% female	Experimental (n=140): brief psychiatric unit admission, encouraging patients to contact unit on discharge; outpatient therapy plus 24 hour emergency access to unit. Control (n=134): usual care – 25% admitted to hospital, 65% outpatient referral	24/140 (17.1)	20/134 (14.9)
Emergency card v standard aftercare				
Morgan et al. (UK, 1993) ⁵⁵	Mean age 30 years; patients admitted after first episode of deliberate self-harm; % female not given	Experimental (n=101): standard care plus green card (emergency card indicating that doctor was available and how to contact them). Control (n=111): standard care – for example, referral back to primary healthcare team, psychiatric inpatient admission	5/101 (5.0)	12/111 (10.8)
Colgrove et al. (UK, 1995) ¹⁶⁸	Patients aged 12.2–16.7 years (mean 14.9) admitted after deliberate self-harm; % repeaters not given; 85% female	Experimental (n=47): standard care plus green card (emergency card); acted as passport to readmission into paediatric ward in local hospital. Control (n=58): standard follow-up treatment from clinic or child psychiatry department.	3/47 (6.4)	7/58 (12.1)
Dialectical behaviour therapy v standard aftercare				
Linehan et al. (USA, 1991) ⁶⁹	Patients aged 18–45 years who had self-harmed within 8 weeks before entering study; all female; all multiple repeaters of self-harm	Experimental (n=32): dialectical behaviour therapy (individual and group work) for 1 year; telephone access to therapist. Control (n=31): months treatment as usual: 73% individual psychotherapy	5/19 (26.3)	12/20 (60.0)
Inpatient behaviour therapy v inpatient insight orientated therapy				
Lieberman and Eckman (USA, 1981) ¹⁷⁰	Patients aged 18–47 years (mean 29.7) all repeaters; patients referred by psychiatric emergency service or hospital A&E department after deliberate self-harm; 67% female	Experimental (n=12): inpatient treatment with behaviour therapy. Control (n=12): inpatient treatment with insight orientated therapy; both groups received individual and group therapy plus aftercare at community mental health centre or with private therapist	2/12 (16.7)	3/12 (25.0)

Table 2 Continued

Same therapist (continuity of care) v different therapist (change of care)				
Torhorst et al. (Germany, 1987) ¹⁷¹	Patients referred to toxicological department of Technical University Munich after deliberate self-poisoning; 48% repeaters; 62% female	Experimental (n=68): continuity of care – therapy with same therapist who assessed patient in hospital after attempt. Control (n=73): change months of care – therapy with different therapist than seen at hospital assessment	12/68 (17.6)	4/73 (5.5)
General hospital administration v discharge				
Waterhouse and Platt (UK, 1990) ¹⁴¹	Patients aged 16 years and over (mean 30.3) admitted to A&E department for deliberate self-harm; 36% repeaters; 63% female	Experimental (n=38): general hospital admission. Control (n=39) discharge from hospital. On discharge both groups advised to contact GP if they needed further help	3/38 (7.9)	4/39 (10.3)
Flupenthixol v placebo				
Montgomery et al. (UK, 1979) ¹⁷²	Patients aged 18–68 years (mean 35.3) admitted after suicidal act; all repeaters; 70% female	Experimental (n=18): 20mg intramuscular flupenthixol deconate for 6 months. Control (n=19): placebo for 6 months	3/14 (21.4)	12/16 (75.0)
Antidepressants v placebo				
Hirsch et al. (UK, 1982) ¹⁷³ R Draper, S Hirsch (personal communication)	Patients aged 16–65 years admitted after deliberate self-poisoning; % repeaters and % female not given	Experimental (n=76): antidepressants – either 30–60mg mianserin for 6 weeks or 75–150 mg nomifensine for 6 weeks. Control (n=38): placebo for 6 weeks	16/76 (21.1)	5/38 (13.2)
Montgomery et al. (UK, 1983) ¹⁷⁴	Patients with personality disorders (mean age 35.7 years) admitted to medical ward after deliberate self-harm; all repeaters; 66% female	Experimental (n=17): mianserin 30mg for 6 months. Control (n=21): placebo	8/17 (47.1)	12/21 (57.1)
Verkes et al. (Netherlands, 1998) ⁴²	Adults referred after self-poisoning which was not their lifetime first, who did not have major depression. Analysed according to number of previous episodes	Experimental (n=46) paroxetine 40mg/day, control (n=45) placebo for 12 months	15/46 (33)	21/45 (47)
Long-term therapy v short-term therapy				
Torhorst et al. (Germany, 1988) ¹⁷⁵	All patients repeaters who had deliberately self-poisoned; % female not given	Experimental (n=40): long-term therapy – one therapy session a month for 12 months. Control (n=40): short-term therapy – 12 weekly therapy months sessions for 3 months; all participants had brief crisis intervention (3 days) in hospital	9/40 (22.5)	9/40 (22.5)
Family therapy v standard care				
Harrington et al. (UK, 1998) ⁴³	All children aged 16 years or less, admitted to a paediatric ward after deliberate self-poisoning, and referred for psychiatric assessment; 90% girls	Experimental (n=85) 5 sessions home-based family therapy. Control (n=77) received treatment as usual in child psychiatry clinic, averaging 3.6 sessions	11/74 (15)	11/75 (15)

