Australian and New Zealand clinical practice guidelines for the management of adult deliberate self-harm

Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Deliberate Self-harm

Background: The Royal Australian and New Zealand College of Psychiatrists is co-ordinating the development of clinical practice guidelines (CPGs) in psychiatry, funded under the National Mental Health Strategy (Australia) and the New Zealand Health Funding Authority.
Method: For these guidelines, the CPG Team for Deliberate Self-harm reviewed the treatment outcome literature (including meta-analyses) and consulted with practitioners and patients.
Treatment recommendations: (i) Organization of general hospital services to provide: emergency department admission; a safe environment; integrated medical and psychiatric management; risk assessment; identification of psychiatric morbidity, and adequate follow-up. (ii) Detection and treatment of any psychiatric disorder. (iii) Dialectical behaviour therapy, psychoanalytically orientated partial hospitalization or home-based interpersonal therapy (for certain patients) to reduce repetition of deliberate self-harm (DSH).
Conclusion: Deliberate self-harm is common and is costly in terms of both individual distress and service provision. General hospitals are often the first point of clinical contact, but may not be appropriately organized to care for these patients. Evidence for the effectiveness of psychological treatments is based on single RCTs without replication. The three recommended psychological treatments are not widely available in Australia and New Zealand, and the interventions that are, such as cognitive behaviour therapy, problem solving and 'green cards' (an agreement guaranteeing access to services), do not reduce repetition of DSH. The effect of follow-up in psychiatric hospitals or in the community is poorly understood. We need to develop and evaluate interventions that will reduce repetition of both fatal and non-fatal deliberate self-harm and improve the person's functioning and quality of life.
Key words: attempted suicide, deliberate self-harm, overdose, self-injury, self-mutilation, self-poisoning.

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Deliberate self-harm (DSH), with or without suicidal intent, is a common and serious health problem in Australia and New Zealand. Self-poisoning, the most common form, comprises a substantial part of the work of hospitals and mental health services. In Australia it has been estimated that 1.2–5% of all medical admissions to general hospitals are for deliberate self-poisoning (DSP) [1,2]. In New Zealand, deliberate self-poisoning accounted for 1.2% of one emergency department's workload [3]. In the UK, DSH is one of the top five causes of acute hospital admissions for both men and women [4], and accounts for 15–20% of the workload of medical units

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and 10% of emergency departments [5]. People who self-harm are at higher risk of repeated episodes and of suicide [6].

People with DSH who present to hospital have a high rate of psychiatric comorbidity: major depression, 8–62%; dysthymia, 3–35%; substance misuse or dependence problems, 10–46%; and schizophrenia, up to one-quarter. There are similarly high rates of Axis II disorders. Moreover, 41–70% of adolescents and adults do not attend follow-up treatment. Randomized controlled trials (RCTs) show no benefit for intervention to reduce suicide after an episode of DSH. A few specific interventions (in specific subgroups) reduce repetition of DSH, but these are not generally available in Australia and New Zealand.

Deliberate self-harm requires a compassionate response and a health system well organized to deal with patients' multiple needs. Given the suicide risk and the limitations of research, clinical practice guidelines (CPGs) are useful to enhance management of DSH.

Motives for DSH include maladaptive response to stress, communication of distress (cry for help), inability to deal with a life problem, or non-fatal suicide attempt. Treatment aims are to promote the safety of the patient, deal with underlying psychiatric disorders and reduce repetition.

Scope

Our purpose is to improve clinical care. Professionals should consider the recommendations but not be limited to them. Comprehensive clinical assessment is still pivotal. Primary prevention is not covered. Medico-legal issues are summarized, but specific legal opinion may be required. This CPG is intended for two groups: specialist mental health professionals and relevant general hospital staff.

Definitions

Deliberate self-harm is also referred to as 'deliberate self-injury', 'deliberate self-poisoning', 'attempted suicide' and 'parasuicide'. It refers to acts of intentional self-poisoning or injury, irrespective of the ostensible purpose, but excludes self-harm deemed acceptable in certain cultures, for example body piercing, tattooing and high-risk behaviour. While drugs and alcohol are often precursors to DSH, our definition excludes their recreational misuse. We also exclude DSH related to intellectual disability (e.g. Lysch–Nyan syndrome).

Prevalence and risk-factor data are derived from cross-sectional epidemiological studies or observational studies (usually emergency department attendance), especially of intentional self-poisoning. Official reports of use of hospital services are another source, though these lead to substantial underestimates of prevalence. Studies of DSH in non-hospital settings are uncommon; community research usually tackles self-reported suicide attempts rather than DSH per se. Evidence about specific interventions is restricted to RCTs. Information about clinical assessment, service organization and non-specific interventions is often derived from non-randomised controlled trials, naturalistic studies, case studies and expert consensus. Our recommendations are tagged with a 'level of evidence' rating in line with those provided in the introduction to this CPG series [7]. Evidence is hierarchical (levels I–V2), with level I accorded most weight.

Method

A multidisciplinary team developed this CPG, which was written in accordance with National Health and Medical Research Council (NHMRC) criteria [8]. Consumer members sampled views within clinical and community groups and one prison.

We searched Medline, PsycINFO, Index Medicus and EMBASE databases (1966–2002), using these key words: *self-mutilation*, *attempted suicide*, *deliberate self-harm*, *self-injury*, *self-poisoning and overdose,* combined with *epidemiology*, *prevalence and incidence rates.* We combined these terms with *management* and *treatment*. We scrutinized extant reviews and searched international research registries, including the Clinical Trials Register of the National Institute of Health (http://controlled-trials.com) and the National Research Register of the UK National Health Service.

