

Self-harm

The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care

National Clinical Practice Guideline Number 16

National Collaborating Centre for Mental Health

commissioned by the

National Institute for Clinical Excellence

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Contents

Guideline Development Group Membership	6
1 Introduction	11
1.1 National guidelines	11
1.2 The national self-harm guideline	14
2 Introduction to self-harm	16
2.1 What is self-harm and what does the guideline cover?	16
2.2 A note about terminology	18
2.3 Why do people self-harm?	18
2.4 Methods of self-harm	19
2.5 How common is self-harm?	21
2.6 Factors that are associated with self-harm	21
2.7 Special groups	23
2.8 The consequences of self-harm	25
2.9 Contact with services	26
2.10 How people who self-harm experience services	28
2.11 Assessment and treatment for people who self-harm	29
2.12 The prevention of self-harm	33
2.13 Research recommendations	34
3 Methods used to develop this guideline	35
3.1 Overview	35
3.2 The Guideline Development Group	35
3.3 Clinical questions	37
3.4 Systematic clinical literature review	37
3.5 Stakeholder contributions	46
3.6 Validation of this guideline	47
4 Recommendations	48
4.1 Issues for all services and healthcare professionals	50
4.2 The management of self-harm in primary care	53
4.3 The assessment and initial management of self-harm by ambulance services	55
4.4 The treatment and management of self-harm in emergency departments	57
4.5 Medical and surgical management of self-harm	59
4.6 Support and advice for people who repeatedly self-harm	63
4.7 Psychosocial assessment	64
4.8 Referral, admission and discharge following self-harm	65
4.9 Special issues for children and young people (under 16 years)	66
4.10 Special issues for older people (older than 65 years)	68
4.11 Psychological, psychosocial and pharmacological interventions	68
4.12 Research recommendations	69

5	Service user experience of services	73
5.1	Introduction	73
5.2	Methods	74
5.3	Findings	76
5.4	Health professionals' attitudes to self-harm	84
5.5	Clinical practice recommendations	86
5.6	Research recommendations	88
6	Consent	89
6.1	Introduction	89
6.2	Mental capacity	89
6.3	Advance directives	91
6.4	Who should assess capacity?	91
6.5	The role of the Mental Health Act	92
6.6	Intoxication	92
6.7	Young people	92
6.8	Putting these principles into practice	93
6.9	Clinical practice recommendations	97
6.10	Research recommendations	98
7	The medical and surgical care of people who have self-harmed	99
7.1	Introduction	99
7.2	The management of self-harm in primary care	100
7.3	The management of self-harm by ambulance staff	104
7.4	Information and laboratory services available to clinicians treating self-poisoning	109
7.5	The role of triage in the management of self-harm in emergency departments	112
7.6	Routine screening for plasma paracetamol concentrations	116
7.7	The treatment and management of self-poisoning by gut decontamination	118
7.8	Treatment and management of poisoning with salicylates	128
7.9	Treatment and management of paracetamol overdose	130
7.10	The use of flumazenil in the treatment and management of benzodiazepine overdose	134
7.11	Treatment and management of opioid overdose	140
7.12	The treatment and management of superficial wounds	142
7.13	Post-care services and information	148
8	Psychosocial assessment after hospital attendance for self-harm	149
8.1	Introduction	149
8.2	Literature review	150
8.3	The assessment of need	150
8.4	The assessment of risk	153
8.5	Integrating risk and needs assessment	158
8.6	Who should undertake assessments?	160
8.7	Clinical summary	160
8.8	Clinical practice recommendations	161
8.9	Research recommendations	165

9	Psychological, pharmacological and psychosocial interventions for the management of self-harm	166
9.1	Introduction	166
9.2	Current clinical practice	167
9.3	Studies included	168
9.4	Comparisons made	169
9.5	Psychological interventions	169
9.6	Pharmacological interventions	173
9.7	Psychosocial and other interventions	174
9.8	Clinical summary	177
9.9	Clinical practice recommendations	178
9.10	Research recommendations	179
10	References	181
11	Glossary	194
12	Abbreviations	198
13	Appendices	201

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1 Introduction

This guideline has been developed to advise on the short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care. The guideline recommendations have been developed by a multidisciplinary group of healthcare professionals, patients and their representatives, and researchers after careful consideration of the best available evidence. It is intended that the guideline will be useful to clinicians and service commissioners in providing and planning high quality care for those people who self-harm while also emphasising the importance of the experience of care for service users and carers.

1.1 National guidelines

1.1.1 What are clinical practice guidelines?

Clinical practice guidelines are 'systematically developed statements that assist clinicians and patients in making decisions about appropriate treatment for specific conditions' (Department of Health, 1996). They are derived from the best available research evidence, using predetermined and systematic methods to identify and evaluate all the evidence relating to the specific condition in question. Where evidence is lacking, the guidelines will incorporate statements and recommendations based upon the consensus statements developed by the Guideline Development Group.

Clinical guidelines are intended to improve the process and outcomes of healthcare in a number of different ways. Clinical guidelines can:

- Provide up-to-date evidence-based recommendations for the management of conditions and disorders by healthcare professionals
- Be used as the basis to set standards to assess the practice of healthcare professionals
- Form the basis for education and training of healthcare professionals
- Assist patients and carers in making informed decisions about their treatment and care
- Improve communication between healthcare professionals, patients and carers
- Help identify priority areas for further research.

1.1.2 Uses and limitations of clinical guidelines

Guidelines are not a substitute for professional knowledge and clinical judgement. Guidelines can be limited in their usefulness and applicability by a number of different factors: the availability of high quality research evidence, the quality of the methodology

used in the development of the guideline, the generalisability of research findings and the uniqueness of individual patients.

Although the quality of research in self-harm is variable, the methodology used here reflects current international understanding on the appropriate practice for guideline development (AGREE: Appraisal of Guidelines for Research and Evaluation Instrument; www.agreecollaboration.org), ensuring the collection and selection of the best research evidence available, and the systematic generation of treatment recommendations applicable to the majority of patients and situations. However, there will always be some patients for whom clinical guideline recommendations are not appropriate and situations in which the recommendations will not be readily applicable. This guideline does not, therefore, override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or carer (or significant other).

In addition to the clinical evidence, cost-effectiveness information, where available, is taken into account in the generation of statements and recommendations of the clinical guidelines. While national guidelines are concerned with clinical and cost effectiveness, issues of affordability and implementation costs are to be determined by the NHS.

In using guidelines, it is important to remember that the absence of empirical evidence for the effectiveness of a particular intervention is not the same as evidence for ineffectiveness. In addition, of particular relevance in mental health, evidence-based treatments are often delivered within the context of an overall treatment programme including a range of activities, the purpose of which may be to help engage the patient, and provide an appropriate context for the delivery of specific interventions. It is important to maintain and enhance the service context in which these interventions are delivered, otherwise the specific benefits of effective interventions will be lost. Indeed, the importance of organising care, so as to support and encourage a good therapeutic relationship, is at times more important than the specific treatments offered.

1.1.3 Why develop national guidelines?

The National Institute for Clinical Excellence (NICE) was established as a Special Health Authority for England and Wales in 1999, with a remit to provide a single source of authoritative and reliable guidance for patients, professionals and the public. NICE guidance aims to improve standards of care, to diminish unacceptable variations in the provision and quality of care across the NHS and to ensure that the health service is patient-centred. All guidance is developed in a transparent and collaborative manner using the best available evidence and involving all relevant stakeholders.

NICE generates guidance in a number of different ways, two of which are relevant here. First, national guidance is produced by the Technology Appraisal Committee to give robust advice about a particular treatment, intervention, procedure or other health technology. Second, NICE commissions the production of national clinical practice guidelines focused upon the overall treatment and management of a specific condition. To enable this latter development, NICE established seven National Collaborating Centres in conjunction with a range of professional organisations involved in healthcare.

1.1.4 The National Collaborating Centre for Mental Health

This guideline has been commissioned by NICE and developed within the National Collaborating Centre for Mental Health (NCCMH). The NCCMH is a collaboration of the professional organisations involved in the field of mental health, national service-user and carer organisations, a number of academic institutions and NICE. The NCCMH is funded by NICE and led by a partnership between the Royal College of Psychiatrists' research unit (College Research Unit – CRU) and the British Psychological Society's equivalent unit (Centre for Outcomes Research and Effectiveness – CORE). Members of the NCCMH reference group come from the following organisations:

- Royal College of Psychiatrists (RCPsych)
- British Psychological Society (BPS)
- Royal College of Nursing (RCN)
- National Institute for Social Work (NISW)
- College of Occupational Therapists (COT), now replaced by the Clinical Effectiveness Forum for the Allied Health Professions (CEFAHP)
- Royal College of General Practitioners (RCGP)
- Royal Pharmaceutical Society of Great Britain (RPSGB)
- Rethink Severe Mental Illness
- Manic Depression Fellowship (MDF)
- Mind
- Centre for Evidence Based Mental Health (CEBMH)
- Centre for Economics in Mental Health (CEMH)
- Institute of Psychiatry (IoP).

The NCCMH reference group provide advice on a full range of issues relating to the development of guidelines, including the membership of experts, professionals, patients and carers within Guideline Development Groups.

1.1.5 From national guidelines to local protocols

Once a national guideline has been published and disseminated, local healthcare groups will be expected to produce a plan and identify resources for implementation, along with appropriate timetables. Subsequently, a multidisciplinary group involving commissioners of healthcare, primary care and specialist mental health professionals, patients and carers should undertake the translation of the implementation plan into local protocols. The nature and pace of the local plan will reflect local healthcare needs and the nature of existing services; full implementation may take a considerable time, especially where substantial training needs are identified.

1.1.6 Auditing the implementation of guidelines

This guideline identifies key areas of clinical practice and service delivery for local and national audit. Although the generation of audit standards is an important and necessary step in the implementation of this guidance, a more broadly based implementation strategy will be developed. Nevertheless, it should be noted that the Commission for Healthcare Audit and Inspection (CHAI) will monitor the extent to which Primary Care Trusts (PCTs), trusts responsible for mental health and social care and Health Authorities have implemented these guidelines.

1.2 The national self-harm guideline

1.2.1 Who has developed this guideline?

The 'Guideline Development Group' (GDG) was convened by the NCCMH based upon advice from the Centre's reference group representatives, and supported by funding from NICE. The GDG consisted of service users and carers, academic experts in psychiatry and toxicology, and professionals from psychiatry, emergency medicine, general practice, social work services, the ambulance service and the Samaritans.

Staff from the NCCMH provided leadership and support throughout the process of guideline development, undertaking systematic searches, information retrieval, appraisal and systematic review of the evidence. Members of the GDG received training in the process of guideline development from the Centre for Evidence-Based Mental Health (CEBMH) and the Patient Involvement Unit for NICE. The National Guidelines Support and Research Unit, also established by NICE, provided advice and assistance regarding all aspects of the guideline development process.

All members of the Group made formal declarations of interest at the outset, updated at every GDG meeting. GDG members met a total of 21 times throughout the process of guideline development. For ease of evidence identification and analysis, members of the GDG formed sub-groups, or 'topic groups', covering identifiable treatment approaches. Topic groups were led by a national expert in the relevant field and supported by the NCCMH technical team, with additional expert advice from special advisers where necessary. Topic groups oversaw the production and synthesis of research evidence before presentation to the wider GDG. All statements and recommendations in this guideline have been generated and agreed by the whole GDG.

1.2.2 For whom is this guideline intended?

This guideline will be of relevance to all people aged 8 years of age and over who have self-harmed. Where the guideline refers to children and young people, this will apply to all people who are between 8 and 16 years of age inclusive. However, it should be borne in mind that local services vary the upper age limit depending upon whether a young person is in full-time education or not.

This guideline will not explicitly provide guidance on the management or treatment of people who have self-harmed in the context of a separate physical or other primary mental disorder. These may be dealt with in a future guideline.

In sum, this guideline is intended for use by:

- Individuals aged 8 years and over who have self-harmed, and their families/carers
- Professional groups who are involved in the care and treatment of people who have self-harmed, including emergency department staff, paramedical and ambulance staff, general practitioners, counsellors, paediatricians, paediatric nurses, psychiatrists, prison health staff, clinical psychologists, mental health nurses, community psychiatric nurses, social workers, practice nurses and others
- Professionals in other health and non-health sectors who may have direct contact with or are involved in the provision of health and other public services for those who have self-harmed. These may include occupational therapists, art therapists, pharmacists, and the police and professionals who work in the criminal justice and education sectors
- Those with responsibility for planning services for people who have self-harmed and their carers, including directors of public health, NHS trust managers and managers in PCTs.

1.2.3 Specific aims of this guideline

The guideline makes recommendations and good practice points for medical and surgical treatments and the use of psychological, psychosocial and service-level interventions in combination with medical and surgical treatments in the three phases of care. Specifically it aims to:

- Evaluate the role of specific medical and surgical interventions in the first 48 hours of care following an episode of self-harm
- Evaluate the role of risk assessment for people who have self-harmed
- Evaluate the role of specific psychological and pharmacological interventions following an episode of self-harm
- Evaluate the role of specific service delivery systems and service-level interventions in the treatment and care of people who have self-harmed
- Integrate the above to provide best practice advice on the care of individuals who have self-harmed through the first 48 hours of care and referral to mental health services if appropriate.

2 Introduction to self-harm

2.1 What is self-harm and what does the guideline cover?

The guideline has adopted the definition that self-harm is **'self-poisoning or self-injury, irrespective of the apparent purpose of the act'**. The guideline has, therefore, used a shorter and broader definition than that adopted by the World Health Organization (*'an act with non-fatal outcome, in which an individual deliberately initiates a non-habitual behaviour that, without intervention from others, will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognised therapeutic dosage, and which is aimed at realising changes which the subject desired via the actual or expected physical consequences'*) (Platt *et al.*, 1992). The guideline focuses on those acts of self-harm that are an expression of personal distress and where the person directly intends to injure him/herself. It is important also to acknowledge that for some people, especially those who have been abused as children, acts of self-harm occur seemingly out of the person's control or even awareness, during 'trance-like', or dissociative, states. It therefore uses the term 'self-harm' rather than 'deliberate self-harm'.

The scope has been limited in this way because the term 'self-harm' is a broad one and could be applied to the actions of many people at some time in their lives. Many behaviours that are culturally acceptable can result in self-inflicted physical or psychological damage, such as smoking, recreational drug use, excessive alcohol consumption, over-eating or dieting. Also, self-harm can occur as part of religious practice, as a form of political or social protest or as an act of 'body enhancement' (Babiker & Arnold, 1997; Walsh & Rosen, 1988).

Even when these types of self-harm are excluded, the guideline must address the needs of people whose self-harm varies greatly in its nature and meaning.

Box 1 gives five vignettes that, while by no means encompassing all types of circumstance in which self-harm occurs, illustrate the extent of this diversity. Also, the outcome for the people described by the vignettes would be very different in the absence of an intervention by care services.

NICE guidelines are principally for those who work for or use NHS services. The emphasis is therefore on the care of those people whose act of self-harm brings them to the attention of statutory services. Although this is perhaps only a minority of people who self-harm, they are an important group both because they are statistically at much higher risk of suicide than the rest of the population and because they often report that services fail to meet their needs. The guideline is limited to how services should respond in the 48 hours after an episode of self-harm, and the effectiveness of follow-up treatments; it does not consider in detail the longer-term care of people who self-harm, including those who self-harm repeatedly. Finally, the guideline does not address the needs of people who have thoughts of self-harm or of suicide but do not act on these.

Box 1

Five vignettes to illustrate the diversity of self-harm that falls within the remit of the guideline

1. A 55-year-old bank manager, married for 30 years and a mother of three children. She has had no recent major adverse life events. At age 30 she suffered a severe depressive illness that responded to ECT. She had been well and on no treatment for 23 years until she became depressed again 'out of the blue'. She became highly agitated and developed the depressive delusion that she was evil and would be responsible for the death of her children. To prevent this she drove to a secluded spot and took 100 tablets of her antidepressant.
2. A 19-year-old student who has no previous history of mental health problems or of self-harm. Towards the end of a party the young man, who had drunk 8 cans of lager, had an argument with his partner, went into the bathroom and swallowed a handful of aspirin tablets. He almost immediately regretted his action and told a friend who phoned for an ambulance which took him to the local emergency department.
3. A 22-year-old unemployed man who was raised in a series of children's homes. He was subjected to repeated abuse as a child and has a history of substance misuse. He has cut his arms since the age of 14 at an average frequency of about once every three weeks. This gives him relief from intense feelings of emptiness and despair. He presents to an emergency department for the third time in a month with superficial cuts to his forearm. He does not describe persisting low mood.
4. An 8-year-old boy, who was conceived when his mother was raped, was brought up by his mother and a stepfather whom the mother quickly married to avoid the shame of an illegitimate child. The boy was nevertheless called 'the bastard' by the stepfather, who also repeatedly sexually abused the boy from when he was about 4 years old. The mother was subject to frequent episodes of domestic violence at the hands of the pathologically jealous stepfather who attacked her for having a child by another man. The mother became depressed and began drinking heavily to 'escape' the beatings. When very drunk, the mother told the boy that her life was a misery and it was all because he had been born. In desperation the boy drank a bottle of bleach believing this would kill him and save his mother. He survived and was diagnosed as being depressed.
5. A woman in her thirties who was sexually abused by her father from the age of 2 until the age of 16. She has taken an overdose on two occasions with suicidal intent, and received life-saving hospital treatment. She also self-harms by cutting her arms and body as a relief from the experience of excruciating emotional pain, and as an alternative to attempted suicide. She describes herself as compelled to do this, and regards it as an act done to herself by herself which inflicts physical wounds with the intention paradoxically of helping herself rather than killing herself.

2.2 A note about terminology

The language of healthcare is always evolving. Also, healthcare workers from different professional backgrounds sometimes use different terms to describe the same concept. Furthermore, some terms are unacceptable to some service users. These differences reflect differing perspectives and can also sometimes exacerbate divisions. The Guideline Development Group had many discussions about terminology. It reached agreement on some issues; for example not to use the words 'deliberate' or 'intentional' to prefix self-harm and not to use the word 'commit' in relation to suicide. Many service users object to these terms, especially those who harm themselves during dissociative states, afterwards being unaware of any conscious intent to have harmed themselves. Also, it can be argued that prefixing the term 'self-harm' with 'intentional' would suggest that there may be accidental and non-intentional forms of self-harm. Clearly, the non-intentional forms, such as those carried out during dissociative states, are covered by the term 'self-harm' alone. And the suggestion that a person may accidentally self-harm would be misleading: we simply say that the person has had an accident.

Box 2 lists some of the terms that are commonly used to describe the behaviour that is the subject of this guideline.

Box 2

Common terms used to describe self-harm	
SYNONYMS	Self-harm Deliberate self-harm Intentional self-harm Parasuicide Attempted suicide Non-fatal suicidal behaviour Self-inflicted violence
SUB-TYPES	Self-poisoning Self-injury Self-mutilation

2.3 Why do people self-harm?

As vignette 1 shows, an individual episode of self-harm might be an attempt to end life. However, many acts of self-harm are not directly connected to suicidal intent. They may be an attempt to communicate with others, to influence or to secure help or care from others or a way of obtaining relief from a difficult and otherwise overwhelming situation or emotional state (Hjelmeland *et al.*, 2002). Paradoxically, the purpose of some acts of self-harm is to preserve life (as illustrated by vignettes 3 and 5). Professionals sometimes find this a difficult concept to understand.

One particular intention or motive might predominate or all might co-exist. This means that a person who self-harms repeatedly might not always do so for the same reason each time, or by the same method (Horrocks *et al.*, 2003). Thus assumptions about

intent should not be made on the basis of a previous pattern of self-harm; each act must be assessed separately to determine the motivation behind it. Failure to do this can result in the meaning of the act being misunderstood and in an interpretation that the service user finds judgemental or dismissive. This will inevitably lead to a breakdown in the therapeutic relationship, as well as making it less likely that appropriate help will be offered at times when a person is at high risk of suicide.

Consistent with these differences in intention and motive, people who self-harm might have very different expectations about how health services should respond and what constitutes a good outcome. In particular, people who harm themselves as a way of relieving distress (through cutting, for example) might be compelled to do this as a coping and suicide prevention strategy (as with the woman in vignette 5). They are likely to continue to need to do this until they receive appropriate and sufficient psychotherapeutic interventions and support.

Research into motivation and related risk factors comes from two main sources: asking service users at interview about their motivation to self-harm (usually recorded on checklists) and self-report. The interview and checklist approach is limited by the fact that the precise reason for a person to self-harm tends to be a very individual matter, and the same person may self-harm on different occasions for different reasons. The gain in statistical power using standard questionnaires may well be offset by the loss in specificity. The result is that scales to predict suicide have weak predictive power, because the absolute risk of suicide is so low (Dennehy *et al.*, 1996) (see Chapter 8).

2.4 Methods of self-harm

The methods of self-harm can be divided into two broad groups: self-poisoning and self-injury. People who self-poison are more likely to seek help than those who self-injure (Hawton *et al.*, 2002a; Meltzer *et al.*, 2002a). For this reason, studies that focus on people who attend emergency departments paint a different picture about the respective prevalence of these two forms of self-harm from studies of the general population.

About 80% of people who present to emergency departments following self-harm will have taken an overdose of prescribed or over-the-counter medication (Horrocks *et al.*, 2003). A small additional percentage will have intentionally taken a dangerously large amount of an illicit drug or have poisoned themselves with some other substance. The pattern of the type of drug taken in overdose has changed in recent years, largely with changes in their availability.

Recent studies of the method of suicide suggest that people who survive a medically serious suicide attempt may well have a poorer outcome in terms of life expectancy. For example, in a prospective study of 302 people who had made a serious attempt on their life, 1 in 11 had died within 5 years, with nearly 60% of deaths being by suicide, and a greater than expected number dying by vehicular accident (Beautrais, 2003). The method of self-harm may also depend on gender, with self-poisoning more frequent in adolescent females (92.4%) than in adolescent males (84.6%), and self-injury more frequent in adolescent males (15.4%) than in adolescent females (7.6%) (Hawton *et al.*, 2003c). Table 1 lists those substances most commonly reported to the National Poisons Information Service (NPIS) London Centre (and therefore an approximate index of which

drugs are taken in the more serious overdoses) as having been taken during acts of self-poisoning in 2002. Table 2 gives those drugs most frequently taken by people in self-poisoning incidents recorded by four surveys.

Table 1. Substances reported to the National Poisons Information Service (NPIS) London Centre in 2002 as implicated in self-poisoning

SUBSTANCE	NUMBER OF REPORTS	PERCENTAGE OF TOTAL ENQUIRIES
All analgesics and anti-inflammatory drugs	26,155	39
(Paracetamol)	10,368	15)
(Aspirin)	2,997	5)*
(Other analgesics)	12,790	19)
Antidepressants	10,433	15
Benzodiazepines	6,164	9
Major tranquilisers	3,873	6
Hypnotics/sedatives	3,603	5
Other	17,456	26
Total number of reports	67,684	100

*The exact figure is 4.4%

Table 2. Poisons implicated in self-poisoning episodes. The figures for each drug are percentages, rounded to the nearest whole number

Study	Townsend <i>et al.</i> , 2001	Bialas <i>et al.</i> , 1996	Thomas <i>et al.</i> , 1996	Kapur <i>et al.</i> , 1999	
Year of survey	1997	1992–3	1993–4 (12 weeks)	1996 (4 weeks)	
Location	Oxford	South Glamorgan	north-east England	Leeds, Manchester, Leicester, Nottingham	
Data type	presentations to Oxford general hospital	admissions to poison treatment centre	attendances at 6 A&E departments	discharges from A&E at 4 teaching hospitals	admissions to 4 teaching hospitals
Age group	all ages	over 15 years	over 10 years	over 16 years	over 16 years
Total number of episodes	1317	2307	945	203	274
Paracetamol	50	43	43	45	25
Aspirin	10.6	7	6	not stated	not stated
All analgesics	not stated	53	not stated	not stated	not stated
Benzodiazepines	not stated	30	15	not stated	not stated
Antidepressants	20.1	18	12	9	15
With alcohol	not stated	48	13	not stated	not stated

In contrast to those who attend emergency departments, self-injury is more common than self-poisoning in the population as a whole, perhaps by a ratio of 2:1 in teenagers (Hawton *et al.*, 2002a). Cutting is by far the most common means (Hawton *et al.*, 2002a; Horrocks *et al.*, 2003). Less common methods include burning, hanging, stabbing, swallowing objects, insertion, shooting and jumping from heights or in front of vehicles. The specific medical and surgical treatments for these less common methods of self-injury are not covered in this guideline, although the general principles of care are likely to be similar.

2.5 How common is self-harm?

Since many acts of self-harm do not come to the attention of healthcare services, hospital attendance rates do not reflect the true scale of the problem (Hawton *et al.*, 2002a; Meltzer *et al.*, 2002b). A national interview survey suggested that in Great Britain between 4.6% and 6.6% of people have self-harmed (Meltzer *et al.*, 2002a). However, even this might be an under-estimate. In a school survey, 13% of young people aged 15 or 16 reported having self-harmed at some time in their lives and 7% as having done so in the previous year (Hawton *et al.*, 2002a).

Overall, women are more likely to self-harm than men. This is most pronounced in adolescence, where girls may be three times more likely to self-harm than boys (Hawton *et al.*, 2002a).

Self-harm can occur at any age but is most common in adolescence and young adulthood (Meltzer *et al.*, 2002a). For example, based on a survey of 12,529 children and young people aged 5 years to 15 years, 1.3% had tried to harm themselves (data collected from parents) (Meltzer, 2002a). In contrast, only about 5% of all episodes of self-harm occur in people over the age of 65 (Dennis *et al.*, 1997; Draper, 1996; Owens *et al.*, 1991).

2.6 Factors that are associated with self-harm

2.6.1 Socio-economic factors and life events

Self-harm occurs in all sections of the population but is more common among people who are disadvantaged in socio-economic terms and among those who are single or divorced, live alone, are single parents or have a severe lack of social support (Meltzer *et al.*, 2002a).

Life events are strongly associated with self-harm in two ways. First, there is a strong relationship between the likelihood of self-harm and the number and type of adverse events that a person reports having experienced during the course of his/her life. These include having suffered victimisation and, in particular, sexual abuse (Hawton *et al.*, 2002a; Meltzer *et al.*, 2002a). Second, life events, particularly relationship problems, can precipitate an act of self-harm (Bancroft *et al.*, 1977).

Many people who self-harm have a physical illness at the time and a substantial proportion of these report that this is the factor that precipitated the act (De Leo *et al.*, 1999).

2.6.2 The association between self-harm and mental disorder

Most of those who attend an emergency department following an act of self-harm will meet criteria for one or more psychiatric diagnoses at the time they are assessed (Haw *et al.*, 2001). More than two-thirds would be diagnosed as having depression although within 12–16 months two-thirds of these will no longer fulfil diagnostic criteria for depression.

People diagnosed as having certain types of mental disorder are much more likely to self-harm. For this group, the recognition and treatment of these disorders can be an important component of care. In one survey of a sample of the British population, people with current symptoms of a mental disorder were up to 20 times more likely to report having harmed themselves in the past (Meltzer *et al.*, 2002a). The association was particularly strong for those diagnosed as having phobic and psychotic disorders. People diagnosed as having schizophrenia are most at risk and about one-half of this group will have harmed themselves at some time.

Certain psychological characteristics are more common among the group of people who self-harm, including impulsivity, poor problem-solving and hopelessness. Also, people who self-harm more often have interpersonal difficulties. It is possible to apply diagnostic criteria to these characteristics. This explains why nearly one-half of those who present to an emergency department meet criteria for having a personality disorder (Haw *et al.*, 2001). However, there are problems with doing this because:

- There is an unhelpful circularity in that self-harm is considered to be one of the defining features of both borderline and histrionic personality disorder.
- The diagnostic label tends to divert attention from helping the person to overcome their problems and can even lead to the person being denied help (National Institute for Mental Health in England, 2003).
- Some people who self-harm consider the term personality disorder to be offensive and to create a stereotype that can lead to damaging stigmatisation by care workers (Babiker & Arnold, 1997; Pembroke, 1994).

2.6.3 The association between self-harm and alcohol and drug use

About one-half of people who attend an emergency department following self-harm will have consumed alcohol immediately preceding or as part of the self-harm episode (Merrill *et al.*, 1992; Horrocks *et al.*, 2003). For many, this is a factor that complicates immediate management either by impairing judgement and capacity, or by adding to the toxic effects of ingested substances. About one-quarter of those who self-harm will have a diagnosis of harmful use of alcohol (Haw *et al.*, 2001). Men are more likely to drink before an episode of self-harm than women (Hawton *et al.*, 2003d), and are more likely to be misusing drugs or alcohol, as well as to have higher rates of several risk factors for suicide (Taylor *et al.*, 1999).