provoked is due to the suggestion that it leads to a reduction in self-harming behaviour in a group of people for whom the services have little or nothing else to offer. However, because it is an intensive intervention, better evidence of its applicability and cost-effectiveness is required, but it does offer an interesting model for the care of people who have problems which are among the most intractable in psychiatry.

E.2 Can services be restricted to certain high risk groups?

Many services restrict follow-up to those perceived as being at high risk of repetition or suicide. Is there evidence to support this practice?

Scales to predict suicide have extremely weak predictive power, because the absolute risk of

suicide is so low. Scales for prediction of repetition of non-fatal self-harm seem a better proposition, but unfortunately, their performance is not of as much practical value as might be hoped, for two main reasons.

First, self-harm repetition scales are not accurate because the individual risk factors which constitute them have poor positive predictive value. For example, in one study of around 1000 patients, which found four of the above risk factors for repetition to be significantly more frequent among those who repeated, the best risk factor (past psychiatric contact) had a positive predictive value of only 21%.⁵⁷ Adding the individual items to produce a composite risk score does not add sufficiently to this predictive value.

Second, scores on risk of repetition scales show a positively skewed normal distribution, that is, they are not evenly distributed through the range but show an extended “tail” towards the high scores. As a consequence, the apparently good positive predictive value from a high score does not mean risk scales are accurate in predicting repetition for the whole population. Although high scorers frequently repeat, only a few people score high. Most repeats involve the much larger number of people at lower apparent risk.

What this means is that using existing risk assessments, the smaller high-risk group will contain no more people who will eventually repeat than does the larger low-risk group.²⁵ An effective or equitable service

cannot be based on application of existing risk assessment as a means of identifying cases. This is not to say that identification of risk is pointless in clinical practice, simply that it is insufficiently accurate to serve as the basis for interventions aimed at tackling the public health problem represented by deliberate self-harm.

E.3 What style of service provision should be adopted?

Services in the general hospital

Even when aftercare is arranged, it is not always taken up. According to the type of service reported, 30–70% of those offered psychiatric follow-up either do not attend at all or drop out after their first appointment.^{49,97,151–153} This is true even when the referral is to a specialist service such as an alcohol and addictions service, or when the clinic is arranged in the A&E department so that the patient is returning to the place (perhaps to see the same person) where the original assessment was undertaken.¹⁵⁴

Three methods have been suggested to improve contact rates. Written prompts are easy to provide, but are relatively ineffective.¹⁵⁵ Motivational interviewing, which aims to encourage a rational approach to health-related behaviour, has been widely used in other settings, but has the disadvantage that it requires training to administer.⁵⁴ The best rates of contact are achieved by outreach programmes^{48,156} which are the only means of maintaining contact with the 20–30% of patients who will not attend clinic appointments.

Aftercare through the usual psychiatric services is unsatisfactory because repetition of self-harm tends to occur early (see above); a quarter of those with a history of past attempts will repeat within 3 weeks.⁹⁷ Few routine clinics can offer new appointments within this timescale, particularly for the numbers of people for whom it would be required.

The general practitioner and deliberate self-harm

Around 50–60% of patients have visited their general practitioner in the month before an episode of self-harm.^{18,157,158} For this reason, attention has turned to the possibility of basing primary or secondary prevention in general practice. However, up to half of GP consultations before a self-harm episode are not for overtly psychosocial reasons,¹⁵⁹ so the opportunities for detection and primary intervention at this contact may not be as great as is sometimes supposed.

The most frequent management decision made after assessment is that the patient should return to see his or her GP. Around half of patients do visit their GP in the 1–2 months after an episode.^{45,157,160,161} As noted above, even when specialist aftercare is proposed, there are difficulties in arranging predictable follow-up with psychiatric services. This raises the question of the role of the GP in the management of self-harm. Even in a trial assessing intervention in primary care, nearly half of those scheduled to receive GP counselling had not seen their GP within two months of the original episode.⁴⁹ These figures show that any intervention in general practice would need to have a component aimed at achieving higher attendance rates than are achieved through routine practice.

There is no research evidence which answers the question of what intervention should be offered by GPs. In Sweden, for GPs who were taught skills in recognising and treating depression there was an apparent reduction in the suicide rate,¹⁶² but the relevance of this study to management after an episode of self-harm is unclear.

E.4 What are the financial implications?