We searched the following journals (1990–2002) manually: *Suicide and Life Threatening Behavior*; *Crisis*; *Addiction*; *Drug and Alcohol Review*; *British Journal of Psychiatry*; *American Journal of Psychiatry*; *British Medical Journal*; *Lancet*; *Psychological Medicine*; *Australian and New Zealand Journal of Psychiatry*; and *Emergency Medicine*, as well as reviewing case law, existing guidelines and major policy documents.

We also reviewed research reports (1992 – March 2003), including those commissioned under the National Youth Suicide Prevention Strategy, the National Suicide Strategy and the National Mental Health Strategy. These included recent reviews of epidemiology, risk factors and interventions for DSH and suicide in young people in Australia and New Zealand [9–13]. See also Appendix.

Epidemiology

Prevalence

Various methods are used internationally to determine the extent and burden of DSH: hospital admissions or separations (case series); community surveys (cross sectional); and at-risk or other observational studies which may be case-controlled or cohort in nature, for example young people, prison populations, indigenous or ethnic groups and clinical populations.

In the WHO multicentre study on hospital-treated parasuicide in 16 European countries, rates were 2.6–542 per 100 000 population per year [14], with higher rates for women. See Table 1.

Community surveys of self-reported suicide attempts in the general population also report wide variation in rates. An Australian survey of 10 641 adults in 1997 found a lifetime prevalence of 2500 for men (2.5%) and 4500 for women (4.5%) per 100 000 population [10]. A similar New Zealand survey in 1986 found a combined rate of 4430 per 100 000 (4.4%) [15], and in Lebanon it was 720 per 100 000 (0.7%) [15]. The US rates were 1500 (1.5%) for men and 4300 (4.3%) for women per 100 000 [16]. See Table 2.

Among studies of DSH in non-clinical or community samples, the annual rate of parasuicide in the general adult population was 1.2–1100 per 100 000 and the lifetime rate was 720–5930 per 100 000 [17]. US military recruits had a 4% lifetime rate of DSH (defined as hurting themselves physically to calm down, or repeatedly hurting themselves) [18]. The annual weighted rate for Australian school students aged 15–16 was 5.1%, and the most common forms were self-laceration (1.7%), self-poisoning (1.5%) and deliberate recklessness (1.8%) [19].

Suicide and use of health services

In the UK, about one quarter of those who suicide have attended hospital in the previous year following an episode of DSH [4,20].

A recent systematic review of mortality associated with mental disorders found that all but mental retardation and dementia increased the risk of suicide [21]. Hospitalization for a mental disorder greatly increased risk, especially for those recently discharged from a psychiatric unit. The risk of suicide was highest in the 28 days after discharge from psychiatric admission [22,23], with 40% of those suicides in the UK occurring before scheduled follow-up [24].

Another systematic review looked at suicide risk factors in people who had or had not recently contacted a health professional [25]. While people commonly seek help prior to suicide, lack of controlled data prevents identification of specific risks for this group. Some 41% of those who suicide have contacted inpatient services in the previous year and 9% die within a day of discharge. The corresponding rates for community mental health services are 11% in total and 4% per day after discharge.

Table 1. Deliberate self-harm rates for Australia, New Zealand, UK and Spain (per 100 000 in one year)

	Australia	New Zealand	Oxford, UK	Spain
Women	159	113	368	72
Men	117	73	264	46
Male : female ratio	1 : 36	1 : 55	1 : 39	1 : 57
Male age group with highest rate	25–34	20–29	25–34	25–34
Female age group with highest rate	15–24	15–24	15–24	15–24

Sources: official hospital registration figures in Australia [11] and New Zealand [123]; WHO figures on parasuicide [124]; Spain had the lowest rate and the UK an intermediate ranking.

Table 2. Lifetime prevalence of suicide attempts (per 100 000)

	Australia	New Zealand	USA	Lebanon
Men	2500	4430	1500	720
Women	4500	(men and women)	4300	(total)
Male : female ratio	1 : 1.8	1 : 2.5	1 : 2.2–1 : 3.29	1 : 1.7

Sources: Australia [10], New Zealand [15], US [16], Lebanon [15].

In primary care, 83% have contacted their GP within the previous year, and 20% on the day before their suicide.

Opportunities for effective intervention may nevertheless be limited. In the UK a controlled study of 48 people who had attended a GP and had died by suicide, assessed the quality of GP service and the referral rate to specialists over 10 years. Those who had suicided had attended their GP more often than the controls, except in the month before death. They were more likely to have been given a psychiatric diagnosis, prescription medication and referral to mental health services. The authors concluded that there was little else that GPs could have done to avert these deaths [26].

Two studies in a recent NHMRC review of preventive interventions found that men under 35 seek help from health professionals at a lower rate (22%) than older men (52%) or young women (56%) in the month prior to death [27]. A Northern Ireland study found a longer latency between last contact with health professionals and suicide for men and for those aged under 30 [20].

In a Western Australian study, 38% of those hospitalized following an episode of DSH had visited their GP in the previous week and 63.5% in the previous month [28]. One-third of those who self-poisoned had used medication prescribed by a GP.