2.6.4 The association between self-harm and child abuse and domestic violence

Child sexual abuse is known to be associated with self-harm (Hawton *et al.*, 2002a; Meltzer *et al.*, 2002a), especially among people who repeatedly self-harm, as well as a range of mental health problems in adolescence and adulthood for females in particular. In one review of 45 studies on the effects of childhood sexual abuse, immediate and long-term symptoms of severe mental distress were typical and included: anxiety, depression, substance misuse, self-destructive behaviour, suicide and a tendency towards self-harm and re-victimisation (Kendall-Tackett *et al.*, 1993).

Prevalence rates for child sexual abuse are high: 20% to 30% for women, and 10% for men (Itzin, 2000), with 25% of women (and their children) experiencing domestic violence in their lifetime (Kershaw *et al.*, 2000). Underlying this are high rates of physical abuse. In the NSPCC child maltreatment study more than a fifth of children experienced physical violence regularly, 12% reported injuries and 7% suffered serious physical abuse (Cawson *et al.*, 2000). Comorbidity of domestic violence and child sexual and physical abuse is common (Hester, 2000).

It is important to note that socio-economic factors, such as unemployment and poverty, childhood experiences of abuse, and experiences of domestic violence are all associated with a wide range of mental disorders, as well as self-harm. How these experiences and factors interact needs to be explored and better understood. However, the NICE guideline on the treatment of PTSD in children and adults notes that there is a strong association between childhood sexual abuse and the development of childhood PTSD; the later emergence of self-harming behaviour may well be a later response to this (*Posttraumatic Stress Disorder: The Management of PTSD in Primary and Secondary Care*, forthcoming 2005; details available from NCCMH upon request).

2.7 Special groups

2.7.1 Diversity

There is no good evidence to suggest that the incidence of self-harm varies between different ethnic groups, with the exception of higher rates in young Asian women (Bhugra *et al.*, 1999).

A recent survey of gay men, lesbians and bisexuals has suggested that this group of people may have an increased rate of self-harm, which some groups reported was linked to their sexual orientation (King & Mckeown, 2003). However, the report also identified higher rates of bullying and victimisation among these groups, factors also linked to self-harm. It may be that these groups of people are bullied more often and that this may lead some to self-harm.

2.7.2 Young people

The rate of self-harm is relatively low in early childhood, but increases rapidly with the onset of adolescence (Hawton *et al.*, 2003c). Most acts of self-harm in young people never come to the attention of care services (Hawton *et al.*, 2002a) and it is also likely that many parents are unaware of the problem (Meltzer *et al.*, 2002a). Although clearly a manifestation of distress, self-harm in young people is often a 'marker' for the

presence of other problems that might have an important bearing on outcome, such as substance misuse, poor school attendance, low academic achievement and unprotected sex (Kerfoot, 1998; King *et al.*, 2001). Other issues relevant for young people include bullying, domestic violence, victimisation and child sexual and physical abuse.

2.7.3 Older people

Although it appears that older people are less likely to self-harm, the consequences are often more serious; it has been estimated that of every five older people who self-harm one will later die by suicide (Lawrence *et al.*, 2000; McIntosh, 1992). Consistent with this, older people who have self-harmed score highly on scales that measure suicidal intent (Merrill & Owens, 1990; Nowers, 1993) and their profile resembles that of older people who die by suicide (Dennis & Lindesay, 1995). In particular, older people who self-harm have high rates of physical ill health, social isolation and depression (Draper, 1996; Merrill & Owens, 1990; Pierce, 1977). Those with persistent depression are at particular risk of repetition of self-harm or suicide (Hepple & Quinton, 1997).

2.7.4 People with a learning disability

For those working with people with a learning disability, the term self-harm usually refers to 'self-injurious behaviour' (SIB), which includes 'head banging' and 'nail biting'. The prevalence of SIB varies between 17% and 24% and is more common in women and girls, those with very low IQ, with communication difficulties and with certain genetic disorders (Deb, 1998; Deb *et al.*, 2001). The management of SIB in people with a learning disability is outside of the scope of this guideline.

There has been little research about the prevalence and management of self-harm, of a type that is the focus of this guideline, in people with a learning disability.

2.7.5 People within the criminal justice system

Self-harm is much more common among prisoners than among the general population. One-half of female remand prisoners have self-harmed at some time in their lives and more than one-quarter in the previous year. The corresponding figures for men are about half of these. Perhaps as many as 10% of prisoners will self-harm during their term with the likelihood increasing with the length of time in custody. Highest rates are among sentenced female prisoners who have spent two or more years in prison, 23% of whom will have self-harmed during the current term (Meltzer *et al.*, 1999).

This high rate is largely explained by the fact that, among the prison population, there are much higher levels of the factors associated with self-harm. For example, between 12% and 21% of prisoners have at least four mental disorders simultaneously (including drug and alcohol dependence, personality disorder, neurotic disorder and psychosis); between 35% and 52% are dependent on opiates, stimulants or both; 20%–30% are severely dependent on alcohol; about one-half of female prisoners report having suffered violence in the home; and 10% of men and 33% of women report previous sexual abuse (Singleton *et al.*, 1998).

Cutting or scratching is the most common method of self-harm in prison. In contrast 90% of suicides in prison are by hanging and self-strangulation, although these account for only one-fifth of self-harm incidents.

The Safer Custody Group of HM Prison Service is gathering increasing evidence about the link between prison conditions and the frequency of self-harm and of suicide (HM Prison Service, 2001).

The problem of self-harm is probably even greater among women in high security hospitals (Wilkins & Warner, 2001).

2.8 The consequences of self-harm

2.8.1 Repetition and suicide

Following an act of self-harm the rate of suicide increases to between 50 and 100 times the rate of suicide in the general population (Hawton *et al.*, 2003b; Owens *et al.*, 2002). Men who self-harm are more than twice as likely to die by suicide as women and the risk increases greatly with age for both genders (Hawton *et al.*, 2003b). It has been estimated that one-quarter of all people who die by suicide would have attended a general hospital following an act of self-harm in the previous year (Owens & House, 1994).

About one in six people who attend an emergency department following self-harm will self-harm again in the following year (Owens *et al.*, 2002); a small minority of people will do so repeatedly. The frequency with which some of the latter group self-harm means that they are over-represented among those who present at an emergency department or receive psychiatric care. There is no good evidence to support the widely voiced opinion that people who harm themselves repeatedly, particularly by cutting, are less likely to die by suicide.

2.8.2 Physical health

Regardless of the person's intention, self-harm can result in long-lasting ill health or disability. Paracetamol poisoning is a major cause of acute liver failure requiring liver transplantation. Between 1998 and 2002, 111 liver transplants were carried out in England and Wales on people who had taken an overdose of paracetamol. This accounted for 4% of all liver transplants but 23% of all 'super-urgent' transplants – those in which the person is expected to die within 72 hours from fulminant liver failure (Chris Rudge, Medical Director UK Transplant, personal communication 2003). Self-cutting can result in permanent damage to tendons and nerves and scarring leading to disfigurement. More violent forms of self-injury often lead to permanent disability and/or hospitalisation.

2.8.3 The economic cost of self-harm

The assessment and treatment of people who self-harm uses a substantial amount of NHS resources. Most of this direct cost is accounted for by the estimated 150,000–170,000 attendances at an emergency department each year and the subsequent medical and psychiatric care (Yeo, 1993). Self-harm resulted in 68,716 hospital admissions in 2001/02. At the same time, over the past 10 years, the average daily number of NHS beds available for mental illness in England has almost halved with 63,000 beds available in the year 1988/89 and only 34,000 available in 2000/01 (Department of Health, 2003b). As one of the most common presentations to general

hospitals and one which has a strong tendency for recurrence and increased severity, self-harm presents a considerable economic burden to the individual, family, health services, and society as a whole.

Despite the importance to healthcare authorities, there have been precious few economic evaluations of self-harm that meet rigorous criteria for health economic evaluation (Drummond & Jefferson, 1996). The extent of economic burden associated with self-harm is dependent upon both how it is defined and the method of economic evaluation (Drummond *et al.*, 1997). Self-harm is associated with direct and indirect costs. Direct costs are incurred in the course of recognising, caring for and treating self-harm patients through primary care, secondary care and social care. Indirect costs include the effects of illness on work attendance and productivity, employer benefits (if any) extended to the individual, malpractice insurance and legal costs, cost of long-term disability and premature mortality, and intangible costs that may extend beyond the individual and her/his immediate family.

It is estimated that up to 20% of overdoses involve ingestion of antidepressants and that the rate of self-poisoning by this modality is increasing (Kapur *et al.*, 1998; Hawton *et al.*, 2003d). In terms of general hospital costs of antidepressant overdose, based on 240 episodes of self-poisoning over a five-month period in three teaching hospitals and three district hospitals in the UK, the total hospital cost for overdoses of SSRIs versus TCAs was estimated at £17,117 and £78,612 respectively (1999/2000 prices) (Kapur *et al.*, 2001). Per self-poisoning episode, the additional hospital cost of TCA poisoning compared with SSRI poisoning was £461, largely due to the increased number of inpatient days in the intensive care unit, which accounted for a cumulative additional cost of £5.1 million per year in the UK (Kapur *et al.*, 2002a).

The indirect costs of self-harm are unknown but, given its prevalence, are likely to be substantial, particularly in terms of days lost from work. However, what we do know is that after cardiovascular disease and cancer, suicide is the next most common cause of life years lost (Gunnell & Frankel, 1994), making self-harm and suicide important public health issues.

It is very difficult to evaluate the cost of treatments for self-harm because of the heterogeneous nature of self-harm and because there is little evidence about treatment effectiveness (see Chapter 9).

2.9 Contact with services

It is likely that many acts of self-harm do not come to the attention of healthcare workers and that only a minority result in assessment by specialist mental health services. A person who self-harms may seek advice or care from a variety of sources. These can be conceptualised as being at different levels of the care system. These levels also indicate the potential paths through care that an individual may follow. The picture of the number of people who present at each level and the extent to which they cross filters is incomplete.

Level 1: family, friends and acquaintances. The three-fold difference in prevalence of self-harm as reported by young people and by their parents (Meltzer *et al.*, 2002a) suggests that many acts of self-harm in the young do not come to the attention of their families.

Level 2: contact with workers not employed by the health service. This might be either face-to-face (for example with a teacher, a counsellor, a police or prison officer, a social worker or a worker from a voluntary sector agency) or with a person staffing a help-line. The last are frequently used by people who have self-harmed or who believe themselves to be at risk of doing so. In 2001, the Samaritans had more than 3 million verbal contacts. They estimate that their volunteers explored suicidal feelings with the caller in more than one-quarter of these.

Level 3: primary care health workers and ambulance staff. This includes members of the primary care team, ambulance staff and NHS Direct. About one-half of people who attend an emergency department following self-harm will have visited their GP during the previous month and about the same proportion will do so in the two months afterwards (NHS Centre for Reviews and Dissemination, 1998).

People who have self-harmed, their friends and their relatives often turn to the emergency ambulance service for help in resolving incidents of self-harm. Ambulance staff are increasingly better trained and skilled to provide essential care and treatment at the scene and during transportation to hospital for patients with diverse medical conditions. They are placed in a privileged position to provide immediate treatment and psychological support for patients who have self-harmed prior to their arrival at a place of safety. They often have access to the person's living environment and gain an insight from family and friends, who often are not present during hospital treatment, on events leading up to the incident of self-harm.

Level 4: accident and emergency departments. There are about 150,000 attendances at accident and emergency departments for self-harm each year. This is about 300 attendances per 100,000 of the population (Hawton *et al.*, 2003d; Kapur *et al.*, 1998), although the actual rates vary greatly in different parts of the country (Gunnell *et al.*, 1996).

Level 5: secondary care health services:

5a: hospital medical and surgical care. Self-harm is one of the top five causes of acute medical admission in the UK (Hawton & Fagg, 1992; Gunnell *et al.*, 1996). The proportion of those who attend an emergency department following self-harm, who are then admitted to a medical or surgical ward, varies across different parts of the country, with a usual minimum in reported figures of 40% (Hawton *et al.*, 1997; Horrocks *et al.*, 2003). For children and young people, the consensus is that admission to a paediatric ward for time to 'cool off', to undertake assessment of the child and family, and to address child protection issues, should these arise, should be the normal course of events (Royal College of Psychiatrists, 1998).

5b: mental health services. Perhaps one-half of those who present to an emergency department are assessed by a mental healthcare worker (Kapur *et al.*, 1998; Horrocks *et al.*, 2003) and between 5% and 10% will be admitted to a psychiatric ward (Horrocks *et al.*, 2003). Some services achieve much higher rates of assessment (Hawton *et al.*, 2003c). Once again there is wide variation between centres.

Level 6: tertiary services. The National Poisons Information Service provides a 24-hour telephone information service and maintains TOXBASE, which gives online information about the clinical management of poisoning. Both are free of charge to all NHS staff.

Toxicology units are a further important component of services for people who have self-poisoned. In exceptional cases, people who have poisoned themselves might be transferred to a specialist centre.

Other health service facilities at this level include burns units, plastic surgery units and specialist tertiary psychotherapy and therapeutic community units, which sometimes offer help to people who repeatedly harm themselves.

At each of these levels there are opportunities for improving the rate of detection of acts of self-harm and for identifying those who would benefit from more specialist help and so should pass through the 'filter' to a higher level of care. This particularly relates to interfaces between the levels that involve services managed by the health service. For example, there is a danger that important information gathered by the ambulance service, about the circumstances of self-harm, is not always received at an emergency department. Also, as mentioned above, a substantial number of people who present to an emergency department are discharged or decide to leave before a psychosocial assessment has been carried out.

2.10 How people who self-harm experience services

The importance of the experience of assessment, treatment and care for people who have self-harmed should not be underestimated. Many people who self-harm do not come to the attention of health services, and when they do, many do not return or are lost to follow up. Service users describe contact with health services as often difficult, characterised by ignorance, negative attitudes and, sometimes, punitive behaviour by professionals towards people who self-harm. With the risk of death by suicide being considerably higher among people who have self-harmed, whatever the expressed intent, and with their high rates of mental health problems, and alcohol and substance misuse, it is no longer acceptable for healthcare professionals to ignore, or fail properly to address, the experience of care by service users and carers. Engaging service users in a therapeutic alliance and promoting joint clinical decision-making on the basis of understanding and compassion is essential, especially if further help and treatment are to be offered.

To examine the current experience of service users and carers, this guideline reviewed the service user literature, and arranged two focus groups and an individual interview with a service user; all participants were contacted through two national self-harm service user organisations. The service users were also asked to identify the changes they would want to make in the general approach to treatment as currently experienced. To gain confirmation of service user and carer views from a different perspective, an existing review of health professional attitudes to self-harm was also identified and reviewed. The findings and recommendations regarding the experience of care can be found in Chapter 5.

2.11 Assessment and treatment for people who self-harm

2.11.1 Aims and principles of treatment

As with any other treatment, the overarching aims are to reduce harm and improve survival while minimising the harm that may result from the treatment. In addition, the experience of treatment and care needs to be acceptable to service users and carers. This is especially so for people who self-harm and who may be suffering psychological, social or drug- and alcohol-related problems, which need further help after the immediate physical problems have been adequately addressed. It is essential that service users and carers, where appropriate, are engaged effectively by clinicians in an atmosphere of respect and trust. Without this, further psychosocial assessment and referral for treatment will be difficult if not impossible. Issues of consent and ethics are considered in Chapter 6.

The key aims and objectives in the treatment of self-harm should, therefore, include:

- Rapid assessment of physical and psychological need (triage)
- Effective engagement of service user (and carers where appropriate)
- Effective measures to minimise pain and discomfort
- Timely initiation of treatment, irrespective of the cause of self-harm
- Harm reduction (from injury and treatment; short-term and longer-term)
- Rapid and supportive psychosocial assessment (including risk assessment and comorbidity)
- Prompt referral for further psychological, social and psychiatric assessment and treatment when necessary
- Prompt and effective psychological and psychiatric treatment when necessary
- An integrated and planned approach to the problems of people who self-harm, involving primary and secondary care, mental and physical healthcare personnel and services, and appropriate voluntary organisations
- Ensuring that the special issues applying to children and young people who have self-harmed are properly addressed, such as child protection issues, confidentiality, consent and competence.

A flowchart detailing the 'journey' a service user may take within services is given in Appendix 2.

2.11.2 Primary care and pre-hospital environment

Primary care professionals, community-based mental health workers, ambulance staff and others come into contact with people who have self-harmed with varying frequency. In this context, assessment and referral to the emergency department is the most

common action undertaken, in particular for self-poisoning. Sometimes, self-injury (but not self-poisoning) will be dealt with in primary care without referral for further physical treatment, usually by sympathetic GPs who have already had contact with the person. How many people who self-injure are treated in primary care is difficult to ascertain. Often, on-site counselling and psychological therapy services are available in primary care. In any event, psychosocial assessment should be undertaken by a professional trained to do so at the earliest opportunity. Treatment and care in these settings are considered in Chapter 7.

2.11.3 The emergency department and triage

On entry to the emergency department all patients undergo triage, a utilitarian system using predefined criteria in which the urgency with which a person needs treatment is evaluated using a formal and structured assessment. Triage allows patients to be categorised according to their needs and the urgency for treatment. It is widely regarded as essential in busy emergency departments, where overcrowding and shortage of resources are common (Brillman *et al.*, 1997). The triage system most commonly used in the UK is the Manchester Emergency Triage system (Mackway-Jones, 1996), which gives priority to patients largely according to their physical state. The role and tools used for triage are reviewed in Chapter 7.

Following triage, patients who have self-harmed should receive the requisite treatment for their physical condition, undergo risk and full psychosocial needs assessment and mental state examination, and referral for further treatment and care as necessary.

The same principles and services should be available for children, who should be treated either in a children's emergency department or in a separate area of the emergency department away from adults. Children also have a range of additional special needs, and for most children and young people admission overnight is indicated (unless they present to services earlier in the day) and psychosocial assessment can be undertaken the next day, including parents and significant others.

2.11.4 Medical and surgical treatment of self-harm

A range of medical and surgical interventions is available for the physical treatment of people who have self-harmed, including general and specific treatments for self-poisoning and self-injury. For this guideline, reviews of the evidence base of the following interventions have been undertaken, the findings and recommendations for which can be found in Chapter 7: triage, paracetamol screening, the general management of ingestion using gut decontamination, the specific treatment of overdose of paracetamol, benzodiazepine, opioid and other substances, and the treatment of superficial wounds. The closure of more complex wounds is beyond the scope of this guideline.

2.11.5 Assessment and psychological and pharmacological treatment of people who self-harm

The psychosocial and risk assessment of people attending emergency departments in the UK has been described as inadequate, characterised by low assessment rates and poor recording of mental health findings (Merrill *et al.*, 1992). Nevertheless, much progress has been made in improving services for this group of people in some parts of the UK,

and a number of emergency departments work closely with mental health services. However, given the potentially serious consequences of self-harm, with a significant number of people going on to kill themselves at a later date, effective and reliable means of assessment should be a priority for people who self-harm and present to services. In addition, following assessment, patients may be referred for further pharmacological or psychological treatment in inpatient, outpatient or other settings.

For this guideline we have undertaken a review of risk and needs assessment following self-harm (see Chapter 8). Also, psychological and pharmacological treatments specifically for people who self-harm have been reviewed for this guideline to help guide referral for additional treatment (see Chapter 9). Drug treatments reviewed include antidepressants and antipsychotics. Psychological treatments reviewed are: problem-oriented therapies, dialectical behaviour therapy, inpatient behaviour therapy and insight-oriented therapy, long- and short-term therapy, home-based family therapy and group therapy. Other psychosocial and service-level interventions are also reviewed in Chapter 9.

2.11.6 The relationship between emergency departments and mental health services for people who have self-harmed

Most people who self-harm and who present to health services will attend an accident and emergency department located on the site of a general hospital. As well as access to medical and surgical beds, many emergency departments have short-stay ward facilities where people who have taken an overdose can recover. Emergency departments must also be able to offer psychosocial assessments; this requires an interview room with adequate safety features.

With the exception of some minor injury units, which are staffed by nurses alone, all emergency departments are run by a team of doctors and nurses, including emergency nurse practitioners, with training in emergency medicine. Few employ staff with specialist mental health skills; it is therefore essential that there is a close working relationship between emergency departments and the local mental health service.

The structural relationship between emergency departments and mental health services varies greatly. In most parts of England and Wales, the two are managed by different NHS trusts and in some places there are no mental health services based on the same site as an emergency department. Also, in some settings there is no liaison psychiatrist dedicated to act as the bridge between mental health services and the general hospital. Regardless of the local service configuration, the guideline endorses the recommendations of the Royal College of Psychiatrists and the British Association for Accident and Emergency Medicine (Royal College of Psychiatrists, 2004), that:

- There is a joint responsibility for commissioners, mental health service managers and acute service managers to ensure that the input of mental health services to emergency departments is not overlooked in negotiations
- A consultant psychiatrist should be named as the senior member of staff in the local mental health services responsible for liaison with the emergency department
- A liaison group, with representatives from the emergency department and from mental health services should review issues of joint working between the two

services. This group might double up as a self-harm services planning group (Royal College of Psychiatrists, 1994).

In keeping with this organisational diversity, the nature and quantity of provision of specialist mental health input to emergency departments, and so to the assessment and care of people who have self-harmed, also varies greatly. In some sites, psychosocial assessments are made by emergency department staff while in others they are made by mental health nurses or social workers dedicated to working with people who have self-harmed. In yet others, these are undertaken by psychiatrists and/or psychiatric nurses as part of a more general mental health liaison service working closely with the emergency department team. In places where the relationship is less well developed, the only on-site, specialist mental health input to an emergency department is a trainee psychiatrist, whose main clinical responsibilities are elsewhere, working as part of an on-call duty rota. Often the nature and extent of mental health input to an emergency department will vary from shift to shift.

These differing arrangements are likely to affect the uptake of subsequent mental healthcare, as well as the quality and consistency of the psychosocial assessments. Where dedicated teams or workers make the assessments, they will often also provide short-term, follow-up mental healthcare for people discharged from an emergency department, or work assertively to ensure that such care is provided by local community teams. This is more difficult to achieve in settings where assessments are made by junior doctors working as part of an on-call rota.

Unfortunately, the training and supervision for junior psychiatrists in assessment, referral, treatment and follow-up varies considerably (Taylor, 1998). This is important because of the high proportion, estimated to be about 60% in one study (Van Heeringen, 1992), of those referred from an emergency department for specialist mental healthcare who fail to attend the subsequent appointment. This situation is even more serious when it is remembered that about 50% of people attending the emergency department following an act of self-harm are either not offered or do not wait for a psychosocial assessment in the emergency department. A number of studies have introduced different types of interventions to improve follow-up; these are reviewed in Chapter 9.

Whatever the arrangement, the principles underpinning the management of those who self-harm are the same (Royal College of Psychiatrists, 1994; also see Section 2.11.1). Whether the detailed psychosocial assessment is done by a member of the emergency department team or by a specialist mental health worker, the person must have had sufficient training and experience and have access to specialist supervision.

The requirement that 90% (rising to 98% by 2005) of patients must not wait longer than four hours from the time of entering an emergency department to the time of departure applies equally to people who have self-harmed (Department of Health, 2001b). The Royal College of Psychiatrists and British Association for Accident and Emergency Medicine (Royal College of Psychiatrists, 2004) have proposed standards for the response times of mental health staff requested to conduct psychosocial assessments (Table 3).

Table 3. Proposed response times (from being called) for mental health staff requested to conduct a psychosocial assessment in an emergency department

	Urban areas	Rural areas
First line attendance	30 minutes	90 minutes
Section 12 approved doctor	60 minutes	120 minutes

2.12 The prevention of self-harm

It is not within the scope of this guideline to make recommendations about the primary prevention of self-harm. However, it is important to acknowledge the potential for action, at the national level, that might reduce the number of people who self-harm or the seriousness of the consequences. These factors overlap with those that influence suicide rates (Department of Health, 2002). They include:

- The socio-economic conditions, such as poverty, unemployment and housing problems, that influence the prevalence of self-harm and problems with which it is associated, such as alcohol and substance misuse and mental illness (Gunnell *et al.*, 1995; Hawton *et al.*, 2001a).
- The relationship between self-harm and child sexual and physical abuse, and the association with domestic violence, suggests that if these could be addressed in the public services that have direct contact with children in terms of detection, protection and help, the need for many women to self-harm later in life could be reduced. This is also important with regard to secondary prevention: how healthcare workers respond to people who have been abused and go on to self-harm needs to be directly addressed through training. This is one of the objectives in the Department of Health's *National Suicide Prevention Strategy for England* (2002), and the *Women's Mental Health Strategy* implementation guidance (2003) makes recommendations on how this can be done.
- The availability of the means of self-harm. There is some evidence that a reduction in pack size for over-the-counter drugs has reduced the severity of the adverse consequences of overdose of aspirin and paracetamol (Hawton *et al.*, 2001b; Hawton, 2002).
- The development and use of prescription drugs that are safer in overdose: the advent and rapid uptake of SSRIs was at least in part the result of their reduced toxicity in overdose compared with the older tricyclic antidepressants, although a parallel reduction in the death rate from tricyclic overdose has not been forthcoming (Wilkinson & Smeeton, 1987).
- The overall rate of prescribing of psychotropic medication may causally influence the rate of self-poisoning (Forster & Frost, 1985), suggesting that prescription of psychotropic medication should be considered a public health issue.
- Factors that might promote self-harm as a culturally acceptable behaviour, particularly in the young. This would include the connection between self-harm and its portrayal in the media (Blood & Pirkis, 2001; Pirkis & Blood, 2001a, b; Hawton & Williams, 2001).

- Product information may have a place in suicide prevention strategies: the National Institute for Mental Health in England (NIMHE) is currently seeking to improve the safety warnings for over-the-counter medicines as a part of the UK Suicide Prevention Strategy (Department of Health, 2002), although it has to be recognised that information on the risks of overdose and poisoning could be used to aid suicide.

2.13 Research recommendations

- 2.13.1 Research, using appropriate survey and rigorous qualitative methods, should be conducted about the meaning of self-harm to people from different ethnic and cultural groups. This should include the exploration of issues of intentionality.
- 2.13.2 Epidemiological research should be conducted to determine the prevalence of self-harm in refugees and asylum seekers.
- 2.13.3 Appropriate multi-methodology research on self-harm as a response to child sexual and other abuse should be carried out, to include a review of the substantial service user literature, and to examine the range of interventions that service users believe to be supportive and helpful, including survivor organisations and networks and other voluntary organisations for women who self-harm.
- 2.13.4 An adequately powered epidemiological study, reporting all relevant outcomes, including quality of life, occupational status and potential, income, physical well-being and quality of relationship status, should be undertaken to establish the morbidity and mortality rates for specific drug ingestions used in self-harm.

3 Methods used to develop this guideline

3.1 Overview

The development of this guideline drew upon methods outlined by NICE (NICE, 2001; Eccles & Mason, 2001). A team of experts, professionals, service users and carers, known as the Guideline Development Group (GDG), with support from NCCMH staff, undertook the development of a patient-centred, evidence-based guideline. There are six basic steps in the process of developing a guideline:

- Define the scope, which sets the parameters of the guideline and provides a focus and steer for the development work
- Define clinical questions considered important for practitioners and service users
- Develop criteria for evidence searching and search for evidence
- Design validated protocols for systematic review and apply to evidence recovered by search
- Synthesise and (meta-) analyse data retrieved, guided by the clinical questions, and produce evidence statements
- Answer clinical questions with evidence-based recommendations for clinical practice.

The clinical practice recommendations made by the GDG are therefore derived from the most up-to-date and robust evidence base for the clinical effectiveness of treatments and services used in the care of people who self-harm. In addition, to ensure a service user and carer focus, the concerns of service users and carers regarding clinical practice have been highlighted and addressed by good practice points and recommendations agreed by the whole GDG. The evidence-based recommendations and good practice points are the core of this guideline.

3.2 The Guideline Development Group

The GDG consisted of service users and carers, academic experts in psychiatry and toxicology, and professionals from psychiatry, emergency medicine, general practice, social work services, the ambulance service and the Samaritans. NCCMH staff undertook clinical literature searches, reviewed and presented the evidence to the GDG, managed the process and contributed to the drafting of the guideline.

3.2.1 Guideline Development Group meetings

Twenty-one GDG meetings were held between June 2002 and December 2003. During each day-long meeting clinical evidence was reviewed and assessed to develop statements and recommendations. At each meeting all GDG members declared any potential conflict of interests. Service user and carer concerns were routinely discussed as part of a standing agenda.

3.2.2 Topic groups

The GDG divided its workload along clinically relevant lines to maximise the use of expert knowledge brought to the group by individual members. At the start of the development process two topic groups were formed: the medical topic group covered emergency department triage systems in relation to self-harm, and physical treatments including the management of poisoning and cuts; and the psychosocial topic group covered issues concerning risk and psychosocial assessment together with psychological and pharmacological treatments for self-harm. (A third topic group was formed following the resignation of the service users from the GDG – see Section 3.2.3 below.) Each topic group was chaired by a GDG member with expert knowledge of the topic area. Topic groups refined the clinical definitions of treatment interventions, and reviewed and prepared the evidence with the NCCMH review team. Topic group leaders reported the status of their group's work as part of the GDG standing agenda. GDG members assisted in drafting sections of the guideline relevant to their area of expertise.