There are no detailed UK data concerning the costs of providing self-harm services, and none of the trials reviewed above included a cost-effectiveness analysis.

In one hospital, it was estimated that self-harm absorbed only about 0.4% of the hospital budget.¹³⁰ From the results of this study it is possible to estimate the general hospital costs of deliberate self-harm at around £45–50 million annually (at 1998 prices). This is because, despite its importance as a reason for admission, most inpatient episodes last only 24–48 hours and incur relatively low treatment costs. Treatment on intensive care units accounts for less than 10% of hospital costs of deliberate self-harm.¹³⁰

A study from Australia examined the costs associated with centralising self-harm services and arranging routine general hospital admission and psychosocial assessment.¹⁶³ Costs for the centralised comprehensive service were lower than for other services in the state, mainly as a result of fewer inpatient days arising from self-harm.

F. Implications for practice

- All hospital attendance following deliberate self-harm should lead to a psychosocial assessment. This should aim to identify motives for the act, and associated problems which are potentially amenable to intervention such as psychological or social problems, mental disorder, and alcohol and substance misuse.
- Since assessments undertaken as part of routine clinical practice are incomplete and of variable quality, staff who undertake assessments should receive specialist training and have supervision available.
- Direct discharge from A&E should only be contemplated if a psychosocial assessment and aftercare plan can be arranged in A&E prior to discharge.
- Aftercare arrangements should include the provision of verbal

and written information on services available for people who are contemplating self-harm.

- There is insufficient evidence to recommend a specific clinical intervention after deliberate self-harm. However, brief psychological therapies such as interpersonal therapy and problem-solving therapy are effective in the treatment of depression in similar clinical settings, and the latter has been shown to have benefits (if not reducing repetition) after self-harm. Opportunities for referral for such therapies should be available to suitable patients.
- GPs should have ready access to training and advice about the assessment and management of self-harm patients in primary care.
- Accessible and comprehensive services will need a mechanism for engaging people who do not attend routine clinic appointments. Access to follow-up needs to be rapid because repetition occurs soon after the episode.
- Service providers should work to improve attitudes towards self-harming patients, for example through training aimed at increasing knowledge about self-harm, and perhaps through contact with service users.

G. Implications for research

- Research is needed to determine the effect of discharge directly from the A&E department after presentation with deliberate self-harm; whether it reduces the quality or outcomes of psychosocial assessment, the effect it has on subsequent contact with services, and on outcomes.
- Research is needed to establish the clinical and cost-effectiveness of potential interventions. Trials should be large enough to determine

whether the intervention reduces repetition, but should examine other relevant outcomes including use of health and social services, quality of life, mood, interpersonal problems and social functioning.

- Trials might focus on specific subgroups, such as chronic repeaters or those suffering from alcohol dependence, if large enough sample sizes can be recruited. Alternatively, if the subjects are to be representative of all self-harm patients, they should include all hospital attenders, and not only patients recruited from psychiatric services or patients who visit their GP.
- Research is needed into forms of self-harm other than drugs overdose, and in particular into cutting – its causes, outcomes, and effective treatments.

Research Methods

For the review of trials of intervention after deliberate self-harm, a literature search was carried out of the following databases: Medline (1966-Aug 1998) PsycLit (1974-Aug 1998) Embase (1980-Aug 1998) and the Cochrane Controlled Trials Register (1998). The search used the Cochrane Collaboration search strategy for identifying clinical trials on Medline, with modifications for the other databases. Ten specialist journals in psychiatry and clinical psychology were also hand-searched.

Trials were included if the participants had engaged in deliberate self-harm shortly before entry into the trial, if there was clear evidence of randomisation to treatment and control groups and repetition of self-harm was reported as an outcome measure. Concealment of allocation was rated independently by two reviewers. Data were extracted independently by two reviewers.

For the other elements of the bulletin, the above searches were made again of Medline, Embase, PsycLit and Cinahl. Articles were included if they were in English and if they reported on populations in which deliberate self-harm was the presenting feature. Excluded were reports concerned solely with children and adolescents, with self-injury in people with learning difficulties, or with self-injury in prisons. Data were extracted by two reviewers, and secondary references cross-checked by a third.

For studies describing the rate of suicide following an episode of non-fatal self-harm: those published earlier than 1970 are of uncertain relevance to current practice because of substantial recent changes in the epidemiology of self-harm - including for example the switch from tranquillisers to analgesics as the main substances ingested and the increasing incidence among men. Studies were included if they were published since 1970, and they followed-up a sample which was likely to be representative of general hospital attenders. Thus they were excluded if they followed-up only selected subgroups such as children and adolescents, or people who were identified following inpatient admission to specialist psychiatric or research units. The latter groups are likely to be at high risk, but because admission criteria are unclear or not reproducible, it is not possible to generalise from reports on their outcomes.

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