Associations with hospital-treated DSH

Axis I and II psychiatric disorders

Concurrent Axis I or II disorders are common, and comparisons with the prevalence of mental and substance use disorders in the community are revealing [29,30]. The rates of Axis I disorders in DSH populations are 2–4 times higher than in the community, and those of schizophrenia, bipolar disorder, eating disorder and substance dependence are 6–10 times higher. See Table 3.

The rates of Axis II disorders in DSH are high, although there is considerable variation between studies due to differences in design, measurement and sampling. For Axis II disorders (excluding mental retardation), see Table 4.

Alcohol and drug misuse

Alcohol misuse, including binge drinking, is commonly a precursor to DSH [31–33], while alcohol dependence is a risk factor for both DSH and suicide. Rates for alcohol dependence and misuse in DSH are 10–40% [31,34,35].

The possible causal link between alcohol misuse and suicidal behaviour was demonstrated in a 25-year longitudinal study of Swedish male conscripts [36]. Those who abused alcohol had an elevated risk of attempted suicide (odds ratio [OR] = 27.1), after controlling for psychiatric comorbidity (adjusted OR = 8.8). The risk for suicide was also elevated (OR = 4.7), after controlling for psychiatric comorbidity (adjusted OR = 2.4).

While drug misuse is less well studied, approximately one-third of those who self-harm regularly misuse drugs or alcohol [37].

Childhood trauma

An NHMRC review commissioned by the National Youth Suicide Prevention Strategy concluded that more research is needed [27]. The studies, though limited in quality, do suggest an association between suicide attempts and childhood trauma (physical and sexual abuse) [38–41].

Outcome of hospital treatment

Suicide and repetition of DSH

A recent review of 90 epidemiological studies found the rate of non-fatal repetition after one year (the

Table 3. Comparison of Axis I disorders in deliberate self-harm (DHS) and the community

Diagnosis	No. of studies†	DSH mean % (range)	No. of studies	Community mean % (range)
Major depression	10	30 (8–62)	4	10 (6–10.3)
Dysthymia	6	11 (3–35)	3	5 (1.1–2.5)
Alcohol use/dependence	10	30 (9.7–46)	4	7 (1.1–2.5)
Substance abuse/dependence	7	11 (4–18)	3	1 (0.2–2.5)
Anxiety disorder	6	16 (4–24)	3	9 (5.1–17.2)
Schizophrenia	10	8 (1–27)	3	0.3 (0.2–0.5)
Bipolar disorder	4	6 (3–15)	1	1
Eating disorder	4	4 (1–12)	2	0.3 (0.3)
Adjustment disorder	8	15 (3–32)	–	–

†References obtainable from corresponding author.

Table 4. Axis II disorders (DSM-III or IV) in deliberate self-harm (DSH)

Diagnosis	DSH median % (range)	No. of studies†
Any personality disorder	24.8 (11–88)	5
Cluster A	4.5 (0–9)	2
Cluster B	66.5 (59–74)	2
Cluster C	17.5 (17–18)	2
Cluster D (unspecified)	12	1
Borderline	40 (4–46)	3
Dependent	11 (10–11)	3
Schizoid	3.5	1
Histrionic	13	1
Anti-social	15	1

†References obtainable from corresponding author.

proportion of those who repeated, *not* the number of episodes) to be 16%, and of suicide to be 2% [6]. The rate of DSH episodes would be much higher, as some people have more than one episode in a year. The authors concluded that 'suicide risk in the self-harm population is hundreds of times higher than in the general population'.

Other causes of death

Increased mortality following DSH has causes other than suicide, including all-cause death, death by disease or natural causes, uncertain or undetermined causes, accident and homicide [42–48].

Conclusions

1. Hospital-treated DSH is common [IV].
2. Community DSH is also common but the rates are less clear [IV].
3. Community lifetime rates of suicide attempt are 2.5–4.4% [IV].
4. Most people who suicide have seen at least one health professional in the preceding year [III–2].
5. Hospital-treated DSH has high rates of comorbid psychiatric and personality disorders [III–2].
6. Alcohol ingestion often precedes or accompanies an episode of DSH [III–2].
7. Childhood physical or sexual abuse may be associated with adult DSH [III–2].
8. DSH carries increased risk of death by suicide and by other causes [III–2].

General issues in management

Organization of hospital services

Existing guidelines

Acute management of DSH in general hospitals focuses upon patient safety, treatment of the medical effects of injury or poisoning, and psychosocial assessment. A multidisciplinary approach may involve several medical disciplines and allied health professionals. Initial triage is important, and DSH in young adults should be assigned an Australian Triage Scale of 3 or higher [49]. It is prudent to deny access to means of self-harm, on the person or in the assessment area. Assessment by an emergency physician includes consideration of risk and of basic mental health [49,50]. A mental health professional conducts a comprehensive mental state examination and risk assessment [51]. There is evidence that failure to assess increases risk of repetition and suicide [52] [III–2]. Hospitals using this comprehensive assessment approach can demonstrate its cost-effectiveness [53].

Deficiencies in current practice

Implementation of these recommended practices has been poor. UK studies of routine assessments have found poor note-keeping and no record of mental state examination or of suicidal thoughts [54–56]. A Western Australian review of the implementation of the Australasian College of Emergency Medicine and Royal Australian and New Zealand College of Psychiatrists Guidelines for the Management of Deliberate Self Harm in Young People (http://www.audit.wa.gov.au/reports/report2001–11.pdf) found that the quality of care in emergency departments and the documentation in patient files were adequate in three-quarters of cases.