3.2.3 Service users and carers

Individuals with direct experience of services – that is, experts by experience – gave an integral service user focus to the GDG and the guideline. The GDG originally included two service users and a carer. They contributed as full GDG members to developing clinical questions, helping to ensure that the evidence addressed their views and preferences, highlighting sensitive issues and terminology associated with self-harm, and bringing service user research to the attention of the GDG. The service users resigned from the group part-way through the development process. Since the GDG felt that the guideline development process was too far advanced for new service users to take a full role in the process, it invited the Director of the NICE Patient Involvement Unit to join the GDG. In addition, it set up a new topic group to represent service user views in the development process, inviting three service users to join this group. As part of its work the topic group convened two focus groups with service users. Material from these was used to supplement the literature review of user experiences of services (Chapter 5) and to support the development of good practice points. It is important to note that the carer on the GDG remained an active member of the GDG throughout, writing parts of the guideline and reviewing evidence and service user sections in particular.

3.2.4 Special advisers

Special advisers who had specific expertise in one or more aspects of treatment and management relevant to the guideline assisted the GDG, commenting on specific aspects of the developing guideline and making presentations to the GDG. Special advisers are listed in the guideline acknowledgements.

3.2.5 National and international experts

National and international experts in the area under review were identified through the literature search and through the experience of the GDG members. These experts were contacted to recommend unpublished or soon-to-be published studies in order to ensure up-to-date evidence was included in the evidence base for the guideline. Appendix 5 lists researchers who were contacted.

3.3 Clinical questions

Clinical questions were used to guide the identification and interrogation of the evidence base. The questions were developed using a modified nominal group technique. The process began by asking each member of the GDG to submit as many questions as possible. The questions were then collated and refined by the review team. At a subsequent meeting, the guideline chair facilitated a discussion to further refine the questions. At this point, the GDG members were asked to rate each question for importance. The results of this process were then discussed and consensus reached about which questions would be of primary importance and which would be secondary. The GDG aimed to address all primary questions, while secondary questions would be covered only if time permitted. Appendix 6 lists the clinical questions.

3.4 Systematic clinical literature review

The aim of the clinical literature review was to identify and synthesise systematically all relevant evidence in order to answer the clinical questions developed by the GDG. Thus, clinical practice recommendations are evidence-based as far as possible.

Where an existing NICE Technology Appraisal addressed one of the clinical questions, the GDG were obliged to adopt the relevant existing recommendations. If evidence was not available, then informal consensus methods were used (see Section 3.4.4) and the need for future research was specified.

A stepwise, hierarchical approach was taken to locating and presenting evidence to the GDG. The NCCMH developed the methodology for this process with advice from the National Guidelines Support and Research Unit (NICE) and after considering recommendations from a range of other sources. These included:

- Centre for Clinical Policy and Practice of the New South Wales Health Department (Australia)
- Clinical Evidence Online
- Cochrane Collaboration
- New Zealand Guideline Group
- NHS Centre for Reviews and Dissemination
- Oxford Centre for Evidence-Based Medicine

- Scottish Intercollegiate Guidelines Network (SIGN)
- United States Agency for Health Research and Quality
- Oxford Systematic Review Development Programme.

3.4.1 The review process

For clinical questions concerning interventions, the evidence base was formed from high quality randomised controlled trials (RCTs). For clinical questions concerning issues and procedures involved in the management of self-harm, the evidence base was formed from well-conducted research of a design relevant to the clinical question.

The review process involved:

- Developing search filters
- Searching for existing systematic reviews
- Searching for new primary research
- Selecting studies
- Synthesising the evidence.

3.4.1.1 Developing search filters

The review team developed search filters to search electronic databases that combined subject headings with free-text phrases. A filter was developed for the general topic 'self-harm'. This was combined with specific filters for a particular clinical question and appropriate research design (for example, 'systematic review' or 'RCT') as necessary. Occasionally, for example, for the review of the treatment of poisoning, the self-harm filter was modified. Search filters are listed in Appendix 7.

3.4.1.2 Searching for existing systematic reviews

The NCCMH review team undertook searches for existing systematic reviews published in English since 1995 (an arbitrary cut-off date to reduce the number of references found, and to restrict evidence to more recent material), which would answer the clinical questions posed by the GDG. The initial searches were undertaken in June 2002. A search of PubMed (MEDLINE) was also undertaken weekly beginning in April 2003 until the end of the guideline development process. The following databases were searched: EMBASE, MEDLINE, PsycINFO, Cochrane Library, CINAHL, Web of Science.

Systematic reviews were assessed for quality and eligibility (Appendices 8 and 9) before being assessed by the GDG for relevance to a clinical question. Where a relevant systematic review was identified searches were undertaken for studies published too late to be included, beginning two years before the publication date of the review in question. Where authors stated the date searches had been undertaken, the NCCMH review team undertook new searches from the beginning of that year. Each study included in an existing review was subjected to the same quality checks as those located through NCCMH searches, and the data were re-extracted according to NCCMH protocols (see below). Where existing reviews had been undertaken using Review

Manager (any version) authors were approached for data sets, although any used were checked for accuracy. For clinical questions where no existing systematic review was identified, searches were undertaken for all relevant evidence.

3.4.1.3 Searching for studies

To answer clinical questions concerned with interventions an initial search was undertaken for all RCTs in the area of self-harm. Where this did not reveal any studies to answer a particular clinical question, additional searches were undertaken outside of the area of self-harm – for example, for the management of wounds. Material to answer other clinical questions was searched for separately. For all questions the following electronic databases were searched: EMBASE, MEDLINE, PsycINFO, Cochrane Library, CINAHL, TOXLINE. For the review of service user experience the grey literature database, Sigle, was also searched. In addition, hand searches were made of the reference lists of all eligible studies, as well as of the list of evidence submitted by registered stakeholders (Appendix 3). Known experts in the field (see Appendix 5), based both on the references identified in earlier steps and on advice from GDG members, were approached for unpublished RCTs.¹ Studies were considered provided a full trial report was available. Studies published in languages other than English were used provided a native speaker was available.

If no RCTs were found to answer a clinical question the GDG adopted a consensus process (see Section 3.4.5). Future guidelines will be able to update and extend the usable evidence base starting from the evidence collected, synthesised and analysed for this guideline.

3.4.1.4 Study selection

All references located in searches of electronic databases were downloaded into Reference Manager and searched liberally to exclude irrelevant papers. The titles of excluded papers were double-checked by a second reviewer. All primary-level studies included after the first scan of citations were acquired in full and re-evaluated for eligibility. Appendix 8 lists the standard inclusion and exclusion criteria. Additional eligibility criteria were developed to assess trials of pharmacotherapy, and these are listed in Chapter 7. All eligible papers were critically appraised for methodological quality (see Appendix 10). The eligibility of each study was confirmed by at least one member of the appropriate topic group.

For some clinical questions, it was necessary to prioritise the evidence with respect to the UK context. To make this process explicit, the topic group members took into account the following factors when assessing the evidence:

- Participant factors (e.g. gender, age, ethnicity)
- Provider factors (e.g. model fidelity, the conditions under which the intervention was performed, the availability of experienced staff to undertake the procedure)
- Cultural factors (e.g. differences in standard care, differences in the welfare system).

¹Unpublished full trial reports were accepted where sufficient information was available to judge eligibility and quality.

It was the responsibility of each topic group to decide which prioritisation factors were relevant to each clinical question in light of the UK context, and then decide how they should modify their recommendations.

3.4.2 Synthesising evidence from RCTs

3.4.2.1 Data extraction

Where possible, outcome data from all eligible studies that met quality criteria were extracted onto a data extraction form (Appendix 11) and input into Review Manager 4.2 (Cochrane Collaboration, 2003). Where trial reports contained incomplete data and it was possible to contact the original authors, additional information was sought. Where mean endpoint or change scores were extracted and trial reports did not provide standard deviations, standard conversion formulas were used (see Appendix 12).

All dichotomous outcomes were calculated on an intention-to-treat basis (i.e. a 'once-randomised-always-analyse' basis). This assumes that those participants who ceased to engage in the study – from whatever group – had an unfavourable outcome (with the exception of the outcome of 'death by suicide' and 'complications arising from wound closure methods'). The effects of high attrition rates (defined as more than 50% of participants in a particular group leaving treatment early) were examined with sensitivity analyses, and studies were removed from efficacy outcomes if the possibility of bias was detected.

Consultation was used to overcome difficulties with coding. Data from studies included in existing systematic reviews were extracted independently by one reviewer directly into Review Manager and checked by a second reviewer. Where consensus could not be reached, a third reviewer was consulted. Masked assessment (i.e. blind to the journal from which the article comes, the authors, the institution, and the magnitude of the effect) was not used since it is unclear that doing so reduces bias (Jadad *et al.*, 1996; Berlin, 2001).

Information describing each study was also extracted and input into Review Manager 4.2. This was used to generate evidence tables (see Appendix 17). Where meta-analysis was not appropriate and/or possible, the reported results from each primary-level study were also presented in the evidence tables.

3.4.2.2 Meta-analysis

Where possible meta-analysis was used to synthesise data. If necessary, sub-analyses were used to answer clinical questions not addressed in the original studies or reviews.

The GDG was given a graphical presentation of the results using forest plots generated with Review Manager. Each forest plot displayed the effect size and 95% confidence interval (CI) for each study as well as the overall summary statistic with its 95% CI. The graphs were organised so that the display of data in the area to the left of the 'line of no effect' indicated a 'favourable' outcome for the treatment in question.

Dichotomous outcomes were presented as relative risks (RR) with the associated 95% CI (see Figure 1). A relative risk (or risk ratio) is the ratio of the treatment event rate to the control event rate. An RR of 1 indicates no difference between treatment and control. In Figure 1, the overall RR of 0.73 indicates that the event rate (i.e. non-remission rate)

associated with intervention A is about three-quarters of that with the control intervention, or in other words intervention A reduces non-remission rates by 27%. In addition, the 95% CI around the RR does not cross the 'line of no effect' indicating that this is a statistically significant effect. The CI shows with 95% certainty the range within which the true treatment effect should lie.

The number needed to treat (NNT) or the number needed to harm (NNH) was reported for each statistically significant outcome where the baseline risk (i.e. control group event rate) was similar across studies. In addition, NNTs calculated at follow-up were reported only where the length of follow-up was similar across studies. When length of follow-up or baseline risk varies (especially with low risk), the NNT is a poor summary of the treatment effect (Deeks, 2002).

Continuous outcomes were analysed as weighted mean differences (WMD) or standardised mean differences (SMD) when different measures (or different versions of the same measure) were used in different studies to estimate the same underlying effect (see Figure 2).

Figure 1. Example of a forest plot displaying dichotomous data

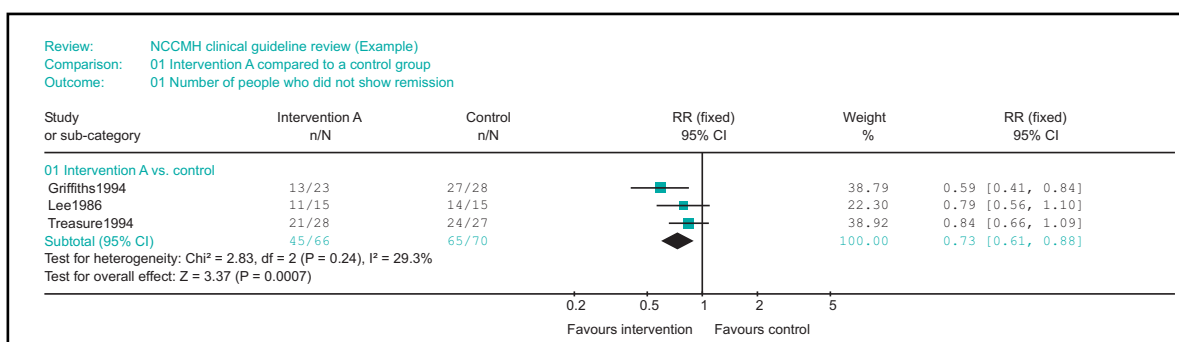
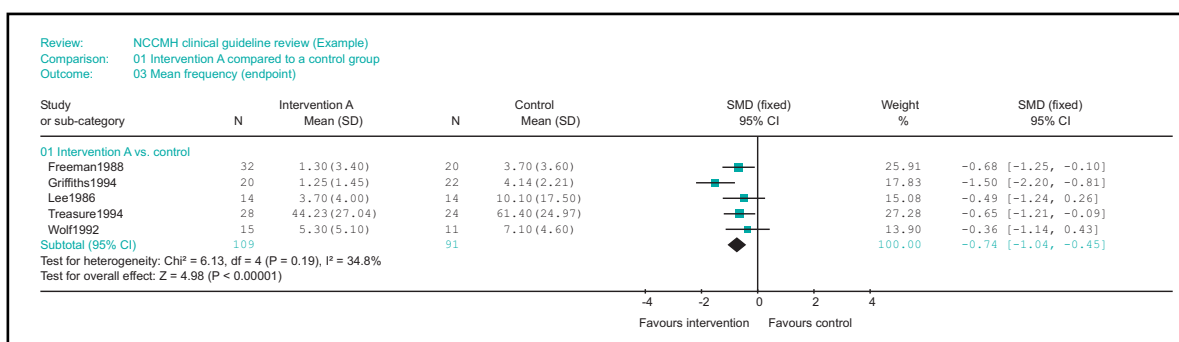


Figure 2. Example of a forest plot displaying continuous data



To check for heterogeneity between studies, both the I² test of heterogeneity and the chi-squared test of heterogeneity ($p < .10$), as well as visual inspection of the forest plots, were used. The I² statistic describes the proportion of total variation in study estimates that is due to heterogeneity (Higgins & Thompson, 2002). An I² of less than 30% was taken to indicate mild heterogeneity and a fixed effects model was used to

synthesise the results. This assumes that the underlying effect is the same (Egger *et al.*, 2001). An I^2 of more than 50% was taken as notable heterogeneity. In this case, an attempt was made to explain the variation. If studies with heterogeneous results were found to be comparable, a random effects model was used to summarise the results (DerSimonian & Laird, 1986). In the random effects analysis, heterogeneity is accounted for both in the width of CIs and in the estimate of the treatment effect. With decreasing heterogeneity the random effects approach moves asymptotically towards a fixed effects model. An I^2 of 30% to 50% was taken to indicate moderate heterogeneity. In this case, both the chi-squared test of heterogeneity and a visual inspection of the forest plot were used to decide between a fixed and random effects model.

To explore the possibility that the results entered into each meta-analysis suffered from publication bias, data from included studies were entered, where there were sufficient data, into a funnel plot. Asymmetry of the plot was taken to indicate possible publication bias and investigated further.

3.4.3 Developing statements and graded recommendations

The summary statistics (effect sizes; ES) and evidence tables formed the basis for developing clinical statements and recommendations.

3.4.3.1 Developing statements

For each outcome a clinical statement describing the evidence found was developed. To do this both the statistical and the clinical significance (i.e. the likely benefit to service users) of the summary statistic were taken into account.

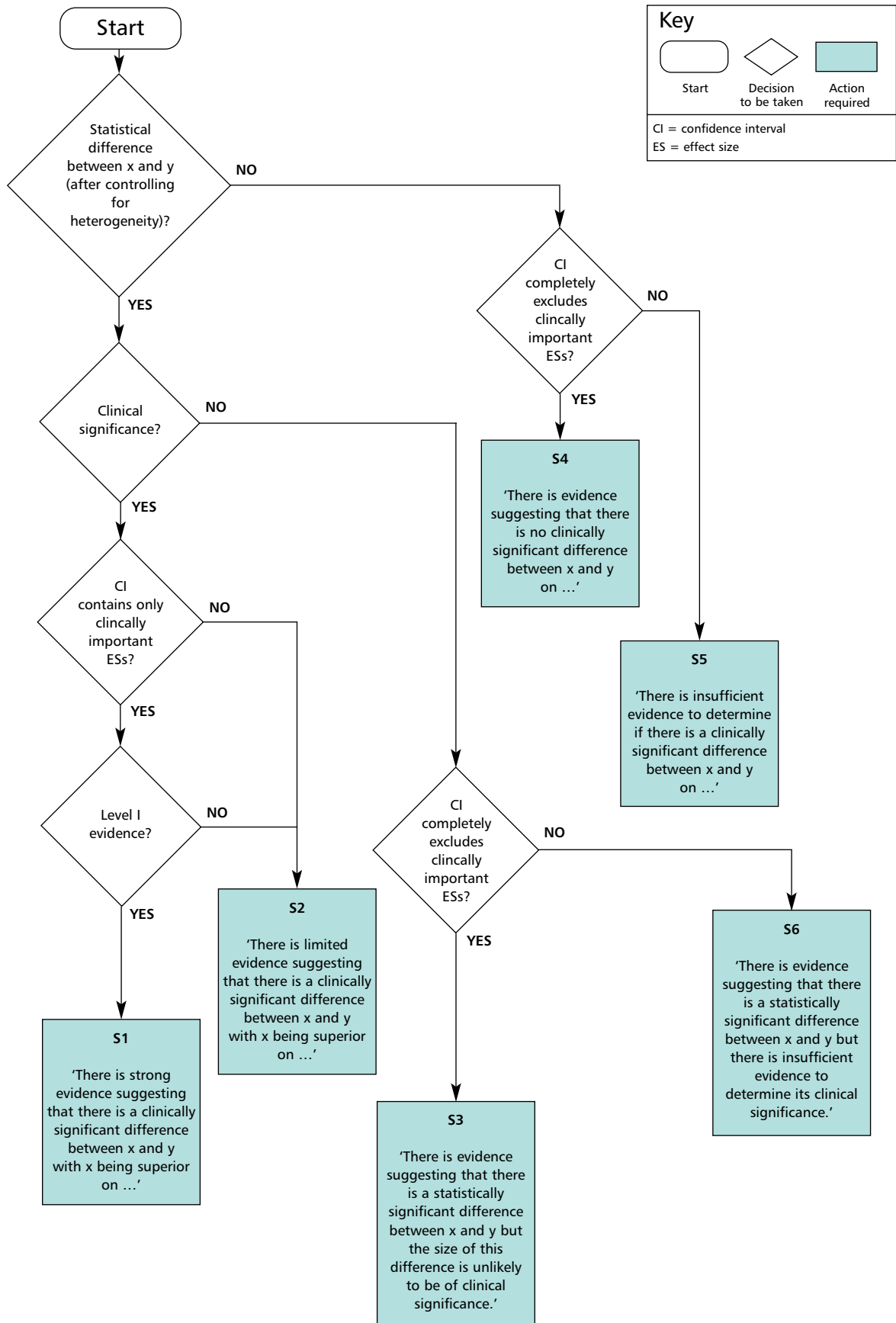
Assessing statistically significant summary statistics

Where a statistically significant summary statistic (effect size; ES) was obtained (after controlling for heterogeneity), the GDG considered whether this finding was of clinical significance (i.e. likely to be of benefit to patients), taking into account the trial population, nature of the outcome and size of the effect. On the basis of this consideration the ES was characterised as 'clinically significant' or not.

Once clinical significance had been established the strength of the evidence was assessed by examining the 95% CIs surrounding the ES. For level-I evidence, where the ES was judged clinically significant and had a CI entirely within a clinically relevant range, the result was characterised as 'strong evidence' (S1, Flowchart 1: Guideline Statement Decision Tree). For non-level-I evidence or in situations where the upper/lower bound of the CI was not clinically significant, the result was characterised as 'some evidence' (S2).

Where an ES was statistically significant but *not* clinically significant, and the CI excluded values judged clinically important, the result was characterised as 'unlikely to be clinically significant' (S3). Alternatively, if the CI included clinically important values, the result was characterised as 'insufficient to determine clinical significance' (S6).

Flowchart 1. Guideline Statement Decision Tree



Assessing non-statistically significant summary statistics

Where a non-statistically significant ES was obtained, the GDG reviewed the trial population, nature of the outcome, size of the effect and, in particular, the CI surrounding the result. If the CI was narrow and excluded a clinically significant ES, this was seen as indicating evidence of ‘no clinically significant difference’ (S4), but where the CI was wide this was seen as indicating ‘insufficient evidence’ to determine if there was a clinically significant difference or not (S5).

In order to facilitate consistency in generating and drafting the clinical statements the GDG utilised a statement decision tree (see Flowchart 1: Guideline Statement Decision Tree). The flowchart was designed to assist with, but not replace, clinical judgement.

3.4.3.2 Developing graded recommendations

Once all evidence statements relating to a particular clinical question were finalised and agreed by the GDG, the associated recommendations were produced and graded.

Table 4. Hierarchy of evidence and recommendations grading scheme

Level	Type of evidence	Grade	Evidence
I	Evidence obtained from a single randomised controlled trial or a meta-analysis of randomised controlled trials	A	At least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation (evidence level I) without extrapolation
IIa	Evidence obtained from at least one well-designed controlled study without randomisation	B	Well-conducted clinical studies but no randomised clinical trials on the topic of recommendation (evidence levels II or III); or extrapolated from level-I evidence
IIb	Evidence obtained from at least one other well-designed quasi-experimental study		
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies		
IV	Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities	C	Expert committee reports or opinions and/or clinical experiences of respected authorities (evidence level IV). This grading indicates that directly applicable clinical studies of good quality are absent or not readily available
		GPP	Recommended good practice based on the clinical experience of the GDG
Adapted from Eccles, M. & Mason, J. (2001). How to develop cost-conscious guidelines. <i>Health Technology Assessment</i> , 5, 8; NHS Executive. <i>Clinical Guidelines: Using Clinical Guidelines to Improve Patient Care Within the NHS</i> . London: 1996.			

Recommendations were graded A to C based on the level of associated evidence, or as a good practice point (GPP) (see Table 4).

Grading allowed the GDG to distinguish between the level of evidence and the strength of the associated recommendation. It is possible that a statement of evidence would cover only one part of an area in which a recommendation was to be made or would cover it in a way that would conflict with other evidence. In order to produce more comprehensive recommendations suitable for people in England and Wales, the GDG had to extrapolate from the available evidence. This led to a weaker level of recommendation (i.e. B, as data were based upon level-I evidence). In addition, it is possible to have methodologically sound (level-I) evidence about an area of practice that is of little direct clinical relevance or has such a small effect that it is of little practical importance. In this case, the evidence would attract a lower strength of recommendation (i.e. there would be necessity for extrapolation).

The process also allowed the GDG to moderate recommendations based on factors other than the strength of evidence. Such considerations include the applicability of the evidence to the people in question, economic considerations, values of the development group and society, or the group's awareness of practical issues (Eccles *et al.*, 1998).

It is important to understand that the grading of a recommendation relates to the source of evidence upon which the recommendation is based; it is not a reflection of the importance or value the GDG place upon the recommendation. Many GPPs are much more important than some A-level recommendations, especially those GPPs that aim to improve the experience of care for service users.

3.4.4 Synthesising qualitative material

Qualitative material was used to answer the clinical question about user experiences of services. Synthesising the material using a formal meta-synthesis methodology (for example, Noblit & Hare, 1988) was initially considered. However, such techniques are not well developed and the studies found in literature searches were unsuitable for such analysis. Therefore, a simple content analysis was undertaken. In order to triangulate the findings – that is, compensate for possible weaknesses in one data collection or analysis method by using additional methods – material from a systematic literature review was combined with that from two focus groups and an interview conducted by the GDG.

3.4.5 Method used to answer a clinical question in the absence of appropriately designed, high quality research

In the absence of level-I evidence (or a level that is appropriate to the question), or where the GDG were of the opinion (on the basis of previous searches or their knowledge of the literature) that there was unlikely to be such evidence, an informal consensus process was adopted. This process focused on those questions that the GDG considered a priority.

3.4.5.1 Informal consensus

The starting point for this process of informal consensus was that a member of the topic group identified, with help from the systematic reviewer, a narrative review that most directly addressed the clinical question. Where this was not possible, a brief review of the recent literature was initiated.

This existing narrative review or new review was used as a basis for beginning an iterative process to identify lower levels of evidence relevant to the clinical question and to lead to written statements for the guideline. The process involved a number of steps:

- A description of what is known about the issues concerning the clinical question was written by one of the topic group members
- Evidence from the existing review or new review was then presented in narrative form to the GDG and further comments were sought about the evidence and its perceived relevance to the clinical question
- Based on the feedback from the GDG, additional information was sought and added to the information collected. This may include studies that did not directly address the clinical question but were thought to contain relevant data
- If, during the course of preparing the report, a significant body of primary-level studies (of appropriate design to answer the question) were identified, a full systematic review was done
- At this time, subject possibly to further reviews of the evidence, a series of statements that directly addressed the clinical question were developed
- Following this, on occasions and as deemed appropriate by the development group, the report was then sent to appointed experts outside the GDG for peer review and comment. The information from this process was then fed back to the GDG for further discussion of the statements
- Recommendations were then developed and could also be sent for further external peer review
- After this final stage of comment, the statements and recommendations were again reviewed and agreed upon by the GDG.

3.5 Stakeholder contributions

Professionals, service users and companies have contributed to and commented on the guideline at key stages in its development. Stakeholders for this guideline include:

- Service user/carer stakeholders: the national service user and carer organisations that represent people whose care is described in this guideline
- Professional stakeholders: the national organisations that represent healthcare professionals who are providing services to service users
- Commercial stakeholders: the companies that manufacture medicines used in the treatment of self-harm
- Primary Care Trusts
- Department of Health and Welsh Assembly Government
- Regulatory agencies.

Stakeholders have been involved in the guideline's development at the following points:

- Commenting on the initial scope of the guideline
- Contributing lists of evidence to the GDG
- Commenting on the first and second drafts of the guideline.

3.6 Validation of this guideline

This guideline has been validated through two consultation exercises. First consultation drafts of the guideline (this full version and a shorter version – the NICE guideline) were submitted to the NICE Guidelines Review Panel and posted on the NICE website (www.nice.org.uk). Stakeholders and other reviewers nominated by the GDG were then informed that the documents were available for review.

The GDG reviewed comments from stakeholders, the NICE Guidelines Review Panel, a number of health authority and trust representatives and a wide range of national and international experts from the first round of consultation. The GDG then responded to all comments and prepared second consultation drafts of the guideline (the full guideline, the NICE guideline, the algorithm, and the *Information for the Public*). These were made available on the NICE website, and stakeholders were informed. Following additional comments, the drafts were amended and responses to comments were made. The final versions were then submitted to NICE to be signed off after review by the Guidelines Review Panel. Stakeholder comments from the two consultation phases, together with the GDG responses, are posted on the NICE website.

4 Recommendations

Key priorities for implementation

Respect, understanding and choice

- People who have self-harmed should be treated with the same care, respect and privacy as any patient. In addition, healthcare professionals should take full account of the likely distress associated with self-harm.

Staff training

- Clinical and non-clinical staff who have contact with people who self-harm in any setting should be provided with appropriate training to equip them to understand and care for people who have self-harmed.

Activated charcoal

- Ambulance and emergency department services whose staff may be involved in the care of people who have self-harmed by poisoning should ensure that activated charcoal is immediately available to staff at all times.

Triage

- All people who have self-harmed should be offered a preliminary psychosocial assessment at triage (or at the initial assessment in primary or community settings) following an act of self-harm. Assessment should determine a person's mental capacity, their willingness to remain for further (psychosocial) assessment, their level of distress and the possible presence of mental illness.
- Consideration should be given to introducing the Australian Mental Health Triage Scale, as it is a comprehensive assessment scale that provides an effective process for rating clinical urgency so that patients are seen in a timely manner.
- If a person who has self-harmed has to wait for treatment, he or she should be offered an environment that is safe, supportive and minimises any distress. For many patients, this may be a separate, quiet room with supervision and regular contact with a named member of staff to ensure safety.

Treatment

- People who have self-harmed should be offered treatment for the physical consequences of self-harm, regardless of their willingness to accept psychosocial assessment or psychiatric treatment.
- Adequate anaesthesia and/or analgesia should be offered to people who have self-injured throughout the process of suturing or other painful treatments.

- Staff should provide full information about the treatment options, and make all efforts necessary to ensure that someone who has self-harmed can give, and has the opportunity to give, meaningful and informed consent before any and each procedure (for example, taking the person to hospital by ambulance) or treatment is initiated.

Assessment of needs

- All people who have self-harmed should be offered an assessment of needs, which should be comprehensive and include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current suicidal intent and hopelessness, as well as a full mental health and social needs assessment.

Assessment of risk

- All people who have self-harmed should be assessed for risk: this assessment should include identification of the main clinical and demographic features known to be associated with risk of further self-harm and/or suicide, and identification of the key psychological characteristics associated with risk, in particular depression, hopelessness and continuing suicidal intent.

Psychological, psychosocial and pharmacological interventions

- Following psychosocial assessment for people who have self-harmed, the decision about referral for further treatment and help should be based upon a comprehensive psychiatric, psychological and social assessment, including an assessment of risk, and should not be determined solely on the basis of having self-harmed.

Guidance

The following guidance is evidence-based. The grading scheme used for the recommendations (A, B, C and good practice point (GPP)) is described in Chapter 3 (3.4.3.2); a summary of the evidence on which the guidance is based is provided in the full guideline (Chapters 5, 7, 8 & 9).

This guideline makes recommendations for the physical, psychological and social assessment and treatment of people in primary and secondary care in the first 48 hours after having self-harmed. For the purpose of this guideline, the term self-harm is defined as 'self-poisoning or injury, irrespective of the apparent purpose of the act'. Self-harm is an expression of personal distress, not an illness, and there are many varied reasons for a person to harm him or herself.

The recommendations in section 4.1 apply across the whole health community, wherever people who self-harm present for help, including good practice points to improve the integration of the different services involved. In the following sections, the recommendations directly address the care offered to people who self-harm presenting in primary care, in the community, or in secondary care. Throughout the guideline, the need to treat people who self-harm with compassion and understanding is emphasised.

The guideline is relevant to all people aged 8 years of age and older who have self-harmed. Where it refers to children and young people, this applies to all people who are between 8 and 16 years of age inclusive. However, it should be borne in mind that local services vary the upper age limit depending upon whether a young person is in full-time education or not.

4.1 Issues for all services and healthcare professionals

4.1.1 Users' experience of services

The experience of care for people who self-harm is often unacceptable. All healthcare practitioners involved in the assessment and treatment of people who self-harm should ensure that the care they offer addresses this as a priority.

Respect, understanding and choice

- 4.1.1.1 People who have self-harmed should be treated with the same care, respect and privacy as any patient. In addition, healthcare professionals should take full account of the likely distress associated with self-harm. (GPP)
- 4.1.1.2 Providing treatment and care for people who have self-harmed is emotionally demanding and requires a high level of communication skills and support. All staff undertaking this work should have regular clinical supervision in which the emotional impact upon staff members can be discussed and understood. (GPP)
- 4.1.1.3 Wherever possible, people who have self-harmed should be offered the choice of male or female staff for both assessment and treatment. When this is not possible, the reasons should be explained to the service user and written in their notes. (GPP)
- 4.1.1.4 When assessing people who self-harm, healthcare professionals should ask service users to explain their feelings and understanding of their own self-harm in their own words. (GPP)
- 4.1.1.5 When caring for people who repeatedly self-harm, healthcare professionals should be aware that the individual's reasons for self-harming may be different on each occasion and therefore each episode needs to be treated in its own right. (GPP)
- 4.1.1.6 Healthcare professionals should involve people who self-harm in all discussions and decision-making about their treatment and subsequent care. To do this, staff should provide people who self-harm with full information about the different treatment options available. (GPP)

When relatives or carers are present

- 4.1.1.7 People who self-harm should be allowed, if they wish, to be accompanied by a family member, friend or advocate during assessment and treatment. However, for the initial psychosocial assessment, the interview should take place with the service user alone to maintain confidentiality and to allow discussion about issues that may relate to the relationship between the service user and carers. (GPP)
- 4.1.1.8 Healthcare professionals should provide emotional support and help if necessary to the relatives/carers of people who have self-harmed, as they may also be experiencing high levels of distress and anxiety. (GPP)

Specific issues regarding treatment and care

- 4.1.1.9 People who have self-harmed should be offered treatment for the physical consequences of self-harm, regardless of their willingness to accept psychosocial assessment or psychiatric treatment. (GPP)
- 4.1.1.10 Adequate anaesthesia and/or analgesia should be offered to people who have self-injured throughout the process of suturing or other painful treatments. (GPP)
- 4.1.1.11 When physical treatment of self-injury is likely to evoke distressing memories of any previous sexual abuse, for example when repairing harm to the genital area, sedation should be offered in advance. (GPP)

4.1.2 Staff training and service planning

Self-harm is poorly understood by many NHS staff. All staff that come into contact with people who self-harm need dedicated training to improve both their understanding of self-harm and the treatment and care they provide. Effective collaboration of all local health organisations will be essential to develop properly integrated services.

Staff training

- 4.1.2.1 Clinical and non-clinical staff who have contact with people who self-harm in any setting should be provided with appropriate training to equip them to understand and care for people who have self-harmed. (C)
- 4.1.2.2 People who self-harm should be involved in the planning and delivery of training for staff. (GPP)
- 4.1.2.3 Emergency departments should make training available in the assessment of mental health needs and the preliminary management of mental health problems, for all healthcare staff working in that environment. (C)
- 4.1.2.4 Mental health services and emergency department services should jointly develop regular training programmes in the psychosocial assessment and early management of self-harm, to be undertaken by all healthcare professionals who may assess or treat people who have self-harmed. (C)

Planning of services

- 4.1.2.5 Strategic Health Authorities, Primary Care Trusts (PCTs), acute trusts and mental health trusts should ensure that people who self-harm are involved in the commissioning, planning and evaluation of services for people who self-harm. (GPP)
- 4.1.2.6 Emergency departments, PCTs and local mental health services, in conjunction with local service users and carers wherever possible, should jointly plan the configuration and delivery of integrated physical and mental healthcare services within emergency departments for people who self-harm. (C)
- 4.1.2.7 Emergency departments catering for children and young people under 16 years of age, PCTs and local children's mental health services, in conjunction with local carers and service users, should jointly plan the configuration and delivery of integrated physical and mental healthcare services within emergency departments for children and young people who self-harm. (C)
- 4.1.2.8 In jointly planning an integrated emergency department service for people who self-harm, service managers should consider integrating mental health professionals into the emergency department, both to improve the psychosocial assessment and initial treatment for people who self-harm, and to provide routine and regular training to non-mental-health professionals working in the emergency department. (GPP)
- 4.1.2.9 Emergency department and local mental health services should jointly plan effective liaison psychiatric services available 24 hours a day. (GPP)

4.1.3 Consent to care

Issues of consent, mental capacity and mental ill health in the assessment and treatment of people who self-harm should be understood and addressed by all healthcare professionals involved in the care of this group of people.

- 4.1.3.1 All healthcare professionals who have contact, in the emergency situation, with people who have self-harmed should be adequately trained to assess mental capacity and to make decisions about when treatment and care can be given without consent. (GPP)
- 4.1.3.2 Primary healthcare practitioners, ambulance staff, triage nurses and emergency department medical staff should assess and document mental capacity as part of the routine assessment of people who have self-harmed. Within the bounds of patient confidentiality, and subject to the patient's consent, staff should attempt to obtain relevant information from relatives, friends, carers and other key people, to inform the assessment. (GPP)
- 4.1.3.3 In the assessment and treatment of people who have self-harmed, mental capacity should be assumed unless there is evidence to the contrary. (GPP)
- 4.1.3.4 Staff should provide full information about the treatment options, and make all efforts necessary to ensure that someone who has self-harmed can give,

and has the opportunity to give, meaningful and informed consent before any and each procedure (for example, taking the person to hospital by ambulance) or treatment is initiated. (GPP)

- 4.1.3.5 If a person is assessed as being mentally incapable, staff have a responsibility, under common law, to act in that person's best interests. If necessary, this can include taking the person to hospital, and detaining them to allow assessment and treatment against the person's stated wishes. (GPP)
- 4.1.3.6 Staff should take into account that a person's capacity to make informed decisions may change over time. Whether it has been possible to obtain consent or not, attempts should be made to explain each new treatment or procedure and obtain consent before it is initiated. (GPP)
- 4.1.3.7 Staff working with people who self-harm should understand when and how the Mental Health Act can be used to treat the physical consequences of self-harm. (GPP)
- 4.1.3.8 Staff working with people who self-harm should have easy access to legal advice about issues relating to capacity and consent at all times. (GPP)

4.1.4 Activated charcoal

For the majority of drugs taken in overdose, taking activated charcoal as early as possible, preferably within 1 hour of ingestion, can prevent or reduce absorption of the drug. Activated charcoal should be immediately available for rapid and appropriate use.

- 4.1.4.1 Ambulance and emergency department services whose staff may be involved in the care of people who have self-harmed by poisoning should ensure that activated charcoal is immediately available to staff at all times. (B)
- 4.1.4.2 All healthcare professionals who are able to offer activated charcoal to people who have self-poisoned should ensure that they know how and when this should be administered. This should include:
 - knowing for which poisons activated charcoal should and should not be used
 - the potential dangers and contraindications of giving activated charcoal
 - the need to encourage and support service users when offering activated charcoal. (B)

4.2 The management of self-harm in primary care

Primary care has an important role in the assessment and treatment of people who self-harm. Careful attention to prescribing drugs to people at risk of self-harm, and their relatives, could also help in prevention. In remote areas, access to TOXBASE (the national database of the National Poisons Information Service [NPIS]) may be necessary.

- 4.2.1.1 When an individual presents in primary care following an episode of self-harm, healthcare professionals should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. (GPP)
- 4.2.1.2 All people who have self-harmed should be assessed for risk, which should include identification of the main clinical and demographic features and psychological characteristics known to be associated with risk, in particular depression, hopelessness and continuing suicidal intent. The outcome of the assessment should be communicated to other staff and organisations who become involved in the care of the service user. (C)
- 4.2.1.3 In the assessment and management of self-injury in primary care, healthcare professionals should refer service users for urgent treatment in an emergency department, if assessment suggests there is a significant risk to the individual who has self-injured. (GPP)
- 4.2.1.4 In most circumstances, people who have self-poisoned and present to primary care should be urgently referred to the nearest emergency department, because the nature and quantity of the ingested substances may not be clearly known to the person who has self-poisoned, making accurate risk assessment difficult. (GPP)
- 4.2.1.5 If there is any doubt about the seriousness of an episode of self-harm, the general practitioner should discuss the case with the nearest emergency department consultant, as management in secondary care may be necessary. (GPP)
- 4.2.1.6 Consideration should be given to the service user's welfare during transportation to any referral organisation and, if necessary, this should be supervised by an appropriate person where there is a risk of further self-harm or reluctance to attend other care centres, or the service user is very distressed. (GPP)
- 4.2.1.7 In remote areas at considerable distance from an emergency department or where access is likely to be delayed, consideration should be given to initiating assessment and treatment of self-harm in the primary care setting, following discussion with the nearest emergency department consultant. This should include taking samples to test for paracetamol and other drugs, as indicated in TOXBASE. (GPP)

When urgent referral to an emergency department is not necessary

- 4.2.1.8 If urgent referral to an emergency department is not considered necessary for people who have self-injured in primary care, a risk and needs assessment should be undertaken to assess the case for urgent referral to secondary mental health services. (GPP)
- 4.2.1.9 Assessment of the service user's needs should be comprehensive and should include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current intent and hopelessness, as well as a full mental health and social needs assessment. (C)

- 4.2.1.10 Following assessment and treatment of self-harm in primary care, the outcome of the risk and needs assessment, and full details of the treatment provided, should be forwarded to the appropriate secondary mental health team at the earliest opportunity. (GPP)
- 4.2.1.11 Healthcare professionals who may have to assess and/or treat people who have self-harmed should ensure that they are properly trained and competent to undertake assessment and treatment as necessary. (GPP)

Service users at risk of self-poisoning in primary care

- 4.2.1.12 In service users who are considered at risk of self-poisoning, healthcare professionals should prescribe, whenever possible, those drugs which, whilst effective for their intended use, are least dangerous in overdose, and should consider prescribing fewer tablets at any one time. (GPP)
- 4.2.1.13 Consideration should be given to preventing or reducing the prescription of co-proxamol, especially for people who are at risk of self-poisoning. (GPP)
- 4.2.1.14 As medication intended for relatives is often used in self-poisoning, healthcare professionals should prescribe, whenever possible, those drugs which, whilst effective for their intended use, are least dangerous in overdose when prescribing medication to relatives who live with a person who is considered at risk of self-poisoning. They should also consider prescribing fewer tablets at any one time. Care must be taken, however, to preserve confidentiality appropriately. (GPP)

4.3 The assessment and initial management of self-harm by ambulance services

Ambulance staff have an increasingly important role in the assessment and early treatment of self-harm, a role that needs to be well supported through effective collaboration with other professional groups.

- 4.3.1.1 When ambulance staff attend a person who has self-harmed, they should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. (GPP)
- 4.3.1.2 Ambulance staff should be trained in the assessment and early management of self-harm. Training should particularly address the different methods of self-harm and the appropriate treatments, the likely effects if untreated, and issues of consent and mental capacity, as these apply both to adults, and to children and young people. (GPP)
- 4.3.1.3 In cases where, following an act of self-injury, the service user does not require emergency treatment in the emergency department, ambulance staff should consider, having taken full account of the service user's preferences, taking the service user to an alternative appropriate service, such as a specialist mental health service. The decision to do so should be taken jointly between the ambulance staff, the service user and the receiving service. (GPP)

- 4.3.1.4 Ambulance Trusts, the emergency department and Mental Health Trusts should work in partnership to develop locally agreed protocols for ambulance staff to consider alternative care pathways to emergency departments for people who have self-harmed, where this is appropriate and does not increase the risks to the service user. (GPP)
- 4.3.1.5 In cases of self-poisoning, ambulance staff should obtain all substances and/or medications found at the scene of an emergency call, whether thought to be involved in the overdose or not, and pass these to staff upon arrival at the emergency department. (GPP)
- 4.3.1.6 Unless the service user's clinical condition requires urgent treatment that should not be delayed, ambulance staff should record relevant information about the service user's home environment, social and family support network, and history leading to self-harm, as well as the service user's initial emotional state and level of distress. This information should be passed to emergency department staff. (GPP)
- 4.3.1.7 When transporting people who have self-harmed to an emergency department, wherever possible, ambulance staff should take into account the service user's preferences when more than one emergency department facility exists within a reasonable distance, unless doing so significantly increases the risk to the service user, or when one department has specialised in the treatment of people who have self-harmed. (GPP)
- 4.3.1.8 When a person who has self-poisoned presents to the ambulance service within 1 hour of ingestion and is fully conscious and able to protect his or her own airway, ambulance staff should consider offering activated charcoal at the earliest opportunity. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (B)
- 4.3.1.9 Activated charcoal may also be considered between 1 and 2 hours after ingestion as there is some evidence that activated charcoal may still be effective in reducing absorption, especially if the ingested substance delays gastric emptying, such as tricyclic antidepressants. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (C)
- 4.3.1.10 In the emergency treatment of opioid overdose when using intravenous naloxone, ambulance staff should adhere to the guidelines established by the Joint Royal Colleges Ambulance Liaison Committee. Particular attention should be given to the possible need for repeated doses of naloxone and frequent monitoring of vital signs, because the effects of naloxone are short-lived in comparison with the effects of most opioids and service users frequently relapse once the effect of naloxone has worn off. All people who have overdosed with opioids should be conveyed to hospital, even if the initial response to naloxone has been good. (GPP)

- 4.3.1.11 The ambulance services should ensure that there is rapid access to TOXBASE and the NPIS so that their crew can gain additional information on substances and/or drugs ingested in cases of self-poisoning in order to assist in decisions regarding urgent treatment and the transfer of patients to the most appropriate facilities. (GPP)
- 4.3.1.12 When people who have self-harmed are considering refusing further treatment, ambulance staff should assess mental capacity and provide information about the potential consequences of not receiving treatment when attempting to gain valid consent. When consent is withheld, the guidance on consent and capacity in this guideline should be followed. (GPP)
- 4.3.1.13 PCTs, in conjunction with acute and mental health trusts, should consider the level of support needed for the delivery of an adequate pre-hospital care system for self-harm. Specific consideration should be given to the provision of telephone advice to ambulance staff from crisis resolution teams, approved social workers and Section 12 approved doctors, regarding the assessment of mental capacity and the possible use of the Mental Health Act in the urgent assessment of people who have self-harmed. (GPP)
- 4.3.1.14 Ambulance Trusts should regularly update ambulance staff about any change in local arrangements for services available for the emergency treatment of people who have self-harmed. (GPP)
- 4.3.1.15 Ambulance Trusts should routinely audit incidents of overdose, both to ensure that interventions are being used consistently and effectively, and to monitor adverse incidents. (GPP)

4.4 The treatment and management of self-harm in emergency departments

The emergency department provides the main services for people who self-harm. Emergency department staff should assess risk and emotional, mental and physical state quickly, and try to encourage people to stay to organise psychosocial assessment.

4.4.1 Triage

- 4.4.1.1 When an individual presents in the emergency department following an episode of self-harm, emergency department staff responsible for triage should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. (GPP)
- 4.4.1.2 Emergency department staff responsible for triage should take account of the underlying emotional distress, which may not be outwardly exhibited, as well as the severity of injury when making decisions about priority for treatment. (GPP)

- 4.4.1.3 Consideration should be given to introducing the Australian Mental Health Triage Scale, as it is a comprehensive assessment scale that provides an effective process for rating clinical urgency so that patients are seen in a timely manner. (C)
- 4.4.1.4 Triage nurses working in emergency departments should be trained in the use of mental health triage systems. (C)
- 4.4.1.5 All people who have self-harmed should be offered a preliminary psychosocial assessment at triage (or at the initial assessment in primary or community settings) following an act of self-harm. Assessment should determine a person's mental capacity, their willingness to remain for further (psychosocial) assessment, their level of distress and the possible presence of mental illness. (C)

4.4.2 People waiting for physical treatments

- 4.4.2.1 A psychosocial assessment should not be delayed until after medical treatment is complete, unless life-saving medical treatment is needed, or the patient is unconscious or otherwise incapable of being assessed. (GPP)
- 4.4.2.2 People who have self-harmed should be provided with clear and understandable information about the care process, both verbally and as written material in a language they understand. (C)
- 4.4.2.3 If a person who has self-harmed has to wait for treatment, he or she should be offered an environment that is safe, supportive and minimises any distress. For many patients, this may be a separate, quiet room with supervision and regular contact with a named member of staff to ensure safety. (GPP)

4.4.3 People who wish to leave before assessment and/or treatment

- 4.4.3.1 For a person who has self-harmed and presents to services, but wishes to leave before psychosocial assessment has been undertaken, assessment of mental capacity and the presence of mental illness should be undertaken before the person leaves the service. This assessment should be clearly recorded in his or her notes. The assessment should be passed on to the person's GP and to the relevant mental health services as soon as possible to enable rapid follow-up. (C)
- 4.4.3.2 People who have self-harmed and present to services and wish to leave before psychosocial assessment has been undertaken, and in whom diminished capacity and/or the presence of a significant mental illness is established, should be referred for urgent mental health assessment. Appropriate measures should also be taken to prevent the person leaving the service. (C)

4.5 Medical and surgical management of self-harm

Self-poisoning can be treated by reducing absorption, increasing elimination and/or countering the biological effects of the poison, depending upon the nature of the poison and the route of intake. Superficial uncomplicated wounds can be closed with tissue adhesive, whilst more complicated injuries will need surgical assessment and possibly exploration.

4.5.1 General treatment for ingestion

- 4.5.1.1 Gastrointestinal decontamination should be considered only for people who have self-harmed by poisoning who present early, are fully conscious with a protected airway, and are at risk of significant harm as a result of poisoning. (B)
- 4.5.1.2 When a person who has self-poisoned presents to the emergency department within 1 hour of ingestion and is fully conscious and able to protect his or her own airway, emergency department staff should consider offering activated charcoal at the earliest opportunity. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (B)
- 4.5.1.3 When a person who has self-poisoned is fully conscious and able to protect his or her own airway, activated charcoal may also be considered between 1 and 2 hours after ingestion, as there is some evidence that activated charcoal may still be effective in reducing absorption, especially if the ingested substance delays gastric emptying, such as tricyclic antidepressants. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (C)
- 4.5.1.4 Multiple doses of activated charcoal should not be used in the management of self-poisoning to reduce absorption, or to promote elimination of poisons, unless specifically recommended by TOXBASE or following consultation with the National Poisons Information Service (NPIS). (B)
- 4.5.1.5 Emetics, including ipecac (ipecacuanha), should not be used in the management of self-poisoning. (B)
- 4.5.1.6 Cathartics as a specific treatment should not be used in the management of self-poisoning. (C)
- 4.5.1.7 Gastric lavage should not be used in the management of self-poisoning unless specifically recommended by TOXBASE or following consultation with the NPIS. (B)
- 4.5.1.8 Whole bowel irrigation should not be used in the management of self-poisoning, unless specifically recommended by TOXBASE or following consultation with the NPIS. (C)

Collecting samples and interpreting results

- 4.5.1.9 Staff involved in the emergency treatment of self-poisoning should collect appropriate samples for analysis; usually this will be a sample of blood, although samples of urine, vomit or sometimes gastric contents may be indicated following discussion with the NPIS. If possible, samples of the suspected poison should also be collected. (GPP)
- 4.5.1.10 Hospital laboratory staff should provide emergency department staff with regular updates about which toxicology tests are available, both locally and at the nearest specialised toxicology laboratory. These should include information on the correct methods of collecting, handling and storing samples, and how samples should be transferred to the laboratory. (GPP)
- 4.5.1.11 Where emergency department staff are unsure about the value of undertaking a toxicology assay or about whether an assay is available locally, advice should be sought from TOXBASE, the local hospital laboratory, a specialised toxicology laboratory or the NPIS. (GPP)
- 4.5.1.12 When emergency department staff are unsure about the interpretation of assay results, advice should be sought from the local hospital laboratory, specialised toxicology laboratory or the NPIS. (GPP)

Information and laboratory services available to clinicians treating self-poisoning

Emergency department staff should have easy access to TOXBASE, be fully trained in its use, and know how and when to contact the NPIS.

- 4.5.1.13 TOXBASE should be available to all clinical staff involved in the emergency treatment of self-poisoning. TOXBASE should be the first point of call for poisons information. (GPP)
- 4.5.1.14 The NPIS telephone number should be permanently and easily available to clinical staff involved in the emergency treatment of self-poisoning. The NPIS should normally be contacted only directly after clinicians have accessed TOXBASE or if there is concern about the severity of poisoning in a particular case. (GPP)
- 4.5.1.15 Clinical staff involved in the emergency treatment of self-poisoning should be given training to better understand human toxicology, in order to make best use of TOXBASE and the NPIS telephone service. Emergency departments, in conjunction with local hospital laboratories or regional toxicology units, or NPIS units, should ensure all staff receive regular training. (GPP)
- 4.5.1.16 In cases where the suspected poison is a substance for which little toxicology data exists, clinical and laboratory data about exposure and absorption should be passed to the NPIS to help in the development of TOXBASE and other poisons information databases. (GPP)
- 4.5.1.17 For further information about the management of overdose with substances covered by this guideline and for the specific management and treatment of overdose with substances not covered in this guideline, clinicians should consult TOXBASE or discuss the individual case with the NPIS. (GPP)

Paracetamol screening

- 4.5.1.18 Plasma paracetamol concentrations should be measured in all conscious patients with a history of paracetamol overdose, or suspected paracetamol overdose, as recommended by TOXBASE. They should also be taken in patients with a presentation consistent with opioid poisoning, and in unconscious patients with a history of collapse where drug overdose is a possible diagnosis. Plasma paracetamol levels should be measured for risk assessment no earlier than 4 hours, and no later than 15 hours after ingestion as results are not reliable outside this time period. (C)

4.5.2 Management of paracetamol overdose

- 4.5.2.1 Following gut decontamination with activated charcoal as recommended in this guideline, TOXBASE should be used to guide the further management of paracetamol poisoning. TOXBASE should be easily available to all clinicians treating paracetamol poisoning. (C)
- 4.5.2.2 Intravenous acetylcysteine should be considered as the treatment of choice for paracetamol overdose (although the optimum dose is unknown). If acetylcysteine is not available or cannot be used, for example in people who abuse intravenous drugs where intravenous access may be difficult, or for people with needle phobia, then TOXBASE should be consulted. (C)
- 4.5.2.3 In the event of an anaphylactoid reaction following administration of intravenous acetylcysteine, procedures outlined in TOXBASE should be followed. (GPP)
- 4.5.2.4 In cases of staggered ingestion of paracetamol, the procedures outlined in TOXBASE should be followed in conjunction with discussion with the NPIS. (GPP)

4.5.3 Flumazenil in benzodiazepine overdose

If poisoning with benzodiazepines is suspected, flumazenil, given cautiously, can help reduce the need for admission to intensive care. Although widely used, flumazenil is not currently licensed for the treatment of benzodiazepine overdose in the UK.

- 4.5.3.1 When a positive diagnosis of self-poisoning with a benzodiazepine has been made, the possibility of mixed overdose should be considered, and investigated if necessary, at the earliest opportunity, especially if the patient's clinical progress suggests that he or she may later require admission to intensive care. (GPP)
- 4.5.3.2 In patients who are unconscious or showing marked impairment of consciousness, with evidence of respiratory depression likely to lead to admission to intensive care with endotracheal intubation, and in whom self-poisoning with a benzodiazepine is suspected, flumazenil should be considered as a therapeutic option to avoid intubation and artificial ventilation. The decision to administer flumazenil should be based upon a comprehensive assessment including a full clinical and biochemical assessment of the patient's respiratory status, and his or her ability to protect

his or her own airway. Clinicians should, however, avoid the use of flumazenil in: patients who may have ingested proconvulsants, including tricyclic antidepressants; those who have a history of epilepsy; and patients who are dependent upon benzodiazepines. (B)

- 4.5.3.3 When using flumazenil in the treatment of benzodiazepine poisoning, clinicians should use small doses, comparable to those used in other contexts, and administer slowly, to avoid the emergence of the more serious adverse reactions associated with the use of flumazenil. (GPP)
- 4.5.3.4 Given the relatively high incidence of adverse psychological events experienced by patients following administration of flumazenil, the minimum effective dose should be used and only for as long as it is clinically necessary. (B)
- 4.5.3.5 When using flumazenil in the treatment of benzodiazepine poisoning, care should be taken to ensure that patients who become agitated should be closely monitored and warned of the risk of re-sedation, especially if the patient expresses the desire to leave the treatment setting. (C)
- 4.5.3.6 Flumazenil should be used in the treatment of benzodiazepine overdose only when full resuscitation equipment is immediately available. (GPP)
- 4.5.3.7 Only clinicians who have been explicitly trained in the use of flumazenil for the treatment of benzodiazepine poisoning, as described in this guideline, should undertake to administer flumazenil in this context. (GPP)

4.5.4 Treatment and management of poisoning with salicylates

- 4.5.4.1 Following gut decontamination with activated charcoal, where this is indicated by this guideline, the further treatment of self-poisoning with salicylates should follow the current guidance outlined in TOXBASE. (C)

4.5.5 Treatment of opioid overdose

- 4.5.5.1 Naloxone should be used in the diagnosis and treatment of opioid overdose associated with impaired consciousness and/or respiratory depression. (B)
- 4.5.5.2 The minimum effective dose of naloxone should be used to reverse respiratory depression caused by opioids without causing the patient to become agitated. This is especially important in people who are dependent upon opioids. (C)
- 4.5.5.3 When reversing the effects of opioids, especially long-acting opioids such as methadone, the use of an intravenous infusion of naloxone should be considered. (C)
- 4.5.5.4 When reversing the effects of opioid overdose using naloxone in people who are dependent upon opioids, naloxone should be given slowly. Preparations should be made to deal with possible withdrawal effects, especially agitation, aggression and violence. (GPP)

- 4.5.5.5 When using naloxone in the treatment of opioid poisoning, regular monitoring of vital signs (including the monitoring of oxygen saturation) should be undertaken routinely until the patient is able to remain conscious with adequate spontaneous respiration unaided by the further administration of naloxone. (GPP)

4.5.6 General treatment for self-injury

The treatment of self-injury should be the same as for any other injury, although the level of distress should be taken into account, and therefore delays should be avoided. Tissue adhesive is effective and simple to use for small superficial wounds.

- 4.5.6.1 In the treatment and management of injuries caused by self-cutting, appropriate physical treatments should be provided without unnecessary delay irrespective of the cause of the injury. (GPP)
- 4.5.6.2 In the treatment and management of people with self-inflicted injuries, clinicians should take full account of the distress and emotional disturbance experienced by people who self-harm additional to the injury itself, in particular, immediately following injury and at presentation for treatment. (GPP)
- 4.5.6.3 In the treatment and management of superficial uncomplicated injuries greater than 5 cm in length, or deeper injuries of any length, wound assessment and exploration, in conjunction with a full discussion of preferences with the service user, should determine the appropriate physical treatment provided. (GPP)

Superficial wound closure

- 4.5.6.4 In the treatment and management of superficial uncomplicated injuries 5 cm or less in length, the use of tissue adhesive should be offered as a first-line treatment option. (A)
- 4.5.6.5 In the treatment and management of superficial uncomplicated injuries of 5 cm or less in length, if the service user expresses a preference for the use of skin closure strips, this should be offered as an effective alternative to tissue adhesive. (B)

4.6 Support and advice for people who repeatedly self-harm

4.6.1 Advice for people who repeatedly self-poison

Service users who repeatedly self-poison, and their carers where appropriate, may need advice about the risks of self-poisoning.

- 4.6.1.1 Harm minimisation strategies should not be offered for people who have self-harmed by poisoning. There are no safe limits in self-poisoning. (GPP)

- 4.6.1.2 Where service users are likely to repeat self-poisoning, clinical staff (including pharmacists) may consider discussing the risks of self-poisoning with service users, and carers where appropriate. (GPP)

4.6.2 Advice for people who repeatedly self-injure

Advice regarding self-management of superficial injuries, harm minimisation techniques, alternative coping strategies and how best to deal with scarring should be considered for people who repeatedly self-injure.