Recommendations

Every patient must be fully assessed and general hospital and mental health services organized accordingly. Physical and mental health assessments are best integrated in the emergency department. The key to management is co-ordination between the medical and mental health teams. Corroborative information from relatives, the patient's GP or those attending the patient must be collected and crucially, documented. For those patients who are already in treatment, corroborative information from that service provider and direct organisation of follow-up care is important See Table 5.

Table 5. Recommendations for general hospital management of deliberate self-harm (DSH)

1. Ensure prompt access to medical care in the emergency department, using appropriate triage procedures [V–1]
2. Ensure prompt assessment and maintenance of safety [V–1]
3. Ensure prompt access to medical/surgical assessment [V–1]
4. Ensure prompt access to mental health (psychiatric) assessment [V–1]
5. Treat underlying mental disorders optimally [V–1]
6. Encourage treatment engagement and follow-up attendance [V–2]
7. Avoid treatments that might increase the risk of self-harm [IV]

Clinician support

People who self-harm may reject help from health professionals and many do not keep appointments. Others may be rejected by health professionals and may not find health services helpful [IV]. Dysfunctional coping styles and chaotic ways of seeking help can induce negative attitudes in clinicians. Those who regularly work with DSH patients need appropriate strategies for their own support, including supervision, peer discussion and specific training to manage patients [V–1]. Inexperienced clinicians need to discuss and understand their own reactions, and a structured approach has been proposed [57]. Health services should consider training their staff in the management of DSH patients.

Assessment

Existing guidelines

Mental health professionals should be trained and assigned to this specialist role, which includes collateral history and medical record checks [49,58] [V–1]. There is evidence that within a supervised hospital system, specifically trained psychiatric nurses perform these assessments as effectively as registrars and psychiatrists [59,60] [III–2]. However, a review of these studies suggested that political biases may have affected these studies [61].

Deficiencies in current practice

Regrettably, there is evidence of failure to implement these recommendations. Less than half the DSH patients in the UK receive specialist psychosocial assessment or follow-up [50] [IV]. As noted previously, lack of assessment increases risk of repetition and suicide [52] [III–2].

The role of general hospital admission

There is wide variation in whether or not patients are hospitalized after presenting to emergency departments with DSH. Formal admission (rather than emergency department treatments) means that a bed is allocated and a treating doctor identified. A UK study reports that patients who self-poisoned and were admitted, were twice as likely to receive specialist psychiatric assessment and three times more likely to receive active follow-up [50]. [III–2].

The reasons for formal admission to a general hospital include: to provide a clear line of clinical responsibility for care; to provide co-ordination of care between medical specialities; to provide containment where there is risk of self-harm, suicide or harm to others; to provide a safe environment until intoxication with alcohol, drugs or toxins is resolved by time and treatment; to enhance engagement and decrease hopelessness; to facilitate psychiatric assessment; to obtain collateral information and enlist support from relatives or others; to co-ordinate follow-up services; and to improve the quality of information derived from hospital records.

The emergency department

The initial assessment setting is often the emergency department. Management seeks to maintain safety, detect disorders and problems amenable to treatment and engage the person in psychiatric treatment or other follow-up. Assessment should balance privacy and dignity with safety considerations. Consumers report that this does not always happen and that some staff treat them disrespectfully (occasionally with hostility), which can escalate negative interactions. A high index of suspicion for suicide risk is prudent and prevention of suicide remains an objective of treatment and follow-up in all settings. Information on responsiveness to young people within emergency departments is provided in another practice guideline [49]. Any hospital or regional policies should reflect current evidence.

Psychiatric assessment

Medical and psychiatric assessment should be integrated and acute psychiatric assessment and management include: engaging the patient and establishing a therapeutic alliance; comprehensive assessment of risk of harm to self (and others); conducting and recording a comprehensive mental state examination; psychosocial assessment; identifying and initiating treatment for any underlying mental disorders; co-ordinating treatment planning with patient, family and other health services; documenting the assessed status of the person's safety at transitions of care and at discharge from hospital; and enhancing resilience and promoting adaptive coping strategies.

The consensus view is that early engagement improves the assessment and promotes identification of underlying psychiatric disorders and psychosocial vulnerability, and of protective factors. Psychiatric assessment is not complete until cognitive function has returned to normal, particularly if impaired by overdose (e.g. benzodiazepines).

Risk assessment

Several areas are included:

1. Assessment of how lethal the action was, including the method used, expectation of death and precautions taken against rescue.
2. Assessment of persistent suicidal risk, including frequency and severity of suicidal thoughts; presence of a plan and availability of effective means; presence and severity of hopelessness; availability and adequacy of social supports.
3. Other factors to consider include family history of DSH and, if a young person, self-harm or suicide among peers; review of past episodes of DSH; potential risk to others; stressors (current and immediate future); life events; marital problems; coping styles; alternative means of dealing with ongoing stressors; ability to start a treatment relationship; and cognitive factors (cognitive impairment, problem-solving ability and attitude to being helped).

Follow-up

Patients who self-harm often have psychiatric or other comorbidity. Management focuses on assessment and treatment of these disorders, in accordance with appropriate clinical practice guidelines (e.g. other RANZCP CPGs).