- 4.6.2.1 For people presenting for treatment who have a history of self-harm, clinicians may consider offering advice and instructions for the self-management of superficial injuries, including the provision of tissue adhesive. Discussion with a mental health worker may assist in the decision about which service users should be offered this treatment option. (GPP)
- 4.6.2.2 Where service users are likely to repeat self-injury, clinical staff, service users and carers may wish to discuss harm minimisation issues/techniques. Suitable material is available from many voluntary organisations. (GPP)
- 4.6.2.3 Where service users are likely to repeat self-injury, clinical staff, service users and carers may wish to discuss appropriate alternative coping strategies. Suitable material is available from many voluntary organisations. (GPP)
- 4.6.2.4 Where service users have significant scarring from previous self-injury, consideration should be given to providing information about dealing with scar tissue. (GPP)

4.7 Psychosocial assessment

Everyone who has self-harmed should have a comprehensive assessment of needs and risk; engaging the service user is a prerequisite.

4.7.1 Engaging the service user

- 4.7.1.1 Healthcare workers should undertake the assessment of needs and risk for people who have self-harmed as part of a therapeutic process to understand and engage the service user. (GPP)

4.7.2 Assessment of needs (specialist mental health professionals)

- 4.7.2.1 All people who have self-harmed should be offered an assessment of needs, which should be comprehensive and include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current suicidal intent and hopelessness, as well as a full mental health and social needs assessment. (C)
- 4.7.2.2 The comprehensive assessment of needs should be written clearly in the service user's notes. (C)

- 4.7.2.3 To encourage joint clinical decision making, service users and the assessor should both read through the written assessment of needs, wherever possible, to mutually agree the assessment. Agreement should be written into the service user's notes. Where there is significant disagreement, the service user should be offered the opportunity to write his or her disagreement in the notes. The assessment should be passed on to their GP and to any relevant mental health services as soon as possible to enable follow-up. (GPP)

4.7.3 Assessment of risk (specialist mental health professionals)

- 4.7.3.1 All people who have self-harmed should be assessed for risk; this assessment should include identification of the main clinical and demographic features known to be associated with risk of further self-harm and/or suicide, and identification of the key psychological characteristics associated with risk, in particular depression, hopelessness and continuing suicidal intent. (C)
- 4.7.3.2 The assessment of risk should be written clearly in the service user's notes. The assessment should also be passed on to their GP and to any relevant mental health services as soon as possible to enable follow-up. (GPP)
- 4.7.3.3 If a standardised risk assessment scale is used to assess risk, this should be used only to aid in the identification of people at high risk of repetition of self-harm or suicide. (C)
- 4.7.3.4 Standardised risk-assessment scales should not be used as a means of identifying service users at supposedly low risk who are not then offered services. (C)
- 4.7.3.5 Consideration should be given to combining the assessment of risk into a needs assessment framework to produce a single integrated psychosocial assessment process. (GPP)

4.7.4 Training

- 4.7.4.1 All health professionals, including junior psychiatrists, social workers and psychiatric nurses, who undertake psychosocial assessment for people who have self-harmed should be properly trained and supervised to undertake assessment of needs and risk specifically for people who self-harm. (C)

4.8 Referral, admission and discharge following self-harm

Referral, treatment and discharge following self-harm should be based on the overall assessment of needs and risk.

- 4.8.1.1 The decision to refer for further assessment and/or treatment or to discharge the service user should be taken jointly by the service user and the healthcare professional whenever this is possible. When this is not possible, either as a

result of diminished mental capacity or the presence of significant mental illness, this should be explained to the service user and written in their notes. (GPP)

- 4.8.1.2 Referral for further assessment and treatment should be based upon the combined assessment of needs and risk. The assessment should be written in the case notes and passed onto the service user's GP and to any relevant mental health services as soon as possible to enable follow-up. (C)
- 4.8.1.3 The decision to discharge a person without follow-up following an act of self-harm should be based upon the combined assessment of needs and risk. The assessment should be written in the case notes and passed onto their GP and to any relevant mental health services. (C)
- 4.8.1.4 In particular, the decision to discharge a person without follow-up following an act of self-harm should not be based solely upon the presence of low risk of repetition of self-harm or attempted suicide and the absence of a mental illness, because many such people may have a range of other social and personal problems that may later increase risk. These problems may be amenable to therapeutic and/or social interventions. (GPP)
- 4.8.1.5 Temporary admission, which may need to be overnight, should be considered following an act of self-harm, especially for people who are very distressed, for people in whom psychosocial assessment proves too difficult as a result of drug and/or alcohol intoxication, and for people who may be returning to an unsafe or potentially harmful environment. Reassessment should be undertaken the following day or at the earliest opportunity thereafter. (GPP)

4.9 Special issues for children and young people (under 16 years)

Children and young people who self-harm have a number of special needs, given their vulnerability. Physical treatments will follow similar principles as for adults.

- 4.9.1.1 Children and young people under 16 years of age who have self-harmed should be triaged, assessed and treated by appropriately trained children's nurses and doctors in a separate children's area of the emergency department. (GPP)
- 4.9.1.2 Children's and young people's triage nurses should be trained in the assessment and early management of mental health problems and, in particular, in the assessment and early management of children and young people who have self-harmed. (GPP)
- 4.9.1.3 All children or young people who have self-harmed should normally be admitted overnight to a paediatric ward and assessed fully the following day before discharge or further treatment and care is initiated. Alternative placements may be required, depending upon the age of the child, circumstances of the child and their family, the time of presentation to services, child protection issues and the physical and mental health of the

child; this might include a child or adolescent psychiatric inpatient unit where necessary. (C)

- 4.9.1.4 For young people of 14 years and older who have self-harmed, admission to a ward for adolescents may be considered if this is available and preferred by the young person. (C)
- 4.9.1.5 A paediatrician should normally have overall responsibility for the treatment and care of children and young people who have been admitted following an act of self-harm. (C)
- 4.9.1.6 Following admission of a child or young person who has self-harmed, the admitting team should obtain parental (or other legally responsible adult) consent for mental health assessment of the child or young person. (C)
- 4.9.1.7 Staff who have emergency contact with children and young people who have self-harmed should be adequately trained to assess mental capacity in children of different ages and to understand how issues of mental capacity and consent apply to this group. They should also have access at all times to specialist advice about these issues. (GPP)
- 4.9.1.8 In the assessment and treatment of self-harm in children and young people, special attention should be paid to the issues of confidentiality, the young person's consent (including Gillick competence), parental consent, child protection, the use of the Mental Health Act in young people and the Children Act. (GPP)
- 4.9.1.9 During admission to a paediatric ward following self-harm, the Child and Adolescent Mental Health Team should undertake assessment and provide consultation for the young person, his or her family, the paediatric team and social services and education staff as appropriate. (C)
- 4.9.1.10 All children and young people who have self-harmed should be assessed by healthcare practitioners experienced in the assessment of children and adolescents who self-harm. Assessment should follow the same principles as for adults who self-harm, but should also include a full assessment of the family, their social situation, and child protection issues. (GPP)
- 4.9.1.11 Child and adolescent mental health service practitioners involved in the assessment and treatment of children and young people who have self-harmed should:
- be trained specifically to work with children and young people, and their families, after self-harm
 - be skilled in the assessment of risk
 - have regular supervision
 - have access to consultation with senior colleagues. (C)

- 4.9.1.12 Initial management should include advising carers of the need to remove all medications or other means of self-harm available to the child or young person who has self-harmed. (GPP)
- 4.9.1.13 For young people who have self-harmed several times, consideration may be given to offering developmental group psychotherapy with other young people who have repeatedly self-harmed. This should include at least six sessions. Extension of the group therapy may also be offered; the precise length of this should be decided jointly by the clinician and the service user. (B)

4.10 Special issues for older people (older than 65 years)

When older people self-harm, treatments will be much the same as for younger adults, but the risk of further self-harm and suicide are substantially higher and must be taken into account.

- 4.10.1.1 All people older than 65 years of age who have self-harmed should be assessed by mental healthcare practitioners experienced in the assessment of older people who self-harm. Assessment should follow the same principles as for younger adults who self-harm, but should also pay particular attention to the potential presence of depression, cognitive impairment and physical ill health, and should include a full assessment of their social and home situation. (GPP)
- 4.10.1.2 All acts of self-harm in people older than 65 years of age should be regarded as evidence of suicidal intent until proven otherwise because the number of people in this age range who go on to complete suicide is much higher than in younger adults. (GPP)
- 4.10.1.3 Given the high risks amongst older adults who have self-harmed, consideration should be given to admission for mental health risk and needs assessment, and time given to monitor changes in mental state and levels of risk. (GPP)
- 4.10.1.4 In all other respects, the assessment and treatment of older adults who have self-harmed should follow the recommendations given for adults. (GPP)

4.11 Psychological, psychosocial and pharmacological interventions

Referral for further assessment and/or treatment should be based upon a comprehensive psychosocial assessment, and should be aimed at treating a person's underlying problems or particular diagnosis rather than simply treating self-harming behaviour, although intensive therapeutic help with outreach may reduce the risk of repetition. Whatever the treatment plan, primary care and mental health services should be informed.

- 4.11.1.1 Following psychosocial assessment for people who have self-harmed, the decision about referral for further treatment and help should be based upon a comprehensive psychiatric, psychological and social assessment, including an assessment of risk, and should not be determined solely on the basis of having self-harmed. (C)
- 4.11.1.2 Clinicians should ensure that service users who have self-harmed are fully informed about all the service and treatment options available, including the likely benefits and disadvantages, in a spirit of collaboration, before treatments are offered. The provision of relevant written material with time to talk over preferences should also be provided for all service users. (GPP)
- 4.11.1.3 The mental health professional making the assessment should inform both mental health services (if they are involved already) and the service user's GP, in writing, of the treatment plan. (GPP)
- 4.11.1.4 For people who have self-harmed and are deemed to be at risk of repetition, consideration may be given to offering an intensive therapeutic intervention combined with outreach. The intensive intervention should allow frequent access to a therapist, when needed, home treatment when necessary, and telephone contact; and outreach should include following up the service user actively when an appointment has been missed to ensure that the service user is not lost from the service. The therapeutic intervention plus outreach should continue for at least 3 months. (C)
- 4.11.1.5 For people who self-harm and have a diagnosis of borderline personality disorder, consideration may be given to the use of dialectical behaviour therapy. However, this should not preclude other psychological treatments with evidence of effectiveness for people with this diagnosis, but not reviewed for this guideline. (C)

4.12 Research recommendations

- 4.12.1.1 Research, using appropriate survey and rigorous qualitative methods, should be conducted about the meaning of self-harm to people from different ethnic and cultural groups. This should include the exploration of issues of intentionality.
- 4.12.1.2 Epidemiological research should be conducted to determine the prevalence of self-harm in refugees and asylum seekers.
- 4.12.1.3 Appropriate multi-methodology research on self-harm as a response to child sexual and other abuse should be carried out, to include a review of the substantial service user literature, and to examine the range of interventions that service users believe to be supportive and helpful, including survivor organisations and networks and other voluntary organisations for women who self-harm.
- 4.12.1.4 An adequately powered epidemiological study, reporting all relevant outcomes, including quality of life, occupational status and potential,

income, physical well-being and quality of relationship status, should be undertaken to establish the morbidity and mortality rates for specific drug ingestions used in self-harm.

- 4.12.1.5 A study using an appropriate and rigorously applied qualitative methodology should be undertaken to explore user experiences of services.
- 4.12.1.6 Qualitative research methods, such as Q sort and Interpretive Phenomenological Analysis, should be used to better understand staff attitudes to self-harm and their psychological and social origins.
- 4.12.1.7 Comparative pilot studies should be undertaken to evaluate different approaches to introducing and using advance directives for people who self-harm repeatedly. Studies should address ethical, legal and practical implications and consequences, as well as acceptability to service users and healthcare practitioners. Service users should be included in the design and evaluation of each pilot.
- 4.12.1.8 A large-scale audit, reporting all relevant outcomes, of the use of activated charcoal in cases of poisoning in pre-hospital settings should be undertaken.
- 4.12.1.9 An adequately powered epidemiological study reporting all relevant outcomes should be undertaken to establish morbidity and mortality rates for specific drug ingestions.
- 4.12.1.10 A national programme should be developed to coordinate the surveillance by NPIS and other agencies of health risks in self-poisoning so that the combined data can be used to inform and guide recommendations on treatment and prevention.
- 4.12.1.11 A study of appropriate design reporting all relevant patient outcomes (mortality, morbidity, numbers lost to the service, patient satisfaction) should be undertaken to assess the impact of the introduction of the Mental Health Triage Scale.
- 4.12.1.12 A well-designed, prospective multicentre study of screening for plasma paracetamol concentrations, including health economic analyses, is required in order to develop detailed guidelines on the selection criteria, clinical value and cost-effectiveness of screening for paracetamol.
- 4.12.1.13 An RCT, recording all relevant biochemical and clinical outcomes, is needed to determine the relative efficacy of activated charcoal given to patients presenting between 1 and 2 hours following ingestion of poison, as compared with giving no activated charcoal, in the treatment of overdose, particularly when used in paracetamol overdose. Particular attention should be paid to the differences with different ingested poisons and to the incidence of side effects.

- 4.12.1.14 An appropriately designed and adequately powered study should be undertaken to clarify the optimum dose level at which acetylcysteine should be used (for both oral and intravenous administration) in the treatment of paracetamol poisoning, reporting all relevant biochemical and clinical outcomes, including liver function, liver failure and adverse reactions. Consideration should be given to patient characteristics such as co-ingested substances, including alcohol.
- 4.12.1.15 An adequately powered national multi-centre RCT, reporting all relevant clinical outcomes, is required to evaluate the therapeutic use of flumazenil in unconscious patients in whom self-poisoning with benzodiazepines is suspected. Particular attention should be paid to the incidence of serious physical adverse events, dose, the rate of administration of flumazenil, the ingestion of other substances, and patient characteristics that may predict good and poor outcomes is required.
- 4.12.1.16 An adequately powered diagnostic trial to evaluate different methods of detecting the presence of tricyclic antidepressants in the emergency setting should be undertaken.
- 4.12.1.17 Adequately powered RCTs, reporting all relevant short-, medium- and long-term outcomes, including the experience of care and the acceptability of treatments, are needed to evaluate methods of wound closure for people who have self-harmed through cutting. For superficial wounds this should include trials comparing skin closure strips and tissue adhesives, and head-to-head trials of the cost and clinical effectiveness of different types of tissue adhesive.
- 4.12.1.18 Appropriately designed studies to evaluate the place of self-management of wound closure for people who recurrently self-harm by cutting, identifying people for whom this approach would be most suited, should be undertaken.
- 4.12.1.19 Multi-centre monitoring of the number of people who self-harm, including whether each act is a repetition of previous self-harm, taking into account cross-flow in and out of each catchment area, should be undertaken to assess local differences in self-harm presentations and to enable observational studies to be carried out to evaluate the impact of different styles of mental health service provision.
- 4.12.1.20 An appropriately designed study reporting all relevant outcomes should be undertaken to assess the impact of changes in local health policy upon the management of self-harm in difference services (for example, in emergency departments), including outcomes for service users.
- 4.12.1.21 An appropriately designed study should be undertaken to discover more about self-injury, particularly the similarities and differences compared with self-poisoning, such as whether repetition rates and fatal suicide attempts are different.

- 4.12.1.22 An appropriately designed study should be undertaken to assess the impact on services of involving service users in service planning and delivery, especially in emergency departments, focusing particularly on outcomes, including satisfaction and loss from the service, for people with repeated presentations.
- 4.12.1.23 An appropriately designed study, reporting all relevant outcomes including user satisfaction with services and the numbers lost from services, repetition rates and suicide, should be undertaken to pilot and evaluate integrated needs and risk assessment, compared with both 'standard assessment practice' and a separate assessment of needs and risk.
- 4.12.1.24 Further research into treatments specific to people who self-harm should evaluate the differential responses of different patient subgroups, using a broad range of outcomes, especially those relevant to service users such as quality of life.
- 4.12.1.25 User-led, qualitative research into the experience and views of people who self-harm is required firstly examining the benefits and adverse consequences of the services they receive and the treatments they have undertaken, and secondly investigating the benefits and adverse consequences of self-help groups and service user support groups.
- 4.12.1.26 A multi-centre RCT is required reporting all relevant outcomes including quality of life, occupational status, satisfaction with services and self-harm repetition rates, addressing the clinical and cost effectiveness of emergency card services for people who have self-harmed and presented to services for the first time.
- 4.12.1.27 An adequately powered RCT reporting all relevant outcomes should be undertaken to determine the relative effectiveness of group therapy for young people who self-harm. The study should address patient characteristics (such as gender, diagnosis, frequency and method of self-harm, past history of abuse) and family characteristics (such as parental disharmony and divorce, family size, socio-economic status, mental health problems in the parents and siblings). Outcomes should include loss from services, admission rates, satisfaction, repetition of self-harm, quality of life, educational attainment and employment status. Consideration should also be given to investigating the effectiveness of this type of therapy for adults.
- 4.12.1.28 An adequately powered RCT reporting all relevant outcomes should be undertaken to determine the clinical and cost effectiveness of intensive interventions combined with assertive outreach for people who self-harm. The study should address patient characteristics (such as age, gender, diagnosis, frequency and method of self-harm, past history of abuse) and therapists' characteristics (such as age, gender, training, professional discipline, parental status). Outcomes should include loss from services, admission rates, satisfaction, repetition of self-harm, quality of life and employment status.

5 Service user experience of services

5.1 Introduction

'Professionals are often terrified by self-injury. Their normal empathy with others' distress and their confidence and ability to help often desert them when faced with someone who persistently hurts themselves. This problem reflects a serious and widespread lack of understanding of self-injury, which results in great inconsistency and inadequacies in services.' (Arnold, 1995)

There is a rich and well-established service user literature on the subject of self-harm, particularly regarding the acts and meanings of self-harm from the service users' point of view (Harrison, 1995; Arnold, 1995). From this emerges a picture of self-harm as an activity that is usually done in private, and which forms part of an individual's coping mechanisms. However, when the acts are made public, misunderstandings and lack of awareness in clinical practice, both in general medicine and psychiatry, can lead to service responses that are not only unhelpful, but may make matters worse for people who self-harm. This lack of understanding, and the fear thus engendered, can manifest itself in the attitudes, language and treatment of service users who self-harm:

'Carers may relieve their disappointment and frustration with the patient by stigmatising her as bad, attention seeking or manipulative, terms which have no explanatory value but do subtly devalue the patient's distress and can sometimes be used to justify either harsh or indifferent treatment. It is also arguable that apparently therapeutic manoeuvres such as ECT, high-dose medication, or the transfer of care may on occasions be a means of getting rid of a frustrating patient or even punishing her for her refractoriness.' (Tantam & Whittaker, 1992)

Health services aim to minimise harm and therefore try to reduce or prevent self-harm as a priority. Many healthcare professionals view self-harm as attempted suicide, and few healthcare professionals consider or discuss the meaning, function or intention of acts of self-harm, instead assuming that suicide was intended and should be prevented as far as possible. But in attempting to prevent a person from hurting him- or herself, rather than looking at the underlying causes of such behaviour, or indeed the function such behaviour serves a particular individual, services can inadvertently either exacerbate the behaviour or 'drive it underground'. Good practice guidelines developed by users recommend that stopping self-harm should not be a goal of treatment, nor should treatment or care be withheld as a condition of stopping self-harm (Bird & Faulkner, 2000).

Unfortunately, many people who self-harm, especially those who do so repeatedly, feel that healthcare professionals are not willing to listen to them and not interested in reading the wealth of literature regarding self-harm written by service users. This literature not only relates the experience of self-harm and its treatment from the

perspective of service users, it also suggests new practices that would address the problems faced by service users.

Service users often regard themselves as experts by experience, but feel that many healthcare professionals disregard service user literature as somehow lacking authority, a situation that is no longer sustainable in the light of recent policy developments. For example, the Department of Health's expert patient programme (Department of Health, 2001c) acknowledges that in some conditions the patient may understand the condition as well as, or better than, the clinician: 'this knowledge and experience held by the patient has for too long been an untapped resource. It is something that could greatly benefit the quality of patients' care and ultimately their quality of life, but which has been largely ignored in the past' (Department of Health, 2001c). The GDG therefore thought it essential to review the service user literature on self-harm. In addition, the GDG decided to meet and discuss self-harm and the experience of services with service users. Service users were also asked to make their own recommendations as to how the experience of services might be improved. Moreover, given the reports of the often negative attitudes held by some healthcare professionals who offer help for people who self-harm, the GDG also decided to examine what literature was available regarding the attitudes of healthcare professionals to self-harm.

This chapter reviews the service user literature, both that published in the mainstream clinical literature and that published by the voluntary sector, to try to understand service users' experiences of health services, particularly focusing upon the experience of services in the first 48 hours of care after an episode of self-harm. We also present the findings of two focus groups and an individual interview with service users, and the findings of a review of the literature regarding healthcare professionals' attitudes to self-harm (Roy & House, unpublished manuscript, 2003).

It should be emphasised, however, that most of what follows relates to the experience of care for people who self-injure (by cutting) or self-poison, and many of these will be people who have self-harmed repeatedly. This is because most of the accessible literature has been written by this group of people. Although this may limit the interpretation of these findings, there is no reason to believe that the experience of care by those who self-harm by other methods, or by those who harm themselves only once, is necessarily greatly different from that described below.

5.2 Methods

5.2.1 Literature review²

No existing review of this area was available. Therefore, a new review was undertaken, and a total of 2,702 articles were downloaded from a search of the published literature, of which 23 were identified as relevant. A further 186 articles were sourced from a search of a 'grey' literature database (Sigle) of which four³ were considered relevant.

²Details of the search strategy for this and other reviews in the guideline are available in Appendix 7. Information about each study along with an assessment of methodological quality is in Appendix 17, which also contains a list of excluded studies with reasons for exclusions.

³Another four could not be obtained in time for this review (see Appendix 17).

In addition, six⁴ voluntary organisations working with people who self-harm, identified through an internet search and on the advice of the GDG, responded to a request for unpublished primary material, generating a total of 33 studies. Studies were reviewed using predetermined inclusion criteria: 24 studies were therefore excluded, and nine were included in the final review (five sourced from databases of published literature, two from Sigle and two from unpublished reports from voluntary organisations), providing information from 218 participants.

All participants in the included studies had self-harmed, although the method of self-harm varied between studies as follows:

- Self-injury only (ARNOLD1995⁵; BYWATERS2002)
- Self-poisoning ('overdose') only (BURGESS1998; CROCKWELL2001; DORER1999; DUNLEAVEY1992)
- Self-injury and self-poisoning (DUROSE2000)
- Unclear about the method of self-harm (ANON2000; HARRIS2000)

Studies also varied in the following ways:

- Method of data collection

Most studies gathered data using interviews (ANON2000; BURGESS1998; BYWATERS2002; CROCKWELL2001; DUNLEAVEY1992). However, DUROSE2000 used a discussion group and in HARRIS2000 participants gave written accounts. ARNOLD1995 used both interviews and questionnaires.

- Age of participants

Two studies were exclusively of children and young people aged 8 to 17 years (BURGESS1998; DORER1999), while three (BYWATERS2002; CROCKWELL2001; DUNLEAVEY1992) included adolescents in their samples. The remaining studies were of adults. None included elderly people.

- Gender of participants

Three studies were of women only (ARNOLD1995; CROCKWELL2001; HARRIS2000).

- Timing of data collection

Participants in half of the studies were recruited after a particular self-harm episode (ANON2000; BURGESS1998; DORER1999; DUNLEAVEY1992).

⁴These are listed in Appendix 5.

⁵Here and elsewhere in the guideline, each study considered for review is referred to by a 'study ID' made up of first author and publication date in capital letters (unless a study is in press or only submitted for publication, when first author only is used).

5.2.2 Focus groups

Two focus groups were convened, one by the Central London branch of the Samaritans and the other by a self-help group based in Nottingham. Each approached people with a history of self-harm who were in contact with their services, and considered likely to be interested in taking part. People expressing an interest were given further information describing the purpose and methods of the study, the role of participants and the support to be offered for those agreeing to take part. Those who agreed to take part were required to complete a consent form (Appendix 13).

Focus groups were held in May and June 2003, facilitated by members of the GDG or review team (Marcia Kelson, Pamela Blackwood and Rebecca King). Eleven women, aged between 21 and 51 years, took part. One other volunteer agreed to be interviewed on a one-to-one basis.

The facilitators used a semi-structured questionnaire (Appendix 14), designed to help structure initial discussion, but allowing service users to introduce new topics as they wished. Discussions were audio-taped and transcribed for analysis (see below). Anonymised reports of both discussion groups can be seen in Appendix 15.

Service users' recommendations to improve services and treatment for people who have self-harmed were also discussed in the discussion groups and interview; these are presented in the most appropriate category and have been used in generating recommendations by the GDG. These are presented using bullet points. Quotations from the focus group and interview material are referenced 'F'.

5.2.3 Analysis

The material was divided into categories based on the subject matter being discussed. Material from the literature review was combined with that from the focus groups, which also included the recommendations drawn up by each focus group.

5.3 Findings

5.3.1 Overview of the quality of services

In much of the material reviewed, including that from the focus groups, service users reported services to be of variable quality, including both good and bad experiences, although the focus tended to be on poor experiences. This is borne out by those studies where the number of good and bad responses has been quantified. For example, in ARNOLD1995, of those who had used emergency departments, only 6% were satisfied with the service provided, and in DUROSE2000 six of the seven service users questioned found an emergency department to be the least useful source of support. However, DORER1999 found that respondents reported equal numbers of positive, negative and neutral experiences (of hospital services), with about 44% of those admitted to hospital finding the experience positive. In ANON2000, 10 out of 12 rated at least one service [not defined] 'very good' (for 2 people this was a service provided by a voluntary organisation).

5.3.2 Poor staff attitudes

It is clear from both the existing literature and the focus groups that users consider the main cause of their poor experiences of services to be staff attitudes towards people who self-harm and the generally low level of staff understanding of self-harming behaviour. For example, respondents in DUROSE2000 felt that an emergency department was the least useful source of support because staff there have punitive attitudes, lack understanding, and are rude and blaming. They do not treat people who self-harm seriously. This is supported by respondents in other studies:

[The nurse was] *'pretty impatient with me'*. (ANON2000)

'My doctor was not understanding and told me off. He did not try to understand why I cut myself.' (Respondent about GP, DUROSE2000)

'Doesn't treat me like a normal [sic], as if I'm not normal because I self-harm, like there's something wrong with my intelligence or something. Like a retard, I suppose. Because I self-harm, then obviously I'm thick.' (Respondent about his GP, BYWATERS2002)

'Got no help at all. All they wanted to do is pick on me like I was a naughty little girl, and it made me angry, and I couldn't open up at all for how they treated me. I just dreaded going to see them.' (HARRIS2000)

'She said, "you are trying to disgust me".' (F)

'...He doesn't understand and like uses horrible words like "mutilation".' (F)

Not only do these kinds of attitudes make users' experiences of services unpleasant, but they can also increase service users' levels of distress. Indeed some service users felt these attitudes lead to further self-harm and to people treating their own wounds to avoid attending an emergency department (for example, HARRIS2000). Focus group respondents reported increased distress as a result of the interactions they have had with staff. In particular, they report feelings of isolation and humiliation that encourage them to self-harm again as a way of coping with the distress and to avoid services in future:

' ... it made me even more and more distressed and I've actually felt like leaving the hospital and going and self-harming again because that's the only way I can deal with the distress.' (F)

'... even if my life was in danger ... I'd rather sit at home and sit it out and see whether I'd survived than risk the humiliation.' (F)

Not only are service users critical of emergency department staff, but patients admitted to hospital following self-poisoning also feel isolated, ignored and inhibited by staff (DUNLEAVEY1992). This makes it hard to talk, although they wanted support (ibid.).

In the recommendations drawn up by the focus groups it was suggested that:

- A fast tracking of service users through the system should be considered to minimise harm resulting from their injury and to minimise distress. In all cases staff should provide timely treatment and/or referral.

- Liaison between A&E and psychiatric services should be available 24 hours a day.
- Staff should not 'write off' people who self-harm if they have not been able to meet their needs. It is important to understand that stopping self-harm behaviour is not a 'cure'; exploring and coming to terms with the behaviour may be much more helpful to the individual.