Strategies for treatment engagement

Early engagement of the person is important, as 41–70% do not attend the first follow-up appointment [62,63] and are thereby at increased risk of repeated episodes. Outreach services have been the most successful in achieving follow-up [63,64].

Early, pro-active follow-up may enhance engagement and attendance [65–68]. Home visits improve treatment attendance [66], and studies of repeated DSH have found that intensive follow-up [69] and domiciliary care [70] [II] do likewise.

'Predicting' repetition of DSH, or suicide

A high index of suspicion is appropriate [V–1]. Protocols for suicide risk assist clinicians to make a thorough assessment but are not intended for use as instruments of prediction. Instruments designed to predict repetition of DSH are of little clinical use. The Edinburgh Risk of Repetition Scale, for example, showed modest sensitivity and low specificity when tested in validation cohorts [71,72] [III–2]. Furthermore, prediction of suicide in specific individuals is of even less clinical utility [13,73,74] [III–2].

'Clinical assessment concerns itself with estimating suicide risk over short periods – hours, days or weeks . . . The usual predictive studies concern themselves with forecasting over a lifetime, or over some stipulated future term' [75]. Because it is not possible to predict which individual will repeat DSH or commit suicide, we recommend that the patient's risk assessment be routinely re-evaluated and documented so as to alert staff to any important change.

Psychiatric hospitalization

A minority of DSH patients will be referred to a psychiatric hospital on discharge from a general hospital or emergency department. The estimated referral rate to psychiatric hospitals is 5–10% in the UK and 21.4% in Australia [2,4]. An Australian study found that 13.4% of DSH patients were discharged to another acute hospital or another psychiatric hospital [11]. Referral to a psychiatric hospital may be voluntary or involuntary. Although the risk of self-harm can be used to invoke mental health legislation for involuntary psychiatric hospitalization, no RCTs examine this specifically. One RCT of psychoanalytically orientated 'partial hospitalization' is discussed under 'psychological therapies' [76].

Current treatment evidence

Primary care

A recent cluster RCT in the UK evaluated the use of CPGs in general practice after patient discharge from hospital. General practitioners wrote inviting patients to a follow-up consultation, but intervention did not affect repeat rates after 12 months [77] [II].

General practice as a setting for management has received little attention, despite our knowledge that people often visit their GP prior to self-harm [28,78]. Counselling intervention by GPs in the UK improved patients' problem-solving more effectively than standard outpatient and after-care [79]. There have been no such studies in Australia or New Zealand, where research has been limited to describing the potential role of primary care and the resources required, and the feasibility of GP screening and risk assessment.

General practitioners who provide psychiatric after-care should be supported by specialist mental health services and must be ready to seek specialist advice [V–2].

Psychological treatment

Treatment aims are to reduce repetition of episodes and to enhance coping and problem-solving skills, interpersonal communication, social networking and quality of life. This CPG focuses on strategies to reduce the risk of repetition. For evidence derived from RCTs, see Table 6.

All RCTs concerned with reducing the repetition of DSH shared methodological problems that hinder interpretation: inadequate sample sizes; exclusion of high-risk groups; use of usual or standard treatment as the control; and self-reporting rather than objective measurement.

Nevertheless, three trials have shown a reduced rate of repetition [76,80,81]. As they used inclusion and exclusion criteria, the interventions were not aimed at all hospital-treated patients who had self-harmed. Two studies looked at patients with borderline personality disorder [76,80]. Another retained only a fifth of its original sample, excluding high-risk groups (such as those referred to a psychiatric hospital on discharge from a general hospital) [81]. Two used manualized treatment interventions that would enhance accuracy in replication studies [80,81].

Dialectical behaviour therapy (DBT)

DBT combines behavioural and psychoeducational elements and has four components: individual therapy; group-based skills training; out-of-hours telephone contact; and therapist supervision group. Patients are exposed to stimulation, requiring emotional and behavioural adaptation. When compared to treatment as usual (alternative therapy referrals), DBT reduced repeated parasuicide during the year of treatment and the subsequent 6 months [80] [II], but there was no difference at further follow-up [82]. The Cochrane review also reported a beneficial effect versus 'treatment as usual' [83].

Table 6. Psychological therapies to reduce repetition of deliberate self-harm (DSH)

Effective therapies
No psychological therapy has proven to be effective for all patient groups [83] [I]
Dialectical behaviour therapy: for women with borderline personality disorder and multiple DSH episodes [80] [II]
Psychoanalytically informed partial hospitalization program: for borderline personality disorder [76] [II]
Brief interpersonal psychodynamic therapy: for patients not referred for psychiatric hospitalization after DSH [81] [II]

Ineffective therapies
Problem solving [9,79,85,125] [I, II]
Intensive intervention plus outreach [8,64,69,70,127] [I, II]
Emergency cards ('green cards') guaranteeing access to services [130], [I, II]
Inpatient behaviour therapy *versus* inpatient insight-orientated therapy [131] [II]
General hospital admission *versus* discharge [132] [II]
Long-term therapy *versus* short-term therapy [88] [II]

Therapies of unknown but doubtful efficacy
'No self-harm' and 'no suicide' contracts [92,94,95] [IV]

Therapies that might increase harm
Continuity of care by the same therapist [88] [II]
Repressed or recovered memory therapies [89] [V-2]

Psychoanalytically informed partial hospitalization

One trial found that for patients with borderline personality disorder, this treatment, compared to standard psychiatric care, decreased DSH at 6 month and 18 month follow-up [76,84] [II]. However, it was not possible to elicit the independent effects of hospitalization and psychotherapy.