5.3.3 Positive staff attitudes

Service users' experiences of services are much more positive when they encounter staff with non-judgemental attitudes who try to understand self-harm behaviour. For example, the focus group respondents reported that their experiences were greatly improved when healthcare professionals showed them respect and were calm, reassuring and considerate. For example:

'My doctor shows me respect ... the way he talks about me to this other professional ... he is saying this person's ok ... but I'm just so lucky to have a real good GP who can do that.' (F)

Service users appreciate tolerance and understanding, for example:

'He actually spoke to me, rather than talking down to me. He spoke to me like a person, instead of just a silly little girl, who cuts up and all this. He was different. Because a lot of GPs' attitudes are "Oh, it's nothing. You'll get over it." But he wasn't. He was genuinely concerned, for a change, so it was nice'. (Respondent talking about her GP, BYWATERS2002)

'My GP, who has admitted that he does not fully understand what self-harm is about, has however made himself available to me at any time and has been extremely supportive (i.e. I always get the last appointment so that he doesn't have to rush the consultation and we have more time to discuss things)'. (Respondent about GP, DUROSE2000)

5.3.4 Being listened to and given time

Service users also point out the importance of being listened to by staff, even when the interaction is brief or only a single occasion (ARNOLD1995). They also stress the importance of staff paying attention to, or talking about, the particular self-harm episode or suicide attempt, or about the service user's mental state (ANON2000). The focus group respondents said that simply being listened to was important, although in their experience many staff did not listen and appeared to ask questions only to protect themselves in case the service user went on to die by suicide.

Focus group respondents reported that they appreciated healthcare professionals being willing to see them without an appointment and in giving them help, for example:

'... They helped me to write like a note and that to let my parents know what had happened ...' (Respondent about ambulance technician) (F)

5.3.5 Providing a safe environment

The importance of a safe environment is also highlighted: for example, respondents in DORER1999, who had been admitted to a ward after an overdose, appreciated friendly non-judgemental staff and the chance to rest and think things through with pressures removed. This is also borne out by the focus group respondents who said that their experiences of services improved when staff were non-judgemental, calming and able to provide a safe environment. They appreciated being treated with genuine care and respect by staff who tried to understand their behaviour by listening to them.

A safe environment and being listened to is especially important since service users may reveal information about their injuries that makes them feel vulnerable, fearing negative repercussions. This was highlighted by the focus group respondents, who reported feeling unable to be honest about the cause of their injury for fear of a staff member's reaction, for example:

'I would like to go and know that I could be honest, but I wouldn't want that to lead anywhere. It would take a lot of the anxiety away for me to be able to say yes I've done this, please help me sort it out and I'm going away... I know it's a problem because it's gone on so long I don't need to be told that.' (F)

In the recommendations drawn up by the focus groups, respondents suggested that:

- Staff should utilise their communication skills to ensure service users are respectfully listened to and that their needs are met through open and honest discussion
- Staff should be prepared to acknowledge and handle service user distress, calming the situation, and manage their own personal feelings about the situation without compromising their professional role and responsibilities. The degree of injury is not necessarily an indicator of the level of distress the individual may be feeling
- When assessing the service user, staff should not rely solely on risk assessment tools; it is important to ask the individual and to let them explain in their own words
- Acute treatment should be available to service users without any longer-term repercussions
- Staff should recognise that service users may or may not require referral to psychiatric services at the first contact with services following an episode of self-harm
- Staff should be aware that the individual's reasons for self-harming may be different on each occasion and therefore each episode needs to be treated in its own right.

5.3.6 Not being treated differently simply because injuries are self-inflicted

As a result of poor staff attitudes towards people who self-harm, service users feel that they are frequently treated differently compared with service users who have not self-harmed (ANON2000). For example:

'I was told off by nurses and the doctors: I just felt small. They do treat self-harmers different to accident people. We are classed as suicides ... The hospital staff just look at you as though you're wasting time. That's how I felt.' (HARRIS2000)

Being made to wait for longer than service users who had not self-harmed was a particular issue. For example:

'As soon as they find out that I have mental health problems, I have to sit there, for hours sometimes, waiting for someone to look at me. It is horrible.' (F)

'They just say, "have you harmed yourself?" As soon as you mention psychiatrists that's it, they don't want to know. I wait there hours and hours, and then when she comes, she tells them to dress it.' (F)

'People that self-harm, as well, also get left at A&E departments for hours and hours. You could sit there for eight, nine, ten hours for you to see a doctor, because they don't want to waste their time basically that's their attitude' (Respondent about A&E, BYWATERS2002)

Focus group respondents said that they appreciated being seen immediately, including being taken straight to a treatment area. They said that they sometimes find it difficult to wait in a busy environment, for example:

'... and I found it really difficult to be around people and so to be in that environment where there's ... lots of people milling about and there's nurses coming flying and the doctors just walk through.' (F)

In their recommendations they suggested that:

- A quiet place should be available for service users to wait should they wish to do so.

Another issue highlighted by the focus group respondents was that staff should consider the effect of the surroundings in which service users were treated, including being left alone. For example:

'Being left on your own is a dreadful thing.' (F)

'You're left in there [alone] with drawers that say "scalpels" on the outside!' (F)

'When you go into triage the door is always wide open and you've got a great queue of people and obviously they can hear what's being said and you do feel as though you can't say please shut the door.' (F)

'He [consultant in an emergency department] quizzed me quite a lot ... in a cubicle with the curtains open so everybody was like walking past and ... I'd cut myself.' (F)

'[after stitching a wound] one called the other nurse over and said hey come and have a look at this ... job I've done, oh, that's a really good job, but it was really like ... a bit degrading.' (F)

Other areas where service users report inequity of treatment is in receiving unwanted treatment, being stitched without medication, and being refused medical treatment (DUROSE2000). For example:

'I was refused make-up to cover my scars because the doctor said they were self-inflicted.' (DUROSE2000)

'Just wanted to have steristrips but ended up on antibiotics even though I get even more depressed on them and stitches and admitted to hospital'. (DUROSE2000)

Focus group respondents also reported instances where staff coerced them into doing something that they did not want, for example:

'... A&E said they would only treat my injuries if I saw the duty psychiatrist ... after having several hospital admissions over a two-week period I looked like a pin cushion, from various blood tests and drips. I was asked if I was an IV drug user, which I'm not. I wasn't believed and they tested my urine. At the time I didn't know they weren't allowed to just test without my permission.' (DUROSE2000)

They also reported not being given analgesics in situations where other service users would be given them and described occasions where they did not receive adequate anaesthesia or were threatened with suturing without anaesthesia. For example,

'I said it hurts. They said, "well it didn't hurt when you cut it".' (F)

'Obviously you enjoy the pain, you know so so [sic] maybe you need stitching up without it.' (F)

In their recommendations focus group respondents suggested that:

- Service users have the right to be treated with dignity and respect and valued as human beings as do all service users using NHS services. They are therefore entitled to receive the relevant information, be consulted about their care and to be given choices. Staff should offer privacy and maintain confidentiality
- Service users should always be informed of their rights and involved in decisions to detain them
- Under-18s or under-16s: parents may have to be contacted but the young person should be informed of this situation and involved in any decision-making about seeing their parents. On occasion it may be appropriate for staff to ask the service user whether they would like to invite someone other than a parent to provide support

- In wounds where suturing is required, adequate doses of anaesthesia should always be given and reviewed with the service users throughout the treatment process
- Service users should be assisted in making formal complaints in the event that service users or carers are unhappy with the services or treatment they have received.

5.3.7 Being involved in treatment decisions

Focus group respondents reported being coerced into having treatment despite having full capacity to make informed decisions. They were critical of staff not respecting their right to be informed about treatment:

'Maybe if they'd asked me ... um I might even have said yes to a psychiatrist. It's the way it was done.' (F)

Focus group respondents reported that they want to be involved in discussions regarding treatment – for example, the method of suturing used – and reported more positive experiences of wound care when staff had involved them in decision-making. Those who were able to care for their own wounds appreciated being prescribed skin closure strips by their GP. Some reported that a lack of control surrounding their treatment and care resulted in their feeling anxious, panicked and more likely to injure themselves again. For example,

'I need people to work with me ... you know a partnership ... if my rights and everything's taken away then I'm panic [sic] and I'm more likely to injure myself.' (F)

In their recommendations, they suggested that:

- Staff should provide service users with the necessary information about the self-management of their injury/wound and, if prescribed medication, the side effects that they might experience.

Other respondents also highlighted the importance of staff working in partnership with service users in order to take service users' wishes into account. For example:

'The doctor was OK, a reasonable man and the social worker was very good. She understood that I didn't wish to be admitted ... listened to my reasons for ... overdose ... and made effort [successfully] to liase with day centre [which the interviewee was already attending].' (ANON2000)

This was supported by the focus group respondents who said that they found that being referred without having the process explained to them resulted in a negative experience. They also reported that being unable to get appropriate referrals was stressful. In their recommendations they suggested that:

- Service users should be involved in discussions about their experiences and treatment and, in partnership with staff, can come to appropriate decisions if fully informed of the choices available. Choices include consideration of the treatment environment, gender of staff member, wound closure method and follow-up services

- Staff should consult the service user about how she/he wants to be treated, following advanced directives if available
- It is totally unacceptable to use scare tactics (e.g. refusal to use anaesthetic or threaten service users with sectioning) or to 'talk over' the service user to their friends/family members or advocate if the person is conscious and has capacity
- To aid in the smooth referral of service users between services, information gained at A&E should be passed on to the appropriate services to ensure continuity of care and avoid duplication of questions, which may cause additional unnecessary distress to the service user.

5.3.8 Carer support

Focus group respondents who wanted to be accompanied while waiting for treatment and during treatment by a friend, relative or advocate reported negative reactions from staff to their request:

'When I've taken someone ... been told I was "involving them in my self-harm".' (F)

They included in their recommendations:

- Staff should recognise the value for both the service user and staff in enabling friends, loved ones or chaperones to accompany service users to appointments with staff and when receiving treatment. This can reduce the distress experienced by the service user and result in a more useful consultation.

5.3.9 Staff knowledge of self-harm

Respondents find that staff's lack of knowledge about self-harm can lead to their failing to listen to service users or address underlying issues. This can then lead to inappropriate or inadequate treatment (ARNOLD1995). This was supported by focus respondents who also reported frequently encountering staff who presumed they had made a suicide attempt, when they had not. These service users felt that staff lacked knowledge and training about self-harm.

In their recommendations focus group respondents suggested that staff training should include:

- Involvement of service users and local groups that work with them outside of NHS services
- Help for staff in understanding the issues connected to self-harm. This should include the differences between suicide and self-harm, that self-harm is not simply attention seeking, the consequences of labelling and the use of language to describe people who self-harm
- What is expected of staff
- Acknowledgement of the fears and prejudices that some staff may have

- For non-psychiatric staff, guidance in being able to talk about issues with the person who has self-harmed to enable them to make adequate decisions, in conjunction with the service user, about their care
- The fact that individuals can and have made a difference to people who have self-harmed
- Other sources of information for both staff and service users. This may include voluntary organisations.

In addition they suggested that:

- Staff should be trained not to make assumptions about the circumstances surrounding the injury. Questions should be posed in a sensitive manner and can confirm for example whether the episode was an attempted suicide or an episode of self-harm and in the case of self-poisoning what substance was ingested
- Greater awareness and understanding between various services needs to be encouraged and communicated to service users
- People managing services should recognise the need for training, support and supervision for staff who provide services to those who have self-harmed. This should include reception staff and non-psychiatric staff, for example surgical wards that service users may be admitted to. This may mean the need for extra funding.

5.3.10 Summary of findings

Although service users report both good and bad experiences with services, the emphasis is on negative experiences, largely resulting from poor staff attitudes and knowledge of self-harm behaviour. In particular, service users feel that they are not listened to or given time by staff – for example, they would like to be able to explain their injuries without fear of being given, or referred to, treatment they do not want. Also, many would appreciate a safe environment in which to wait for treatment. They would like to be treated with the same respect and dignity given to other service users, for example, by not being made to wait for treatment longer than other users, by being given anaesthetic when being sutured and by being involved in all treatment decisions. They would also like to be consulted about having a relative, friend or advocate with them during treatment. They also made suggestions for staff training in order to help staff understand their needs.

5.4 Health professionals' attitudes to self-harm

Service users are often aware of the negative attitudes held by health professionals towards self-harm. Roy and House (unpublished manuscript) have conducted a systematic review of the English-language literature to identify what is known about the content and origins of these attitudes. Forty papers were identified, describing studies conducted since 1971.

5.4.1 Findings on negative attitudes

- 5.4.1.1 Attitudes to self-harm were more negative than attitudes towards other medical conditions (Barber *et al.*, 1975; Creed & Pfeffer, 1981; Goldney & Bottrill, 1980; Patel, 1975). Patients perceived as being seriously mentally ill and those suffering from painful, chronic illnesses were regarded less negatively, as were patients with high suicidal intent (Rund, 1984).
- 5.4.1.2 Depressive motives were viewed as being more acceptable than 'manipulative' ones (Ramon *et al.*, 1975) and patients who had taken an accidental overdose were regarded more favourably than those who had intended to die by suicide (Ghodse, 1978; Ghodse *et al.*, 1986). Patients perceived as having no intention to die were viewed the most negatively (Ansel & McGee, 1971).
- 5.4.1.3 People who harmed themselves repeatedly were viewed particularly negatively (Alston & Robinson, 1992; Bailey, 1994; Pallikkathayil & Morgan, 1988).
- 5.4.1.4 Several authors commented on the tendency of staff to talk in stereotypes (DeRose & Page, 1985; Jeffrey, 1979; Ramon, 1980). Patients were often thought of in stock categories such as 'genuinely suicidal', 'mad', 'silly girls', 'chronically manipulative' or 'personality disordered'.

5.4.2 Consequences of negative attitudes

Strong emotions in staff may manifest themselves in a variety of ways. Staff anger can be expressed through diminished attention to pain and overall avoidance of self-harm patients. Conversely, some staff can respond with compensatory attentiveness and protection (Antonowicz *et al.*, 1997). When staff try to deal with their negative attitudes to service users, their behaviour can become inconsistent, varying between distancing, irritation, aggression, interest and attempts to understand (Wolk-Wasserman, 1985). Some staff use self-care behaviours (e.g. taking a break, laughing, having a co-worker take over) to protect themselves from emotional turmoil and release tension, and they deal with feelings of anger and judgemental thoughts towards the person who has attempted suicide by behaving in a detached manner (Pallikkathayil & Morgan, 1988).

5.4.3 Reasons for negative attitudes

A suicidal patient may be viewed by staff as a challenge to their professional identity (Wolk-Wasserman, 1985) and as a potential threat to self-esteem, with the fear that subsequent suicide may be taken as an indication of professional incompetence (Ansel & McGee, 1971). Several papers refer to countertransference hate or countertransference crisis (Maltsberger & Buie, 1974; Tabachnick, 1961; Wolk-Wasserman, 1987), suggesting that negative reactions on the part of the health professional may be the result of neurotic conflict leading to rejection of the patient.

5.4.4 Summary

Much of the existing research on staff attitudes to self-harm employs over-structured measures (e.g. semantic differentials, repertory grids and mood adjective checklists), which require respondents to endorse or generate global judgements. Few of the studies

include interviews, and where they do, there is rarely any formal qualitative analysis that would allow more complex themes to emerge. Nevertheless, the research that is available confirms the negative and often punitive attitudes of NHS staff towards people who self-harm, and suggests that there are some fundamental emotional difficulties for staff when faced with such people.

5.5 Clinical practice recommendations

The clinical practice recommendations are ordered according to the 'care pathway' normally experienced in emergency departments. However, most of the recommendations can be applied to any treatment or assessment situation involving a person who has self-harmed.

5.5.1 General principles

- 5.5.1.1 People who have self-harmed should be treated with the same care, respect and privacy as any patient. In addition, healthcare professionals should take full account of the likely distress associated with self-harm. (GPP)
- 5.5.1.2 Providing treatment and care for people who have self-harmed is emotionally demanding and requires a high level of communication skills and support. All staff undertaking this work should have regular clinical supervision in which the emotional impact upon staff members can be discussed and understood. (GPP)
- 5.5.1.3 Wherever possible, people who have self-harmed should be offered the choice of male or female staff for both assessment and treatment. When this is not possible, the reasons should be explained to the service user and written in their notes. (GPP)
- 5.5.1.4 When caring for people who repeatedly self-harm, healthcare professionals should be aware that the individual's reasons for self-harming may be different on each occasion, and therefore each episode needs to be treated in its own right. (GPP)
- 5.5.1.5 When assessing people who self-harm, healthcare professionals should ask service users to explain their feelings and understanding of their own self-harm in their own words. (GPP)
- 5.5.1.6 Healthcare professionals should involve people who self-harm in all discussions and decision-making about their treatment and subsequent care. To do this, staff should provide the person with full information about the different treatment options available. (GPP)

5.5.2 Relatives or carers

- 5.5.2.1 People who self-harm should be allowed, if they wish, to be accompanied by a family member, friend or advocate during assessment and treatment. However, for the initial psychosocial assessment, the interview should take place with the service user alone to maintain confidentiality, and to allow

discussion about issues that may relate to the relationship between the service user and carers. (GPP)

- 5.5.2.2 Healthcare professionals should provide emotional support and help if necessary to the relatives/carers of people who have self-harmed, as they may also be experiencing high levels of distress and anxiety. (GPP)

5.5.3 Triage

- 5.5.3.1 Emergency department staff responsible for triage should take account of the underlying emotional distress, which may not be outwardly exhibited, as well as the severity of injury when making decisions about priority for treatment. (GPP)

5.5.4 Waiting for treatment

- 5.5.4.1 If a person who has self-harmed has to wait for treatment, he or she should be offered an environment that is safe, supportive and minimises any distress. For many patients, this may be a separate, quiet room with supervision and regular contact with a named and specified member of staff to ensure safety. (GPP)

5.5.5 The physical treatment of self-harm

- 5.5.5.1 People who have self-harmed should be offered treatment for the physical consequences of self-harm, regardless of their willingness to accept psychosocial assessment or psychiatric treatment. (GPP)
- 5.5.5.2 Adequate anaesthesia and/or analgesia should be offered to people who have self-injured throughout the process of suturing or other painful treatments. (GPP)
- 5.5.5.3 When physical treatment of self-injury is likely to evoke distressing memories of any previous sexual abuse, for example when repairing harm to the genital area, sedation should be offered in advance. (GPP)

5.5.6 Staff training and the organisation of services

- 5.5.6.1 Clinical and non-clinical staff who have contact with people who self-harm in any setting should be provided with appropriate training to equip them to understand and care for people who have self-harmed. (C)
- 5.5.6.2 People who self-harm should be involved in the planning and delivery of training for staff. (GPP)
- 5.5.6.3 Strategic health authorities, Primary Care Trusts (PCTs), acute trusts and mental health trusts should ensure that people who self-harm are involved in the commissioning, planning and evaluation of services for people who self-harm. (GPP)

5.6 Research recommendations

- 5.6.1.1 A study using an appropriate and rigorously applied qualitative methodology should be undertaken to explore user experiences of services.

- 5.6.1.2 Qualitative research methods, such as Q sort and Interpretive Phenomenological Analysis, should be used to better understand staff attitudes to self-harm and their psychological and social origins.

6 Consent

6.1 Introduction

Staff often face difficult decisions about whether they should intervene to provide treatment and care to a person who has self-harmed and then refuses help. This might happen when a person refuses to be conveyed to an emergency department by ambulance, indicates a wish to leave an emergency department before a full assessment has been made or refuses treatment for the physical effects of self-harm. Not only are these decisions difficult but they can provoke disagreements between staff who may interpret differently the legal framework that underpins them (Hassan *et al.*, 1999a and 1999b). The Department of Health's *Reference Guide to Consent for Examination or Treatment* has helped to clarify the issues involved (Department of Health, 2001a).

This guideline cannot offer specific advice about every possible scenario, but can give general guidance that, if applied, should allow staff to reach a decision that ensures both that the best interests of the patient are served and that the actions of staff are defensible if subsequently challenged. Flowchart 2 (see Section 6.8) shows an algorithm intended to support decision-making about treatment for the physical effects of self-harm.

6.2 Mental capacity

Except in situations where mental health legislation applies, the concept of **mental capacity** is central to determining whether treatment and care can be given to a person who refuses it. The starting point for decision-making is the presumption that a person has capacity. For the person's wishes to be overridden, there must be evidence that some impairment or disturbance of mental functioning renders the person unable to make an informed decision whether to accept or refuse the treatment that is being offered. Box 3 lists the features of a person who has capacity.

Box 3

In order to demonstrate capacity to give or withhold consent for medical treatment, an individual should be able to:

- Understand in simple language what the medical treatment is, its purpose and nature and why it is being proposed
- Understand its principal benefits, risks and alternatives
- Understand in broad terms what will be the consequences of not receiving the proposed treatment
- Retain the information for long enough to make an effective decision
- Believe the information
- Weigh the information in the balance
- Make a free choice (i.e. uncoerced).

6.2.1 Testing for capacity

A test of capacity requires that the person has received sufficient information, about the specific treatment being offered, in a form that he/she could be expected to understand. This would also include information about the seriousness and nature of the problems associated with the episode of self-harm and the consequences of not being treated. The giving of information, and attempts to obtain consent, should be repeated and continue throughout the process of assessment and treatment. It is important that a person is not judged to be incapable of making a decision simply because they have communication difficulties. Communication support should be offered if needed.

6.2.2 Factors that can affect capacity

A person may be mentally incapable of making the decision in question either because of a long-term mental disability or because of temporary factors such as unconsciousness, confusion or the effects of fatigue, shock, pain, anxiety, anger, alcohol or drugs or drug withdrawal. When possible, attempts should be made to enhance capacity by, for example, pain management.

If the mental capacity of a person who has self-harmed has been impaired by the effects of alcohol or drugs, or by that person's emotional distress, staff must be satisfied that these temporary factors are operating to such a degree that the assumption of mental capacity is overridden. In such a case, where incapacity is temporary, staff should decide whether it is safe to defer treatment decisions until capacity is regained.

If a person appears to be calm but refuses potentially life-saving treatment, or expresses the wish to die by suicide, the assumption of capacity could be rebutted by evidence that the person does not truly comprehend the consequences of his or her decision, that the person is acting under the undue influence of another, that the person's emotional distress associated with the stated reason for wishing to be dead is impairing his or her judgement, or that the person's behaviour shows that he or she is deeply ambivalent about the decision (for example if the person initially sought help for the effects of the self-harm).

6.2.3 Assessments of capacity are 'functional'

It may not be a question of capacity or no capacity. It may be a case of reduced capacity. Assessments of capacity are 'functional', that is they are related to the individual decision that needs to be made. The graver or more serious the decision, the higher the level of capacity required. Refusals of treatment can vary in importance. Some may involve a risk to life or of irreparable damage to health; others may not. What matters is whether, at that time, the patient's capacity is reduced below the level needed in a case of refusal of that importance. If there is uncertainty as to the consequences of the act of self-harm, then it should be assumed that the consequences will be serious.

6.2.4 What should be done if a person who has self-harmed lacks capacity?

If a person is mentally capable of making the decision, then his or her decision about whether to receive treatment or care must be respected; even if a refusal may risk permanent injury to that person's health or even lead to premature death (unless he or she is mentally disordered and can be treated under the Mental Health Act – see below).

If a person is assessed as being mentally incapable, the common law doctrine of necessity will apply and staff must act in the person's best interests in a manner that is consistent with good medical practice. The doctrine of necessity could provide authority for healthcare workers to intervene, even if the person does not wish to comply. This might include ambulance staff conveying the person to hospital, emergency department staff detaining him or her for the purposes of medical assessment or medical staff administering treatment. When a mentally incapacitated person is actively opposed to the course of action favoured by staff, the benefits which it holds for the person will have to be carefully weighed against the disadvantages of going against his or her wishes, especially if force is required to do this. The use of force or restraint should be a matter of last resort, should be used only when immediately necessary and should always be the minimum possible in the circumstances.

6.3 Advance directives

Valid advance directives are binding under common law and there are plans to put them on a statutory footing in the forthcoming capacity legislation. A valid advance refusal of treatment should be respected regardless of the consequences for the person concerned. However, for people who self-harm, it is often difficult to decide the validity of such advance directives (Box 4). In an emergency, if a person lacks capacity and there is any doubt, staff should take whatever steps are necessary to prevent deterioration of the person's condition while the validity of the advance refusal of treatment is assessed.

Box 4

Under the common law, an advance refusal of treatment is valid if:

- The patient is an adult and was competent when the directive was made, and
- The patient has been offered sufficient accurate information to make an informed decision, and
- The circumstances that have arisen were those envisaged by the patient, and
- The patient was not subject to any undue influence in making the decision, and
- The patient has not subsequently changed his/her mind or done anything to indicate that he/she disagrees with the terms of the advance directive.

A person who has self-harmed might have made a broader advance statement about preferred treatment options, perhaps carried in the form of a 'crisis card'. Although such advance statements are not legally binding on the treating clinician, they should be taken into account.

6.4 Who should assess capacity?

The health professional carrying out the treatment or care intervention has the legal responsibility to obtain informed consent. He or she is also best placed to assess capacity because he or she has the clearest understanding of what is involved and can best present the proposed intervention in the clearest terms. For this reason, all staff who have emergency contact with people who have self-harmed should understand the test of capacity and know how to apply it. In particularly complex cases, it may be necessary

to request an opinion from a specialist, such as a psychiatrist who has expertise in assessing capacity and who is independent of the treating team. Staff should also have ready access to legal advice at all times.

6.5 The role of the Mental Health Act

The fact that a person has a mental disorder is not sufficient to override the assumption of mental capacity. However, a mentally capable person who suffers from a mental disorder could be detained under the Mental Health Act if the relevant criteria under that Act are satisfied. The Court of Appeal has held that the compulsory treatment for the mental disorder of a person who has been detained under Section 2 or 3 of the Act can involve treatment for the consequences of the mental disorder and for the symptoms of the disorder (*B. v. Croydon Health Authority* [1995] 1 All ER 683). In this case, one of the judges ruled that 'it would seem strange to me if a hospital could, without the patient's consent, give him treatment directed at alleviating a ... disorder showing itself in suicidal tendencies, but not without such consent be able to treat the consequences of a suicide attempt. In my judgment the term "medical treatment for mental disorder" in s.63 includes such ancillary acts' (*ibid.*, pp. 686–7). Therefore, although it is not a common occurrence, compulsory treatment can include medical and surgical treatment for the physical effects of self-harm if the self-harm can be categorised as either the consequence of or a symptom of the patient's mental disorder. If, in a particular case, staff are in doubt about the extent of treatment permissible under the Mental Health Act, they should consider seeking legal advice and, when necessary, a court ruling.

6.6 Intoxication

If a person who has self-harmed is incapable through drink (or drugs or any other cause), and staff believe there is a real risk that they will come to harm, staff should stop them if they attempt to leave the emergency department or treatment setting. Intoxication alone cannot be grounds for making an application under the Mental Health Act. Furthermore, it is often difficult to make a proper Mental Health Act assessment if a person is intoxicated. In this situation, necessary treatment and care can be given under the common law on the grounds that the person is mentally incapacitated. This will include holding a person who is incapable in the emergency department until a Mental Health Act assessment can proceed once their mental abilities are no longer impaired by alcohol or drugs.

6.7 Young people

This section contains only a brief introduction to consent in young people. Fuller guidance, for both staff and young people, is available from the Department of Health (www.doh.gov.uk/consent).

Although staff who have contact with young people who self-harm should understand issues relating to capacity and consent in young people, including the role of the Mental Health Act and Children Act, they should always seek expert advice in difficult or complex situations unless they have to act immediately to save life.

Mentally capable young people aged 16 and 17 have the same right to consent to medical treatment as adults. A child under the age of 16 has a right to consent to treatment if he or she is assessed as being mentally competent ('Gillick competence'). The refusal of a competent young person, under the age of 18, to receive treatment or to enter hospital, can be overridden by a person or body that has parental responsibility. However, this power to overrule a competent young person's refusal should be used only in exceptional cases.

If a young person under the age of 18 lacks mental capacity, the consent of a person or body that has parental responsibility for that child should be obtained before treatment is given. However, if it is not possible to contact a person with parental responsibility, emergency treatment can be given if it is in the young person's best interests. Those with parental responsibility should be informed as soon as possible.

In cases where there is disagreement between parents and doctors, every attempt must be made to resolve this and, if unsuccessful, legal advice should be sought. The court's decision is determinative. Only in exceptional cases, where the doctor believes the treatment to be vital to the survival or health of a child, can emergency treatment be given in the face of parental opposition.