Brief psychodynamic-interpersonal therapy

In a trial of hospital-treated DSP patients, participants were given either four sessions of this therapy in their homes or 'standard care' (mostly referral back to GPs) [81] [II]. Many were excluded, including those referred for psychiatric hospitalization. Nonetheless, at 6 months, therapy had reduced self-reported self-harm (9% *vs.* 28%).

Other beneficial outcomes

The authors of the Cochrane review intended to examine outcomes such as compliance with treatment, depression, hopelessness, suicidal ideation/thoughts and changes in problem resolution, but were unable to obtain the necessary data from the original trials [83].

Nevertheless, beneficial outcomes have been reported, such as those from the three treatment modalities referred to above: less severe episodes, better retention in individual therapy and reduced psychiatric hospitalization [80]; improvement in depressive symptoms, reduced hospitalization and better social and interpersonal functioning [84]; reduced suicidal ideation and increased satisfaction with care [81]. Other studies reported improvements in these areas: attendance for treatment [64,70]; depression, hopelessness and suicidal ideation [79]; problem-solving [85]; interpersonal problem-solving and self-perception [86]; and self-rated depression [87].

Where risk of harm may outweigh benefits

(1) Same therapist

An RCT of patients with a history of DSH looked at follow-up by the same therapist or another after a 3-day hospitalization [88] [II]. It found a higher proportion of repeaters in the 'same therapist' group (18% *vs.* 5%), with a relative risk of 3.22 (95% CI = 1.18–9.38). The authors suggested that risk factors for repetition may have been higher in the 'same therapist' group despite randomization [88].

(2) Recovered memory therapies

While general cautions have been expressed about the dangers inherent in these therapies [89], there have been few studies. A case series of DSH patients treated with recovered memory therapy reported an increase in suicide attempts [90], but the study had serious flaws.

(3) 'No self-harm' contracts

'No-suicide' contracts were first proposed in 1973 for use in an established psychotherapeutic relationship [91]. The practice of asking suicidal persons to 'guarantee safety', now quite widespread, was incorrectly believed to prevent DSH and to protect the clinician from litigation [92,93]. There is no evidence of therapeutic benefit [92,94].

One study of psychiatrists and psychologists found that the use of contracts was limited by problems such as the unpredictability of suicide, the variety within the practice and the 'complex psychological reactions of clinicians' [92]. Of respondents to a survey of psychiatrists in Minnesota, 57% had used contracts and 41% of those had patients who, nevertheless, had suicided or seriously attempted suicide [94]. In hospital settings, where 'no-suicide' contracts are likely to be linked to assessment of high risk, a study has reported increased rates of DSH among patients with contracts [95].

In summary, there is no evidence that 'no-suicide' contracts prevent suicide or DSH and they may even be detrimental.

Pharmacological treatment

Of the four RCTs of pharmacological interventions, most have substantial methodological limitations, including small sample sizes, unclear inception rules and short-term follow-up. The studies were of flupenthixol versus placebo [96], mianserin versus placebo [97], mianserin or nomifensine versus placebo [98] and paroxetine versus placebo [99]. A meta-analysis of the antidepressant trials showed no benefit over placebo, OR = 0.83 (95% CI = 0.47–1.48) [83]. See Table 7.

Only flupenthixol (used as a depot antipsychotic in Australia and New Zealand) has demonstrated a significant effect over placebo in reducing repetition of self-harm [96] [II]. However, the very high repetition rate of 75% in the placebo group may have produced a type-1 error. As this was a small, unreplicated study, and given the drug's side-effects, flupenthixol is not recommended.

Adverse effects

There has been much interest in the use of antidepressants for DSH. Case reports describe intense suicidal ideation and urges to self-harm after starting SSRI treatment or increasing the dosage [100–102]. Observational studies report more suicide and DSH in

Table 7. Summary of randomised controlled trials for pharmacological intervention to reduce repetition of deliberate self-harm (DSH)

Study	Effect	Adverse effects
Flupenthixol *vs.* placebo [96]	Beneficial effect (21% *vs.* 75%)	No information given
Mianserin *vs.* placebo [92]	No difference (47% *vs.* 57%)	No information given
Mianserin or nomifensine *vs.* placebo [98]	No difference (21% *vs.* 13%)	No information given
Paroxetine *vs.* placebo [99]	No difference (33% *vs.* 47%)	Diarrhoea (22% *vs.* 2%) Tremor (17% *vs.* 2%) Delayed orgasm (19% *vs.* 0%)

patients prescribed an SSRI than in those taking a TCA [103–106]. While this may be due to selection bias, prescribing 'safer' SSRI antidepressants may not reduce DSH. Conversely, the US Food and Drug Administration has reported no difference in rates of suicide and DSH between various antidepressants or between drug treatment and placebo [107,108]. Clinicians should inform patients (and their carers where appropriate) that increased agitation and/or suicidal thoughts may accompany the start of SSRI treatment or with increase in dosage.

Patients at risk of DSH may be vulnerable to toxicity in all psychoactive medications, not just antidepressants. An Australian study of hospital-treated patients found that deliberate self-poisoning recurred after a brief interval and that the agent was often a prescribed psychotropic medication [109] [III–2]. The relative toxicity of antidepressants, antipsychotics, benzodiazepines and anticonvulsants in deliberate self-poisoning has been quantified [110–114]. Clinicians should look for low relative toxicity when selecting any psychoactive drug for patients at increased risk of deliberate self-poisoning.