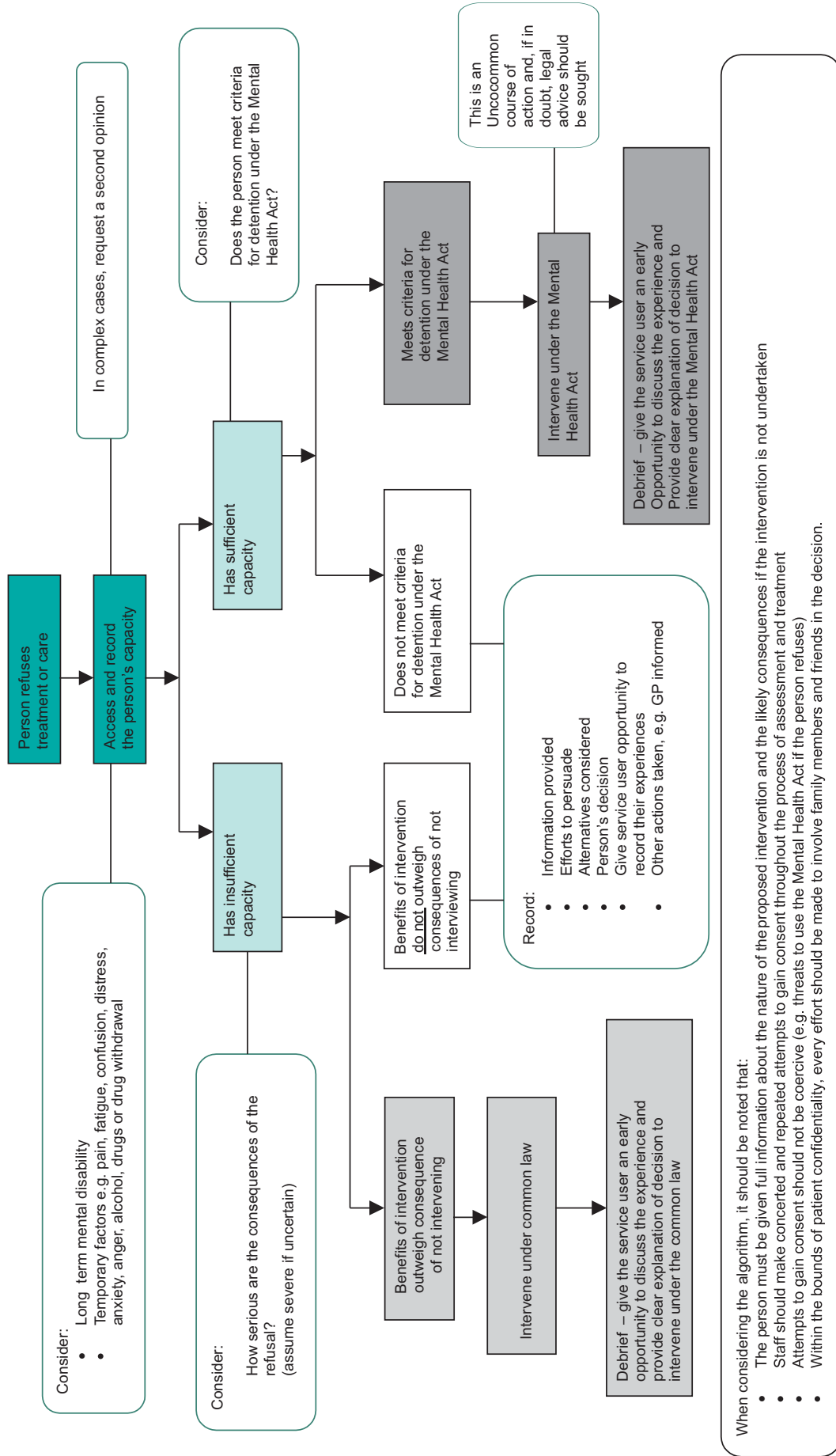
It is good practice to encourage competent young people to involve their families in decision-making. However, if such a young person does not wish this, disclosure can be justified if it is decided that the young person is suffering, or is likely to suffer, significant harm.

6.8 Putting these principles into practice

Flowchart 2 shows an algorithm intended to support decision-making. When considering the algorithm, it should be noted that:

- The person must be given full information about the nature of the proposed intervention and the likely consequences if the intervention is not undertaken
- Staff should make concerted and repeated attempts to gain consent throughout the process of assessment and treatment
- Attempts to gain consent should not be coercive (e.g. threats to use the Mental Health Act if the person refuses)
- Within the bounds of confidentiality, every effort should be made to involve family members and friends in the decision. If staff are refused permission to interview a third party who might have important information, they must decide whether the risk to life is such that they should override that refusal
- Staff should consider carefully the content of any crisis card or advance directive when deciding when and how to intervene
- Staff should carefully record their actions and the reasons for them.

Flowchart 2. Algorithm to support decision-making in the event of a person refusing treatment for the physical effects of self-harm



In most cases, staff will be able to decide whether a person has or has not the capacity to refuse treatment. If there is uncertainty, a second medical opinion should be obtained. If uncertainty remains and there is time to seek legal advice, this should be done. In an emergency, if a person refuses treatment and there is doubt about his or her capacity to do so, staff should take whatever steps are necessary to prevent deterioration of the person's condition, and then consider issues of capacity and consent, including whether to seek legal advice. If the incapacity is temporary, staff should not proceed beyond what is essential to preserve the person's life or prevent deterioration in health, thereby creating the conditions for the individual to make an autonomous decision when he or she has the capacity to do so.

Four vignettes are given to illustrate the types of situation that might occur and how the algorithm might guide decision-making.

Vignette 1: a 23-year-old man is accompanied to the emergency department by a friend who reports that he has taken an unknown number of paracetamol tablets. Shortly after arrival, the man states that he is going to leave. The triage nurse explains the potential dangers of paracetamol poisoning, but cannot persuade him to stay. The accompanying friend tells the triage nurse that the man has been drinking heavily, and the nurse notices that his speech is slurred and that he is unsteady on his feet.

The assessment of the triage nurse is that the man has reduced capacity as a consequence of alcohol. She also decides that, with the uncertainty about how much paracetamol has been taken, the chances of the man suffering severe consequences are high. The emergency doctor confirms this view and, having considered the intoxication of the patient and the consequences of non-intervention, concludes that the patient does not possess the level of capacity required for a decision of that importance. It is decided that the man should remain until a blood sample has been taken and tested for paracetamol. The man is held under common law and security guards are asked to prevent him leaving.

Although continuing to express his refusal, the presence of the security guards causes the man to remain in the assessment area, and blood is taken without him having given consent.

Vignette 2: a 19-year-old woman comes to the emergency department having cut her arm with a knife. The wound is 2 inches long and would benefit from closure; however, no underlying structures have been damaged. The department is very busy and at triage the woman is assigned a low priority. After waiting for three hours the woman tells the triage nurse that she is not prepared to wait any longer and is going to leave immediately. Angry and distressed at being kept waiting, the woman refuses a belated offer of immediate treatment for her wound. The triage nurse has already ascertained that the woman cut herself to relieve stress and that this is something that has happened before. The self-harm was not an attempt to kill herself, and the woman is not expressing suicidal intent.

The woman is allowed to leave. Although she is distressed, and this might be affecting her judgement and therefore her decision not to have treatment, the staff decide that the consequences of the wound not being closed (the risk of an unsightly scar) are not sufficiently severe to warrant keeping the woman in the emergency department against

her will. Staff tell the woman that they would be happy to treat her wound should she change her mind and return, give her written information about local mental health services and self-help groups, and send a fax to the woman's GP explaining what has happened.

Vignette 3: a woman phones the emergency ambulance service at 9 p.m. When the ambulance crew arrive at her home, the woman tells them that she thinks that her partner, a man in his 30s, has taken an overdose of tablets after she told him that she intended to end their relationship. The man has locked himself in the bathroom and tells the ambulance crew that he is not prepared to see them or to go to hospital. He sounds distressed and angry and he refuses to say what tablets he has taken. The man's partner saw him open a bottle containing sixty 75 mg amitriptyline tablets, which had been prescribed for her, but did not see whether he had swallowed any before locking himself in the bathroom. The woman reports that the man has no recent history of mental illness.

From the information available, the ambulance crew suspect that the man's capacity is reduced by virtue of his distress and anger. The woman's account of events also lead them to believe that there is a substantial likelihood that he has taken an overdose that is potentially fatal. After failing to persuade the man to open the door, they call for assistance from the police who force the bathroom door. The man is drowsy and slumped on the floor beside the empty pill bottle. The police escort the man in the ambulance to the local emergency department.

In this situation, the ambulance crew might also have called for the advice of a psychiatrist. If the psychiatrist is unable to attend immediately, the ambulance crew could at least have discussed the assessment of capacity by telephone.

Vignette 4: a 55-year-old woman is brought to the emergency department by her community psychiatric nurse (CPN). That morning, the woman's husband had entered a room to discover that his wife had just taken a large quantity of her antidepressant tablets. He had immediately phoned his wife's CPN who visited straight away because it was clear that the woman would not agree to go to hospital. The CPN was able to persuade the woman to go with her. When assessed by the casualty officer, the woman is fully conscious, calm and fully understands the doctor's explanations about the likely fatal consequences of the overdose, if left untreated. She refuses to accept treatment. She states that she had planned the overdose some weeks ago, and that she had not intended to be discovered by her husband until she was dead. She wishes to die because she believes that she has become an intolerable burden on her family.

The casualty officer is uncertain about whether the woman has reduced capacity and suspects that her wish to die might be due to her mental disorder. His suspicion is strengthened when the CPN and the woman's husband tell him that she has been under the care of mental health services for the treatment of severe depression. The casualty officer asks for an urgent assessment by the duty psychiatrist. The duty psychiatrist discusses her assessment with the consultant psychiatrist on call over the telephone. They confirm the casualty officer's suspicion that her wish to die is due to her morbid belief that she is a burden – her husband confirms that this belief is unfounded – and so is a symptom of her depressive illness. The psychiatrist's opinion is that the woman lacks capacity due to her inability to weigh up the consequences of her refusal to accept

life-saving treatment. The casualty officer decides to treat the woman, under common law, for the physical effects of the overdose.

The consultant psychiatrist subsequently comes to the emergency department to assess whether the woman should be detained under the Mental Health Act to assess and treat her depressive illness. The woman's GP and an approved social worker are phoned to ask them to participate in the Mental Health Act assessment. If the woman had been assessed as having capacity, an alternative option would have been to detain the woman under Section 2 or 3 of the Mental Health Act and give physical treatment for the effects of self-poisoning under Section 63.

6.9 Clinical practice recommendations

- 6.9.1.1 All staff who have contact, in the emergency situation, with people who have self-harmed should be adequately trained to assess mental capacity and to make decisions about when treatment and care can be given without consent. (GPP)
- 6.9.1.2 Primary healthcare practitioners, ambulance staff, triage nurses and emergency department medical staff should assess and document mental capacity as part of the routine assessment of people who have self-harmed. Within the bounds of patient confidentiality, and subject to the patient's consent, staff should attempt to obtain relevant information from relatives, friends, carers and other key people to inform the assessment. (GPP)
- 6.9.1.3 In the assessment and treatment of people who have self-harmed, mental capacity should be assumed unless there is evidence to the contrary. (GPP)
- 6.9.1.4 Staff should provide full information about the treatment options, and make all efforts necessary to ensure that someone who has self-harmed can give, and has the opportunity to give, meaningful and informed consent before any and each procedure (e.g. taking the person to hospital by ambulance) or treatment is initiated. (GPP)
- 6.9.1.5 If a person is assessed as being mentally incapable, staff have a responsibility, under common law, to act in that person's best interests. If necessary, this can include taking the person to hospital, and detaining them to allow assessment and treating against the person's stated wishes. (GPP)
- 6.9.1.6 Staff should take into account that a person's capacity to make informed decisions may change over time. Whether it has been possible to obtain consent or not, attempts should be made to explain each new treatment or procedure and obtain consent before it is initiated. (GPP)
- 6.9.1.7 Staff working with people who self-harm should understand when and how the Mental Health Act can be used to treat the physical consequences of self-harm. (GPP)
- 6.9.1.8 Staff who have emergency contact with children and young people who have self-harmed should be adequately trained to assess mental capacity in

children of different ages and to understand how issues of mental capacity and consent apply to this group. They should also have access at all times to specialist advice about these issues. (GPP)

- 6.9.1.9 In the assessment and treatment of self-harm in children and young people, special attention should be paid to the issues of confidentiality, the young person's consent (including Gillick competence), parental consent, child protection, the use of the Mental Health Act in young people and the Children Act. (GPP)
- 6.9.1.10 Staff working with people who self-harm should have easy access to legal advice about issues relating to capacity and consent at all times. (GPP)

6.10 Research recommendations

- 6.10.1.1 Comparative pilot studies should be undertaken to evaluate different approaches to introducing and using advance directives for people who self-harm repeatedly. Studies should address ethical, legal and practical implications and consequences, as well as acceptability to service users and healthcare practitioners. Service users should be included in the design and evaluation of each pilot.

7 The medical and surgical care of people who have self-harmed

7.1 Introduction

Although the majority of episodes of self-harm never reach the health service (Hawton *et al.*, 2002a), self-harm nevertheless represents a significant part of the work of healthcare workers in community, primary and secondary services. For example, people who have self-harmed represent 4% to 5% of all attendances at emergency departments (BAEM, unpublished), with self-harm being one of the top five causes of acute medical and surgical admission in the UK (Hawton & Fagg, 1992; Gunnell *et al.*, 1996). In addition, of about 40,000 responses to calls regarding mental health by the London Ambulance Service in a year, nearly 20,000 will be related to an act of self-harm.

Although an estimated 92% of people who present to statutory services following an episode of self-harm attend emergency departments, about 4% of people present initially at general practice surgeries, 3% to mental health services and 0.5% to social services (Crawford & Wessely, 1998). This chapter therefore considers the initial care of people who have self-harmed, focusing on those presenting to emergency departments, but also considering the response of primary care and ambulance services.

Poisoning and cutting represent the bulk of all acts of self-harm presenting to emergency departments and have a number of established treatments that are considered in this chapter. With regard to the treatment of self-cutting, the guideline addresses only methods of wound closure for superficial uncomplicated wounds, as more complicated injuries may require surgical exploration and a more complex and individual response. Moreover, a considerable proportion of the people who contact the NHS following self-cutting will present with one or more superficial wounds, and can be physically treated relatively quickly, although it is uncertain as to which methods of wound closure are the most effective and acceptable. Where other specific treatment is indicated, normal good medical practice should be used (e.g. in the use of antibiotics for the treatment of secondary infection and the surgical repair of damaged arteries, tendons and/or nerves).

7.1.1 What this chapter considers

This chapter considers:

- The management of self-harm in primary care
- The management of self-harm by ambulance staff
- Information and laboratory services available to clinicians treating self-poisoning
- The role of triage in the management of self-harm in emergency departments

- Screening for paracetamol overdose in emergency departments
- The treatment and management of self-poisoning by gut decontamination
 - Treatment and management of paracetamol overdose
 - The use of flumazenil in the treatment and management of benzodiazepine overdose
 - Treatment and management of opioid overdose
- The treatment and management of superficial wounds

For the treatment of poisoning not covered in this guideline, clinicians should consult TOXBASE, the national database for the National Poisons Information Service (NPIS), or contact NPIS directly (see Section 7.4 for more information).

7.1.2 Clinical recommendations

- 7.1.2.1 For further information about the management of overdose with substances covered by this guideline and for the specific management and treatment of overdose with substances not covered in this guideline, clinicians should consult TOXBASE or discuss the individual case with the NPIS. (GPP)

7.2 The management of self-harm in primary care

7.2.1 Introduction

Any member of the primary care team may need to deal with someone who has self-harmed. There is therefore a wide diversity of primary healthcare professionals in a variety of settings, including general practice reception staff, practice nurses and general practitioners, community nurses, health visitors, midwives, counsellors, and staff in out-of-hours services, deputising services and community hospitals who need to know how to manage self-harm. Unless healthcare professionals are alert to the possibility of self-harm they may fail to recognise it – for example, when a patient has minor injuries that have initially been self-treated.

7.2.2 Management

The management of self-harm in primary care depends on a variety of factors such as location of the primary care practice (for example, urban or rural practices), the experience of the healthcare professionals involved, and how well the patient is known to them. However, there are some basic guiding principles that should apply in all cases.

The principles of early assessment of physical risk, cognitive function and mental capacity, the level of distress experienced by the service user, and the likelihood of service users leaving the treatment setting before adequate physical treatment or psychosocial assessment (see Chapter 8) also apply in primary care.

Differences in management between primary care and other settings mainly relate to the management of people who self-injure, and especially those people who have an established relationship with primary care providers who prefer to receive treatment for self-injuries within primary care.

The management of self-harm in primary care falls under three headings:

- Assessment
- Referral
- Treatment.

7.2.2.1 Assessment and referral

Initial assessment of a person who has self-harmed and presents to primary care will seek to establish the immediate physical risks to the person. If a person has self-poisoned, immediate referral to the nearest emergency department should be arranged. Occasionally, a person will present following an overdose with little potential to do harm, in which case referral to the emergency department may not be necessary. In these circumstances considerable caution should be exercised as many people who self-harm may not know exactly what, or indeed how much, poison they have ingested, while others may not feel that they can be honest about the nature and quantity of the poison. This may be for a number of reasons: they may feel ashamed; they might be worried about the professional's reaction; they may still want to kill themselves; or they may feel unsure about whether they want help.

When a person who has self-injured expresses a preference for physical treatment in primary care without referral to the emergency department, this should be supported if primary healthcare practitioners have the facilities and training to provide appropriate treatment. If there is any suggestion of concurrent covert self-poisoning, urgent referral should be offered.

In any event, assessment of the person's mental capacity and level of consciousness should be undertaken. Evidence of diminished level of consciousness indicates urgent referral to the nearest emergency department.

All people who have self-harmed must be assessed for the risk of repetition of self-harm and of suicide in the same way as outlined in the chapter on assessment (see Chapter 8), including the identification of mental illness, especially depression, and evidence of hopelessness and continuing suicidal intent. Initial assessment must also recognise the individual circumstances that apply to the particular episode of self-harm. However well known the patient may be to the healthcare professional, and even if this is one of many episodes of self-harm, it is essential that it is recognised that self-harm can occur for different reasons on separate occasions in any individual, and that assessment of the circumstances on that occasion must be careful, and that assumptions are not based simply on previous history. Each episode, whether a first episode or one of many, requires the same attention and needs to be addressed with the same degree of respect and consideration for the individual who has self-harmed.

A holistic approach to initial assessment is appropriate with the immediate physical and psychological needs of the patient being assessed within the social context. If referral to

the emergency department is considered unnecessary, or indeed potentially harmful (such as when previous experience has been unpleasant and frightening), a comprehensive needs assessment should be undertaken, including psychiatric, psychological and social needs, as well as an assessment of the motivation behind the act of self-harm. Referral to psychiatric services should be based upon the assessment of risk and needs, although the presence of mental illness or diminished mental capacity should indicate the need for an urgent psychiatrist assessment. Where appropriate, referral to other organisations such as social services should be considered.

If the initial full psychological assessment is undertaken in primary care, it must be undertaken with the same rigour by an individual with the same level of expertise as in the secondary care setting. If there is any doubt about the seriousness of an incident, urgent referral to secondary care probably via an emergency department for the management of the physical aspects is appropriate.

In all cases the wishes of the service user should be taken into account and, if possible, depending upon the facilities and skills available in a primary healthcare setting, the wishes of the patient about who cares for them should be followed, as long as this does not significantly increase the risks to the service user. This, for example, may be particularly important for people who have self-harmed repeatedly and where the individual has had a bad experience in the way in which they have been dealt with and so may have lost faith in the services provided in a particular setting; positive prior experience of services should also be taken into account.

When physical injuries are dealt with in a primary care setting, there may still be a need to consider referral to secondary care for further assessment and treatment of psychological needs. In the majority of cases, early referral will be appropriate. It should be remembered that severity or seeming triviality of the physical aspects of an episode of self-harm do not necessarily correlate with the degree of psychological problem or hurt.

Consideration should also be given to whether the patient poses a further risk to themselves during transportation and what, if any, level of supervision is appropriate when referring for further assessment, treatment or care. If there is reasonable risk of additional or exacerbated injuries, it may be appropriate to arrange ambulance transportation. A full clinical handover to the receiving organisation should be made according to agreed/current practices, including the sharing of relevant past history that may affect the current decisions concerning any presenting crisis.

7.2.2.2 Treatment

Any initial treatment in primary care should first and foremost take into account the level of experience and expertise of the primary care clinician. Other factors that need to be taken into account will be the setting and time of day. It may be appropriate to undertake treatment of wounds in community settings, such as GP surgeries, health centres or community hospitals located in rural or urban sites distant from an emergency department. In such cases the following points are crucial:

- Acknowledge that there is a need to overcome any prejudicial beliefs when dealing with self-harm
- Recognise the need of the patient to receive appropriate treatment by acknowledging their views and offering dignity and respect

- Be aware of the limitations of a generalist dealing with what can be complex issues
- Err on the side of caution and, if necessary, refer cases for management by secondary care after discussion with the emergency department consultant
- Communicate information about self-harm episodes to other organisations that hold a current care plan for the patient
- In remote areas at considerable distance from an emergency department or where access is likely to be delayed, consideration should be given to initiating assessment and treatment of overdose in the primary care setting, including collecting samples, which could be used to test for paracetamol and other drugs.

7.2.3 Clinical practice recommendations

- 7.2.3.1 When an individual presents in primary care following an episode of self-harm, healthcare professionals should urgently establish the likely physical risk and the person's emotional and mental state in an atmosphere of respect and understanding. (GPP)
- 7.2.3.2 In most circumstances, people who have self-poisoned and present to primary care should be urgently referred to the nearest emergency department, because the nature and quantity of the ingested substances may not be clearly known to the person who has self-poisoned, making it difficult to assess risk accurately. (GPP)
- 7.2.3.3 In remote areas at considerable distance from an emergency department or where access is likely to be delayed, consideration should be given to initiating assessment and treatment of self-harm in the primary care setting, following discussion with the nearest emergency department consultant. This should include taking samples to test for paracetamol and other drugs as indicated in TOXBASE. (GPP)
- 7.2.3.4 If there is any doubt about the seriousness of an episode of self-harm, the general practitioner should discuss the case with the nearest emergency department consultant, as management in secondary care may be necessary. (GPP)
- 7.2.3.5 All people who have self-harmed should be assessed for risk; this assessment should include identification of the main clinical and demographic features and psychological characteristics known to be associated with risk, in particular depression, hopelessness and continuing suicidal intent. The outcome of the assessment should be communicated to other staff and organisations who become involved in the care of the service user. (C)
- 7.2.3.6 In the assessment and management of self-injury in primary care, healthcare professionals should refer service users for urgent treatment in an emergency department, if assessment suggests there is a significant risk to the individual who has self-injured. (GPP)

- 7.2.3.7 If urgent referral to an emergency department is not considered necessary for people who have self-injured in primary care, a risk and needs assessment should be undertaken to assess the case for urgent referral to secondary mental health services. (GPP)
- 7.2.3.8 Assessment of the service user's needs should be comprehensive and should include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current intent and hopelessness, as well as a full mental health and social needs assessment. (C)
- 7.2.3.9 Healthcare professionals who may have to assess and/or treat people who have self-harmed should ensure that they are properly trained and competent to undertake assessment and treatment as necessary. (GPP)
- 7.2.3.10 Consideration should be given to the patient's welfare during transportation to any referral organisation and, if necessary, this should be supervised by an appropriate person where there is a risk of further self-harm, or reluctance to attend other care centres, or the service user is very distressed. (GPP)
- 7.2.3.11 Following assessment and treatment of self-harm in primary care, the outcome of the risk and needs assessment, and full details of the treatment provided, should be forwarded to the appropriate secondary mental health team at the earliest opportunity. (GPP)
- 7.2.3.12 In patients who are considered at risk of self-poisoning, healthcare professionals should prescribe, whenever possible, those drugs which, while effective for their intended use, are least dangerous in overdose, and should consider prescribing fewer tablets at any one time. (GPP)
- 7.2.3.13 As medication intended for relatives is often used in self-poisoning, healthcare professionals should prescribe, whenever possible, those drugs which, while effective for their intended use, are least dangerous in overdose when prescribing medication to relatives who live with a person who is considered at risk of self-poisoning. They should also consider prescribing fewer tablets at any one time. Care must be taken, however, to preserve confidentiality appropriately. (GPP)

7.3 The management of self-harm by ambulance staff

7.3.1 Introduction

Self-harm accounts for a significant proportion of emergency calls (i.e. 999 calls) to NHS ambulance trusts. In the three-month period between March 2002 and May 2002 the London Ambulance Service (NHS Trust) responded to 4,452 calls related to self-harm, which accounts for nearly a half of all psychiatric-related emergency activity. Calls originate from both people who have harmed themselves and, more often, from concerned family or friends. The severity of such incidents ranges from minor physical injuries to life-threatening conditions.

The nature of self-harm, including both self-poisoning and self-injury, also varies, with the London Ambulance Service receiving five times as many calls for drug overdoses as for non-accidental self-inflicted external injuries. Although general emergency call demand through the 999 system tends to peak about midday, calls relating to self-harm peak later, between 8 pm and 12 pm (Jessen *et al.*, 1999). This indicates a reliance on the emergency ambulance trusts to provide intervention and care out of hours, and may reflect the need for other care providers to provide similarly planned resources during this time.

Many service users attended to by ambulance staff state that they have had no contact with mental health services previously, indicating that ambulance trusts may frequently be the entry point for people experiencing their first crisis.

Early intervention in the pre-hospital environment may avoid further physical harm to service users. Historically, ambulance staff have stabilised injuries to prevent further deterioration and promote recovery, providing care and treatment before arrival at an emergency department. However, their increased skill level and knowledge mean that ambulance staff are now able to contribute more fully to patient care. Ambulance crews should therefore receive regular update training on the management of poisoning, and ambulance control centres should have immediate access to TOXBASE and the NPIS (see Section 7.4) to give crews speedy access to information about the risks and immediate management of poisoning with particular substances.

In situations where emergency calls are made by friends or family, a significant proportion of people who have self-harmed are unwilling to attend an emergency department. While ambulance staff can employ their powers of persuasion in such instances, they have no automatic right to remove patients against their will. Ambulance staff are increasingly familiar with the requirement of consent and the need for patients to have mental capacity. However, the absence of this does not allow the imposition of care unless the situation is deemed a significant threat to life or limb (Dimond, 1994). While it is reasonable to expect ambulance staff to act in situations where there is a clear lack of capacity and obvious danger to the service user, there are many situations where assessment by a psychiatrist skilled in the assessment of mental capacity would be helpful. At present this is usually unavailable to ambulance staff. Although any delay in the provision of effective physical treatment should be avoided, rapid access to a psychiatrist skilled in the assessment of mental capacity, even by telephone, may well help ambulance staff to treat and transport service users more appropriately. Similarly, it is vital that ambulance staff understand how important it is to provide the patient with information regarding the potential consequences of not receiving treatment when attempting to gain valid consent.

Often service users travel to hospital unaccompanied, or have little or no support at home. Ambulance staff may, therefore, often be able to provide an insight into the service user's living environment, social and family support network and history leading up to the act of self-harm. In addition, the service user's initial emotional state may differ from initial presentation to ambulance staff compared with presentation at an emergency department.

Normally, ambulance staff take service users to the nearest emergency department. However, sometimes service users prefer to be treated elsewhere, possibly because of previous bad experiences, or because they are known by staff at another hospital and

prefer continuity of care. Sometimes the physical injuries caused by self-harm do not warrant treatment at an emergency department, although emotional and mental health problems, or a high level of continuing risk, persist; service users may then receive more appropriate help from a specialist mental health centre instead. In any event, ambulance staff should ensure that the receiving department or organisation is willing and able to take and manage the service user concerned.

A further difficulty for ambulance staff stems from the increasing tendency for acute trusts to specialise in areas of care, making each acute trust unique in the precise range of services they offer. Moreover, acute trusts are continually changing the services they provide in response to both local circumstance and to national policy initiatives, and ambulance services are not always informed when a particular service is no longer provided at a particular hospital. This means that sometimes service users arrive at emergency departments by ambulance with non-life-threatening conditions, including those resulting from self-harm, only to be transferred subsequently to another specialist unit because ambulance staff were not aware of changes in hospital policy or the provision of hospital services. It is essential that this information be shared with ambulance trusts to avoid unnecessary journeys to hospitals where certain categories of patients are no longer treated.

7.3.2 Treatment of overdose by ambulance staff

Sometimes ambulance staff may need to initiate treatment before a person who has self-harmed reaches the emergency department. This is particularly likely if the person has taken an overdose. Guidance for ambulance staff to administer drugs is contained within the Ambulance Pre-Hospital Guidelines (JRCALC, 2002) adopted by all ambulance trusts in the UK. These guidelines provide definitive advice and guidance to ambulance staff, including the use of naloxone in suspected opioid poisoning. The early administration of activated charcoal following self-poisoning, and the use of naloxone in opioid overdose, are reviewed later in this chapter.

In cases of known or suspected opioid overdose where the level of consciousness is depressed and/or there is respiratory compromise, naloxone should be administered at the earliest opportunity. Whenever possible, naloxone should be given intravenously. In addition, in cases of adult cardiac arrest or extreme respiratory depression, JRCALC (2002) advises that naloxone be administered. In the case of children where opioid poisoning is known or suspected, naloxone should also be given. In each instance, clinical response should be carefully monitored routinely and frequently, adjusting any additional doses accordingly.