Lithium

A meta-analysis of major mood disorders found that lithium reduced the risk of suicide and DSH by 8.6 times (from 3.2 per 100 patient years to 0.37) [115]. The corresponding rates in a study of bipolar disorder were from 2.2 per 100 patient years to 0.39, which for lithium, is a reduction of 5.6 times [116]. Moreover, the rate of DSH increased 7 times after discontinuing lithium (16 times within the first year), and fatalities by nearly 9 times. However, a Cochrane review of nine trials of lithium as a maintenance treatment for mood disorders found that the small number of deaths and poor reporting of DSH precluded definitive conclusions about lithium's 'antisuicidal' effects [117].

A review by the Institute of Medicine found insufficient evidence that lithium reduces the long-term risk of suicide and DSH. This review questioned the literature's reliability, due to methodological limitations such as compliance difficulties with bipolar disorder patients and advocated further research.

Conclusion

There is no pharmacological treatment suitable for all DSH patients. Flupenthixol warrants investigation, but its use may be limited by adverse effects, cost, reluctance by patients to use a depot medication and ethical considerations. Lithium may be beneficial for some groups, particularly those with bipolar disorder. When prescribing medication, caution is essential.

Suicide (fatal deliberate self-harm) as an outcome

There are many studies that have been unable to demonstrate a reduction in death by suicide as the primary outcome. This is often attributed to this outcome being sufficiently uncommon in a statistical sense so as to require substantial sample sizes which are beyond the capacity of the studies to achieve. Nonetheless, there has been a single study, using a RCT design which demonstrated a reduction in death by suicide [118]. The patients in the intervention group were sent regular letters over a period of 5 years and had a significantly lower suicide rate than the control group who did not have this contact, during the first two years.

Medico-legal issues

While definitive medico-legal advice is beyond the scope of this CPG, there are three main areas to consider: duty of care, assessment of competence and mental health legislation. Each must be viewed within the individual clinical context.

Legislation in a number of jurisdictions allows reasonable force to be used to prevent a person from committing suicide. When the person is intent upon self-harm but not necessarily death, the situation is more complex. A recent review of the law relating to suicide stated:

> It seems clear that, regardless of the competency of the individual concerned, the law regards suicide as something that should be prevented. This is both explicit, as in the judicial statements that there is a state interest in the prevention of suicide, and implicit, as in the negligence cases where failure to prevent suicide has been held to be a breach of the duty of care. Furthermore, whilst the prevention of suicide and other forms of self-harm might be justified in the cases of prisoners and those formally detained pursuant to mental health legislation, case law clearly indicates an assumption that the duty arise in the cases of non-detained patients [119].

However, a recent legal opinion on DSH considers patient competency to be paramount [120], and cites this authority:

> an apparent suicide victim may be treated to save her life unless it is absolutely clear that the patient was both attempting to kill herself and was competent at the time to make that decision [121].

The key factor is the degree to which the clinician is certain of the patient's intention. A 'competent' patient can refuse medical treatment under common law, and patients have a right to refuse treatment under some legislation, for example the New Zealand Bill of Rights. Assessment of competence is therefore the central issue, as a recent article makes clear:

> If there is strong circumstantial evidence that a patient is incompetent and the consequences of treatment refusal are particularly dire, then it is reasonable to detain such a patient until competence can be determined [122].

In other words, competence is dependent on context as well as on what the patient says. So, if a patient presents to an emergency department after DSH, and then refuses treatment, it is reasonable to question their competency to make decisions about immediate health care. When courts consider the lawfulness of actions, they take account of the circumstances prevailing at the time:

> Even if it subsequently transpired that she was competent and wishes to kill herself, the intervention would still be legal. Faced with a patient in a casualty department who has taken a drug overdose, a doctor would be entitled to entertain these doubts and so act 'out of necessity' to save her life, albeit on a temporary basis [121].

Legal principles

The literature points to two over-arching legal principles.

The common law 'duty of care' to patients must be considered in all cases of DSH, as must the concept of 'necessity'. This means that in an emergency, treatment can proceed without the consent of the patient where: (i) the patient's competence is unknown; (ii) there is a risk to life or substantial risk to health; and (iii) it is reasonable to believe that treatment will reduce those risks:

Interventions (including medical treatment) may be justified at common law to the extent that it is reasonable to do so in circumstances, and providing what is done is reasonable, where the competence of the individual is unknown [121].

Assessment of the patient's 'competency' should be part of the clinical interview, although the ultimate determination of competency is by legal process.

The general presumption is that people are competent unless shown otherwise, and the onus is on the clinician to do that. Competence is established by deciding whether the person has the ability to understand the nature of a particular decision.

An English case, *Re C* (*Adult: Refusal of Treatment*) [1994] 1 WLR 290, gives the most comprehensive judicial guidance on assessing competence [122]. The court applied a three-stage test of the person's ability to: comprehend and retain relevant information; believe that information; and weigh it in the balance to arrive at a choice.

See Table 8 for a summary of medico-legal recommendations for management of DSH.

Conclusions

Deliberate self-harm is common and causes considerable distress to the person, their family and friends.

Provision of the services necessary for management of DSH is costly but essential.

General hospitals are often the first point of clinical contact but may not be appropriately organized to provide optimal services.

Hospital services should be organized to provide: admission via the emergency department; a safe environment; integrated medical and psychiatric management; risk assessment; identification of psychiatric morbidity; and adequate follow-up.

Only three psychological treatments and one pharmacological treatment have been shown to be effective in reducing repetition of DSH, based on a single RCT for each intervention without replication. Access

Table 8. Medico-legal recommendations for management of deliberate self-harm (DSH) [V-2]

Every person presenting with DSH to any health facility is to be given appropriate medical, surgical and psychiatric assessment and treatment.
Each case is to be considered on its merits, taking into account the clinical, ethical and legal perspectives.
Junior medical staff must consider involving senior consultant doctors in decision-making. This consultation should occur as early as is reasonably possible during assessment and not be confined to the period after treatment or discharge from hospital.
Patients must be adequately informed about appropriate treatment options, to enable them to reach a balanced judgement. However, a distressed, anxious, depressed, delirious, psychotic or demented patient, or a patient experiencing rejection, anger, guilt, grief, hopelessness or suicidal ideation, may not be able to form a balanced judgement.
It may be necessary to involve family members, *whanau*, friends, cultural support, etc. in decision-making about appropriate treatment options.
The treatment team must understand the specific requirements of the relevant Mental Health Act, Guardianship Act and Privacy Act (or equivalents).
The treatment team must also understand any other legislation relevant to suicidal patients, e.g. Crimes Act (NSW) 1900, s. 574B: 'It shall be lawful for a person to use such force as may reasonably be necessary to prevent the suicide of another person or any act which the person believes on reasonable grounds would, if committed, result in that suicide'.
Local policies and procedures for the management of DSH should be available in every health service [49].
Documentation in the clinical record is important for all stages of assessment, patient transfer, ongoing treatment and discharge planning.

to these psychological treatments in Australia and New Zealand is limited. They should be used where available, albeit with some caution given the limited evidence.

Widely available interventions have no impact on repetition. They may offer other benefits, but as these have not been the primary focus of study, they should be viewed cautiously.

The effect of follow-up care in psychiatric hospitals, in the community or by GPs is poorly understood, due to limited information.

Future research

A brief list of areas for future research includes:

1. The development and evaluation of interventions that reduce repetition of DSH and enhance level of function and quality of life.
2. Evaluation of the role of psychiatric hospitalization, which is common. Which factors predict referral from a general hospital and the duration of these admissions? Does psychiatric hospitalization reduce risk of DSH or suicide? Does it promote access to treatment for concurrent psychiatric disorder?
3. What do consumers want from treatment services? Are they adequately informed about available and effective options?
4. What are the rates of and risk factors for DSH in the community? What are people's needs, and what are the patterns in their use of services?

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Disclaimer

This document was compiled for the Royal Australian and New Zealand College of Psychiatrists (RANZCP). The information and advice it contains is based on current medical knowledge and practice as at the date of publication. It is intended as a guide only. The RANZCP accepts no responsibility for any consequences arising from relying upon the above information.

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Appendix

Existing guidelines: adult

American Psychiatric Association. Practice guideline for the treatment of patients with borderline personality disorder. *American Journal of Psychiatry* 2001; 158 (Suppl):1–52.

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NSW Health. *Mental health for emergency departments: a reference guide*. May 2002 (2 versions). Recommends specified levels of observation, physical examination and mental health consultation before discharge is considered.

Royal College of Psychiatrists/British Association for Accident and Emergency Medicine. *Psychiatric services to accident and emergency departments*. January 1996. Report of a joint working party.

Existing guidelines: adolescent/youth

Australasian College for Emergency Medicine and RANZCP. *Management of deliberate self-harm in young people*. June 2000 (2 versions). There is a rapid-read guide to policy development and clinical management for hospital emergency physicians and psychiatrists, as well as a full version including all references and methodology. Recommends, for all DSH patients, a triage level of ATS 3 or higher, assessment by emergency department doctor, and review by mental health clinician.

National Health and Medical Research Council. *Clinical practice guidelines: depression in young people*. March 1997 (5 versions). Makes suicide management recommendations, and focuses on screening for psychological distress, assessment of self-harm and suicide risk, and clinical management of depression in people aged 13–20 years.

Royal College of Psychiatrists. *Managing deliberate self-harm in young people*. London: RCP, 1998.

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Systematic reviews and meta-analyses

Hawton K, Arensmann E, Townsend E *et al*. Deliberate self-harm: systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition. *BMJ* 1988; 322:213–215. A Cochrane review, summarized in Table 6.

Institute of Medicine. Medical and psychotherapeutic interventions, *Reducing suicide: a national imperative*. Washington: National Academies Press, 2002. A comprehensive literature review and discussion of treatments and barriers to treatment.

Management of patients who deliberately harm themselves. *BMJ* 2002; 322:213–215. Recommends comprehensive assessment of suicide risk; individualized patient planning; formal assessment by a psychiatrist; outpatient treatment of psychiatric and psychosocial precipitating factors; contact for long-term follow-up.

van der Sande R, Buskens E, Allart E, van der Graaf Y, van Engeland H. Psychosocial intervention following suicide attempt: a systematic review of treatment interventions. *Acta Psychiatrica Scandinavica* 1997; 96:43–50. Recommends a cognitive-behavioural approach, but expresses concern that the results for the combined studies using a cognitive-behavioural approach may be too optimistic.