7.3.3 Clinical practice recommendations

- 7.3.3.1 PCTs, in conjunction with acute and mental health trusts, should consider the level of support needed for the delivery of an adequate pre-hospital care system for self-harm. Specific consideration should be given to the provision of telephone advice to ambulance staff from crisis resolution teams, approved social workers and Section 12 approved doctors, regarding the assessment of mental capacity and the possible use of the Mental Health Act in the urgent assessment of people who have self-harmed. (GPP)
- 7.3.3.2 When ambulance staff attend a person who has self-harmed, they should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. (GPP)
- 7.3.3.3 When people who have self-harmed are considering refusing further treatment, ambulance staff should assess mental capacity and provide information about the potential consequences of not receiving treatment when attempting to gain valid consent. When consent is withheld, the guidance on consent and capacity in this guideline should be followed. (GPP)
- 7.3.3.4 Ambulance staff should be trained in the assessment and early management of self-harm. Training should particularly address the different methods of self-harm and the appropriate treatments, the likely effects if untreated, and issues of consent and mental capacity, as these apply both to adults and to children and young people. (GPP)
- 7.3.3.5 The ambulance services should ensure that there is rapid access to TOXBASE and the NPIS so that their crew can gain additional information on substances and/or drugs ingested in cases of self-poisoning in order to assist in decisions regarding urgent treatment and the transfer of patients to the most appropriate facilities. (GPP)
- 7.3.3.6 Unless the service user's clinical condition requires urgent treatment that should not be delayed, ambulance staff should record relevant information about the service user's home environment, social and family support network, and history leading to self-harm, as well as the service user's initial emotional state and level of distress. This information should be passed to emergency department staff. (GPP)
- 7.3.3.7 In cases of self-poisoning, ambulance staff should obtain all substances and/or medications found at the scene of an emergency call, whether thought to be involved in the overdose or not, and pass these to staff upon arrival at the emergency department. (GPP)
- 7.3.3.8 When transporting people who have self-harmed to an emergency department, wherever possible, ambulance staff should take into account the service user's preferences when more than one emergency department facility exists within a reasonable distance, unless doing so significantly increases the risk to the service user, or when one department has specialised in the treatment of people who have self-harmed. (GPP)

- 7.3.3.9 In cases where, following an act of self-injury, the service user does not require treatment in the emergency department, ambulance staff should consider, having taken full account of the service user's preferences, taking the service user to an alternative appropriate service, such as a specialist mental health service. The decision to do so should be taken jointly between the ambulance staff, the service user and the receiving service. (GPP)
- 7.3.3.10 Ambulance Trusts, the emergency department and Mental Health Trusts should work in partnership to develop locally agreed protocols for ambulance staff to consider alternative care pathways to emergency departments, for people who have self-harmed, where this is appropriate and does not increase the risks to the service user. (GPP)
- 7.3.3.11 When a person who has self-poisoned presents to the ambulance service within 1 hour of ingestion and is fully conscious and able to protect his or her own airway, ambulance service staff should consider offering activated charcoal at the earliest opportunity. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (B)
- 7.3.3.12 Activated charcoal may also be considered between 1 and 2 hours after ingestion as there is some evidence that activated charcoal may still be effective in reducing absorption, especially if the ingested substance delays gastric emptying, such as tricyclic antidepressants. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (C)
- 7.3.3.13 In the emergency treatment of opioid overdose, when using intravenous naloxone, ambulance staff should adhere to the guidelines established by the Joint Royal Colleges Ambulance Liaison Committee. Particular attention should be given to the possible need for repeated doses of naloxone and frequent monitoring of vital signs, because the effects of naloxone are short-lived in comparison with the effects of most opioids and patients frequently relapse once the effect of naloxone has worn off. All people who have overdosed with opioids should be conveyed to hospital, even if the initial response to naloxone has been good. (GPP)
- 7.3.3.14 Ambulance Trusts should routinely audit incidents of overdose, both to ensure that interventions are being used consistently and effectively and to monitor adverse incidents. (GPP)
- 7.3.3.15 Ambulance Trusts should regularly update ambulance staff about any change in local arrangements for services available for the emergency treatment of people who have self-harmed. (GPP)

7.3.4 Research recommendations

- 7.3.4.1 A large-scale audit, reporting all relevant outcomes, of the use of activated charcoal in cases of poisoning in pre-hospital settings should be undertaken.

7.4 Information and laboratory services available to clinicians treating self-poisoning

7.4.1 Introduction

Most healthcare professionals receive only outline training on the assessment and treatment of poisoning, and even those with a greater interest in this topic cannot be expected to have comprehensive knowledge across the wide range of potential poisons. It is therefore vital that those concerned with the management of self-harm by poisoning have access to up-to-date information and advice in order to make informed decisions on patient management. This section describes the role of the following services available to clinicians in the UK:

- National Poisons Information Service
- Poisons treatment centres
- Laboratory toxicology services.

7.4.2 National Poisons Information Service

The National Poisons Information Service (NPIS) was established in 1963 based on the recommendations of a Ministry of Health advisory group (Ministry of Health, 1962). Poisons information services have developed globally and are subject to WHO guidelines (IPCS, 1997).

The NPIS is a free and confidential service provided from six centres (Belfast, Birmingham, Cardiff, Edinburgh, London and Newcastle). It is available to NHS users and other healthcare providers but not to members of the public, who should refer to NHS Direct. The centres support a shared computerised database, TOXBASE, which is available via the internet. This is promoted as the primary toxicology information source in the UK for the management of poisoning; it can be accessed more quickly than the telephone service and can provide printed information for inclusion in the patient's files. Healthcare professionals who are unable to obtain sufficient or adequate information from TOXBASE and/or require additional toxicological or clinical support in the care of their patient can contact NPIS by telephone, all centres being accessible via a single telephone number. It is NPIS policy that users should always consult TOXBASE before contacting the telephone information service.

In 2002 the total number of telephone enquiries received by the six NPIS centres was reported to be 178,246. This is a 21% decrease on 2001 figures, in line with policy to encourage wider use of TOXBASE as the first point of contact, and the telephone service for the more serious and complicated cases. User sessions for TOXBASE increased from 186,325 in 2001 to 255,781 in 2002, an increase of 37%. Approximately 50% of this workload is thought to relate to self-harm. The NPIS also develops standards and audit criteria, runs audits of usage, and provides training for NHS users.

Before using TOXBASE or calling NPIS, clinicians should ensure that the patient's airway, breathing and circulation are not compromised and that full resuscitation has taken place. Once this has been achieved, users should aim to obtain information about:

- The substance to which the patient has been exposed including the route of administration and magnitude of exposure

- Time and duration of exposure
- The patient – age, sex, previous health; pre-existing drug treatment; drug treatment given for the current episode
- Effects – history of symptoms; clinical findings
- Nature of treatment given, timing in relation to treatment and response to treatment.

If samples of poison and relevant body fluid have been collected from the patient they should be stored pending clinical decisions and/or laboratory advice (see section 7.4.4).

7.4.3 Poisons treatment centres

In 1962 the Ministry of Health advisory group on emergency treatment of acute poisoning (Ministry of Health, 1962) recommended that specialist treatment centres with 'district' or 'regional' responsibilities should be established alongside poisons information centres. In practice this recommendation was not implemented, primarily because advances in the treatment of poisoning made it possible to manage patients in general hospitals, with support from the NPIS and special toxicology laboratories when necessary.

Currently, almost all active poisons treatment centres are attached to NPIS centres, taking cases locally and receiving referrals from other hospitals. They have direct access to full intensive care units and facilitate links with other specialised treatment centres.

The lack of a good evidence base in medical toxicology is well recognised and it is acknowledged that poisons information centres and clinical toxicologists have a responsibility to make available more high quality clinical data (Buckley & Smith, 1996). This would require increased research funding.

7.4.4 Laboratory toxicology

Most general chemical pathology laboratories offer a limited number of toxicology analyses, while other less frequently requested, but technically more demanding, assays are mainly provided by specialised laboratories. Laboratory analyses for use in the diagnosis and management of drug overdose and other cases of suspected poisoning have been developed progressively since the 1960s. With the techniques now available it would be possible to measure almost all poisons and their metabolites. However, since in most cases the results would not influence clinical management, the use of such analyses often cannot be justified. In cases of suspected self-harm by poisoning, current best practice is, therefore, to collect/save where possible samples of the suspected poison and/or biological samples, and to review the case for their analysis according to clinical need. Recent consensus/recommendations published jointly by the National Poisons Information Service (NPIS) and the Association of Clinical Biochemists (ACB) list the assays considered relevant to current clinical practice and give guidance on standards, availability and turn around times (urgency) (NPIS, ACB, 2002). This information is also available on TOXBASE.

7.4.5 Recommendations

- 7.4.5.1 TOXBASE should be available to all clinical staff involved in the emergency treatment of self-poisoning. TOXBASE should be the first point of call for poisons information. (GPP)
- 7.4.5.2 The NPIS telephone number should be permanently and easily available to clinical staff involved in the emergency treatment of self-poisoning. The NPIS should normally be contacted only directly after clinicians have accessed TOXBASE or if there is concern about the severity of poisoning in a particular case. (GPP)
- 7.4.5.3 Clinical staff involved in the emergency treatment of self-poisoning should be given training to better understand human toxicology, in order to make best use of TOXBASE and the NPIS telephone service. Emergency departments, in conjunction with local hospital laboratories or regional toxicology units, or NPIS units, should ensure all staff receive regular training. (GPP)
- 7.4.5.4 Staff involved in the emergency treatment of self-poisoning should collect appropriate samples for analysis; usually this will be a sample of blood, although samples of urine, vomit or sometimes gastric contents may be indicated following discussion with the NPIS. If possible, samples of the suspected poison should also be collected. (GPP)
- 7.4.5.5 Hospital laboratory staff should provide emergency department staff with regular updates about which toxicology tests are available both locally and at the nearest specialised toxicology laboratory. These should include information on the correct methods of collecting, handling and storing samples, and how samples should be transferred to the laboratory. (GPP)
- 7.4.5.6 Where emergency department staff are unsure about the value of undertaking a toxicology assay or about whether an assay is available locally, advice should be sought from TOXBASE, the local hospital laboratory, a specialised toxicology laboratory or the NPIS. (GPP)
- 7.4.5.7 Where emergency department staff are unsure about the interpretation of assay results, advice should be sought from the local hospital laboratory, specialised toxicology laboratory or the NPIS. (GPP)
- 7.4.5.8 In cases where the suspected poison is a substance for which little toxicology data exists, clinical and laboratory data about exposure and absorption should be passed to the NPIS to help in the development of TOXBASE and other poisons information databases. (GPP)

7.4.6 Research recommendations

- 7.4.6.1 An adequately powered epidemiological study reporting all relevant outcomes should be undertaken to establish morbidity and mortality rates for specific drug ingestions.
- 7.4.6.2 A national programme should be developed to coordinate the surveillance by NPIS and other agencies of health risks in self-poisoning so that the

combined data can be used to inform and guide recommendations on treatment and prevention.

7.5 The role of triage in the management of self-harm in emergency departments

7.5.1 Introduction

The term triage comes from the French 'to sort' or 'sorting'. The key issue is which person gets treated first, so that the 'greatest good could be achieved for the greatest number of patients' (Smart *et al.*, 1999).

In the emergency department, where resources may fall short of the immediate needs of service users and lead to overcrowding, the need for effective triage systems is undeniable (Brillman *et al.*, 1997). In this context, long waiting times can lead to patients leaving the emergency department without being seen (Bindman *et al.*, 1991; Baker *et al.*, 1991), some of whom may be in need of urgent treatment.

Triage involves a formal and structured assessment of the urgency with which a patient needs treatment using pre-defined criteria. Patients are then allocated to a particular category, which determines how quickly they receive treatment and ensures that they receive appropriate attention in a suitable location and with the requisite degree of urgency (George *et al.*, 1993). For triage to work effectively it must be initiated on entry to the emergency department. Since 1964 trained nurses have taken the lead role in emergency department triage (Mezza, 1992). Nurse triage often includes the initiation of emergency care, diagnostic measures and patient education (Jones, 1990).

7.5.2 Current practice

All emergency departments in the UK operate some form of triage. In an effort to standardise triage systems, a working group composed of members of the RCN A&E Nurses Association and the British Association for Accident and Emergency Medicine (BAEM) considered a wide range of different systems for implementation in the UK. This led to the development of the Manchester Emergency Triage (Mackway-Jones, 1996), a system now used widely, although not universally, throughout the UK.

In the Manchester triage system patients with the highest priority are selected first, not on the basis of diagnosis, but instead on an evaluation of the patient's presenting complaints and symptoms, using flowcharts to guide the triage nurse's approach. The system also recommends maximum waiting times for the level of urgency to which a patient is allocated, making audit relatively simple.

Until recently, emergency triage systems took little or no account of a person's mental and emotional state, instead focusing predominantly upon physical signs and symptoms. The Manchester system, includes four simple flowcharts for mental health problems, including 'Behaving strangely', 'Deliberate self-harm', 'Mental illness' and 'Overdose and poisoning'. Thus for patients who have self-harmed, their triage rating is determined mainly by their physical needs rather than their mental state and level of distress; unless their clinical status is life-threatening most will be classified low priority.

Delays in the provision of medical treatment and psychosocial assessment are often perceived by patients who self-harm as punitive, an assumption often confirmed by the sometimes hostile attitudes of some doctors and nurses to people with mental health problems (Bailey, 1998). In addition, nursing staff involved in triage often have little knowledge of mental health issues and are not routinely trained to recognise mental health problems that may need urgent intervention.

The NHS Modernisation Agency Improvement Guides (2002), as part of 'Reforming Emergency Care', suggested that patients should be streamed according to priority. This has led to the introduction into emergency departments of 'see and treat' policies. The impact of this policy on conventional triage systems has not yet been established.

7.5.3 Definition

Triage was defined by the GDG as the systematic clinical review of patients newly arrived in the emergency department to allocate assessments and treatment priorities using predetermined criteria and an agreed method of classification to determine the level of urgency and target times for management.

7.5.4 Studies considered⁶

No existing systematic review was found. Therefore a new systematic review was undertaken. A search found 2,158 items, of which two appeared relevant (Smart *et al.*, 1999; Broadbent *et al.*, 2002) and were considered by the GDG in more detail. These described and evaluated a Mental Health Triage Scale designed in Australia as an adjunct to an existing National Triage Scale, adopted by the Australasian College of Emergency Medicine and by emergency departments in Australia and New Zealand. An additional study compared the use of the Mental Health Triage Scale by emergency department nurses with the use by emergency department-based specialist psychiatric clinical nurse consultants (Happell *et al.*, 2002).

The Mental Health Triage Scale (Smart *et al.*, 1999) was developed with the aim of:

- Developing a Mental Health Triage Scale integrated with the National Triage Scale for use in emergency departments
- Improving nursing assessment of patients with mental health problems
- Improving effectiveness of triage of patients with mental health needs
- Reducing overall waiting times for patients with mental health needs
- Reducing transit time for patients with mental health needs.

For patients who had self-harmed, both the Mental Health Triage Scale and the normal method of physical triage were combined. Smart *et al.* used pre-trial measures within the same emergency department for comparison.

⁶ Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

7.5.5 Findings

Compared with pre-trial measures, post-trial waiting and transit times were significantly reduced, fewer patients left without being assessed or treated, and the system of triage was rated as acceptable to emergency department nurses (Smart *et al.*, 1999). Nurses required training to use the triage system effectively, a need echoed in the study by Happell *et al.* (2002), which suggested that experienced psychiatric nurses were better at using the Mental Health Triage Scale than their emergency department non-psychiatric nursing colleagues.

Broadbent *et al.* (2002) also developed a triage scale for mental health, substance misuse and suicide risk for use in the emergency department. Retrospective pre-trial evaluation of emergency department nurses' triage ratings for attenders with mental health problems were significantly lower than ratings given by the authors. They found that emergency department staff trained to use the Mental Health Triage Scale became much more aware of the needs of patients with mental health problems, and gave higher ratings for urgency of assessment and treatment to a greater number of those attending with mental health problems. They reported that emergency department staff's rating of their own understanding of mental health problems had improved substantially.

Although these studies used designs that leave a great deal unanswered, the results suggest that using an effective mental health triage system may improve some outcomes, improve access to treatment and decrease waiting times for people who present to the emergency department with mental health problems. They also suggest that emergency department triage staff need much more effective training in mental health assessment and preliminary management of such patients, and that collaboration with mental health services and specialists in terms of training, service planning and the delivery of care is desirable. These suggestions are echoed in the consensus-based monograph relating to emergency departments and psychiatric services jointly produced by the Royal College of Psychiatrists and the British Association for Accident and Emergency Medicine (CR118, 2004).

7.5.6 Clinical summary

Mental health triage systems may improve outcomes, improve access to treatment, and reduce waiting times for people with mental health problems attending emergency departments as well as reduce the numbers who leave without treatment. The Mental Health Triage Scale was found to be acceptable to non-psychiatric triage nurses. People with mental health problems might receive better care and help in emergency departments if non-psychiatric triage nurses were trained in the assessment and initial management of people with mental health problems, and if mental health services and emergency departments were to collaborate effectively in planning and delivering services.

7.5.7 Clinical practice recommendations

- 7.5.7.1 When an individual presents in the emergency department following an episode of self-harm, triage nurses should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. (GPP)

- 7.5.7.2 Consideration should be given to introducing the Australian Mental Health Triage Scale, as it is a comprehensive assessment scale that provides an effective process for rating clinical urgency so that patients are seen in a timely manner. (C)
- 7.5.7.3 Triage nurses working in emergency departments should be trained in the use of mental health triage systems. (C)
- 7.5.7.4 Emergency departments should make training available in the assessment of mental health needs and the preliminary management of mental health problems, for all healthcare staff working in that environment. (C)
- 7.5.7.5 Emergency departments, PCTs and local mental health services, in conjunction with local service users and carers wherever possible, should jointly plan the configuration and delivery of integrated physical and mental healthcare services within emergency departments for people who self-harm. (C)
- 7.5.7.6 In jointly planning an integrated emergency department service for people who self-harm, service managers should consider integrating mental health professionals into the emergency department, both to improve the psychosocial assessment and initial treatment for people who self-harm, and to provide routine and regular training to non-mental health professionals working in the emergency department. (GPP)
- 7.5.7.7 Emergency department and local mental health services should jointly plan effective liaison psychiatric services available 24 hours a day. (GPP)
- 7.5.7.8 A psychosocial assessment should not be delayed until after medical treatment is complete, unless life-saving medical treatment is needed, or the patient is unconscious or otherwise incapable of being assessed. (GPP)
- 7.5.7.9 Children and young people under 16 years of age who have self-harmed should be triaged, assessed and treated by appropriately trained children's nurses and doctors in a separate children's area of the emergency department. (GPP)
- 7.5.7.10 Children's and young people's triage nurses should be trained in the assessment and early management of mental health problems and, in particular, in the assessment and early management of children and young people who have self-harmed. (GPP)
- 7.5.7.11 Emergency departments catering for children and young people under 16 years of age, PCTs and local children's mental health services, in conjunction with local carers and service users, should jointly plan the configuration and delivery of integrated physical and mental healthcare services within emergency departments for children and young people who self-harm. (C)

7.5.8 Research recommendations

- 7.5.8.1 A study of appropriate design reporting all relevant patient outcomes

(mortality, morbidity, numbers lost to the service, patient satisfaction) should be undertaken to assess the impact of the introduction of the Mental Health Triage Scale.

7.6 Routine screening for plasma paracetamol concentrations

7.6.1 Introduction

The diagnosis of paracetamol overdose is based not on physical findings but on the medical history, which is not always reliable, and the measurement of plasma paracetamol concentrations, the results of which determine treatment. Since, in the UK, paracetamol is the commonest drug taken in overdose, many emergency departments have adopted a policy of routine screening for the drug in all cases of suspected self-harm by poisoning. However, it should be noted that paracetamol concentrations are not an accurate guide for risk assessment if the sample is taken less than 4 or more than 15 hours after ingestion. Such tests may, however, confirm presence of paracetamol up to 24 hours after ingestion.

In countries where paracetamol overdose is less common, such as the USA, the incidence of paracetamol overdose among people who have self-poisoned but deny ingestion of paracetamol is less than 2%. Screening thus appears to be less justified in these countries (Ashbourne *et al.*, 1989). However, it is important to note that one patient of 365 in this study had potentially serious, hepatotoxic levels of serum paracetamol and required treatment.

The case for screening is stronger in countries and regions where rates for paracetamol poisoning are higher. In addition it must be demonstrated that the test will identify covert paracetamol poisoning, have a low rate of false negatives, and lead to improved patient care and outcomes. In evaluating the role of screening, a balance needs to be agreed between the minimal cost of the test (estimated at £10 per test by Hartington *et al.*, 2002) and the enormous personal, social and health service costs for just one liver transplant. The value of the current screening policy in the UK has been criticised largely because of a lack of evidence that there is any clinical value in screening patients who deny taking paracetamol, or because of cost.

7.6.2 Studies reviewed

No existing systematic review of the effectiveness of paracetamol screening was found. The NCCMH review team therefore undertook such a review. Of 1,688 items found in a systematic literature search, 16 were initially considered relevant, with 2 recent studies being considered for review. Since none of these were RCTs a narrative review was undertaken. Only studies in the UK were considered relevant.

7.6.3 Evidence

Two recent studies in the UK (Dargan *et al.*, 2001; Hartington *et al.*, 2002) examined the need to measure paracetamol concentrations in patients with a history of suspected paracetamol poisoning who deny ingestion. Dargan, using a retrospective design, also looked at the value of measuring paracetamol concentrations in all patients with a

history of collapse where overdose is considered to be a possible diagnosis. Both give support to the use of paracetamol screening. However, as Hartington *et al.* (2002) point out, to establish the evidence base to support paracetamol screening, or indeed the use of a clinical decision rule, based upon patient factors and clinical findings, to guide more limited screening, an acceptable rate of false negatives would have to be agreed in advance. To examine this issue effectively and with sufficient power, a study would need about 20,000 participants.

Neither of the studies reviewed demonstrated an impact on treatment when paracetamol screening was undertaken for patients who deny taking paracetamol, since none of those detected through screening had potentially toxic levels. Importantly, Hartington *et al.* (2002) report that physicians were concerned not to miss a treatable paracetamol overdose that could be potentially life threatening. They conclude that there are no grounds for stopping, or indeed modifying, the current practice. Indeed, they suggest that even if a more limited screening policy were recommended, few clinicians would stop routine screening of patients with suspected overdose without adequate additional proof that there would be a low incidence of false negatives.

It is important to note that the NPIS recommends that plasma paracetamol concentrations should be measured urgently in all patients with a known or suspected paracetamol overdose, or when there is a clinical suspicion that paracetamol poisoning may have occurred. Suspicion may arise when the history appears unreliable in a patient with drug overdose; when the presentation is consistent with opioid poisoning; and in patients with undiagnosed coma and clinical suggestion of drug overdose. The NPIS does not, however, recommend paracetamol screening in alert patients who deny taking paracetamol when there is no clinical suspicion of paracetamol overdose (NPIS, ACB, 2002).

In summary, there is insufficient evidence to determine convincingly the positive or negative value of paracetamol screening in alert patients who deny paracetamol ingestion. It is unlikely, however, that clinicians in the UK would be willing to restrict screening to the extent recommended by the NPIS without an adequate demonstration that the risk of failing to detect overdoses would be very low.

7.6.4 Clinical practice recommendation

7.6.4.1 Plasma paracetamol concentrations should be measured in all conscious patients with a history of paracetamol overdose, or suspected paracetamol overdose, as recommendation by TOXBASE. They should also be taken in patients with a presentation consistent with opioid poisoning, and in unconscious patients with a history of collapse where drug overdose is a possible diagnosis. Plasma paracetamol levels should be measured for risk assessment no earlier than 4 hours, and no later than 15 hours after ingestion as results are not reliable outside this time period. (C)

7.6.5 Research recommendation

7.6.5.1 A well-designed, prospective multicentre study of screening for plasma paracetamol concentrations, including health economic analyses, is required in order to develop detailed guidelines on the selection criteria, clinical value and cost-effectiveness of screening for paracetamol.

7.7 The treatment and management of self-poisoning by gut decontamination

7.7.1 Introduction

Self-harm by poisoning can involve several routes of exposure including inhalation, injection and skin absorption. In the vast majority of cases, however, exposure is via the oral route and management has traditionally included measures to reduce absorption of poisons from the gastrointestinal tract—so-called gastrointestinal (GI) decontamination. GI decontamination may be achieved by attempting to remove the ingested poison from the stomach using an emetic or by gastric lavage; by giving activated charcoal to adsorb the poison in the GI tract and thus reduce absorption into the body; or by decreasing gastrointestinal transit time with the aim of rapidly expelling the poison before it is absorbed using cathartics or whole bowel irrigation. Multiple-dose activated charcoal therapy (more than two doses) has also been used to enhance elimination of drugs already absorbed into the body (AACT-EAPCCT, 1999).

Doubts about the efficacy of cathartics and emesis, and about the safety and efficacy of gastric lavage, have limited their use in recent years. Whole bowel irrigation is used only rarely, for a very limited number of indications, for example following potentially toxic ingestions of sustained-release or enteric-coated drugs, iron, lead, zinc and packets of illicit drugs. It should be used only if advised in consultation with NPIS and/or a poisons treatment centre.

Against this background this section reviews the evidence for the effectiveness and safety of single-dose activated charcoal, emesis with syrup of ipecacuanha (ipecac) and gastric lavage, when used alone or in combination, in the treatment of poisoning. The GDG widened the standard inclusion criteria to include studies undertaken on healthy volunteers. The use of sorbitol as an osmotic cathartic was not reviewed for this guideline given its uncommon use.

Data were available to make the following comparisons:

- Activated charcoal (at various time intervals) versus 'control' (water)
- Activated charcoal versus gastric lavage
- Activated charcoal versus ipecac
- Activated charcoal versus activated charcoal and ipecac
- Single-dose activated charcoal versus multiple-dose activated charcoal
- Activated charcoal at various time intervals.

7.7.2 Definitions and aim of interventions

Medicinal activated charcoal

Activated charcoal is prepared from vegetable matter 'activated' by a chemical process, which increases the surface area, and so meets the British Pharmacopoeia or similar standard for adsorbance (British Pharmacopoeia Commission, 2003). Activated charcoal

adsorbs a wide range of drugs and other compounds, including many of the drugs that are commonly used in overdose such as tricyclic antidepressants and paracetamol. It thereby has the potential to prevent their systemic absorption through the gastrointestinal tract.

In addition, in multiple and sometimes in single doses, it has been suggested that activated charcoal may increase elimination of some drugs after they have been absorbed into the blood by means of so-called entero-hepatic elimination (Ilkhanipour *et al.*, 1992; Kirshenbaum *et al.*, 1990).

Activated charcoal therapy involves the administration of an aqueous suspension of activated charcoal, either by swallowing or by nasogastric tube, while the poison remains in the stomach (AACT-EAPCCT, 1997a). Although activated charcoal has been demonstrated to reduce systemic absorption of a number of compounds in animal and human volunteer studies (AACT-EAPCCT, 1997a), and to increase elimination of a more limited number of compounds, its use in the clinical context in which mixed overdose is commonly encountered requires evaluation. Moreover, the optimum dose of activated charcoal and the influence of the time delay before treatment both remain uncertain.

Activated charcoal is contraindicated if the patient has an unprotected airway (absence of gag reflex), or when the level of consciousness is depressed and the patient has no airway protection. Following activated charcoal, vomiting can occur, and there is a risk of aspiration pneumonitis, which can be serious and has, very rarely, been fatal.

Multiple doses of activated charcoal may cause mild, transient constipation and occasionally bowel obstruction has been reported. It is notable, however, that a recent retrospective cohort study did not demonstrate that activated charcoal is an independent risk factor in aspiration pneumonia in a poisons treatment centre population (Isbister *et al.*, 2004).

Ipecac

Ipecac is the term used for pharmaceutical preparations, such as Paediatric Ipecacuanha Emetic mixture, which contain plant alkaloids derived from *Cephalis ipecacuanha* or *C. acuminata*. The administration of ipecac to induce vomiting and thereby gastric emptying has been used in the treatment of self-poisoning for many years, particularly for accidental poisoning in children (AACT-EAPCCT, 1997a). However, the risk of aspiration of stomach contents has limited its use to patients who are conscious and reasonably cooperative (AACT-EAPCCT, 1997a).

Ipecac is contraindicated following ingestion of a substance likely to cause depressed levels of consciousness or convulsions, and following ingestion of hydrocarbons with high aspiration potential, or ingestion of corrosive substances. In addition, the administration of ipecac may delay the administration of activated charcoal or oral antidotes.

Animal studies, in which conditions are reasonably well controlled, suggest that the effect upon absorption is highly variable (AACT-EAPCCT, 1997a). Similarly, volunteer studies have also shown variable effectiveness depending on the time interval between ingestion of a drug and the onset of emesis (AACT-EAPCCT, 1997a). Although benefit has been reported in individual cases, clinical studies have not demonstrated benefit

from its use. Its effectiveness is reduced if given more than one hour after ingestion (Bond *et al.*, 1993).

The American Association of Poison Control Centers' (AAPCC) position statement acknowledges that ipecac has an exceptionally high margin of safety considering its widespread use. Serious complications are very rare but a small number of fatalities have been associated with its use (Robertson, 1979; Klein-Schwartz *et al.*, 1984; and Knight & Doucet, 1987).

Gastric lavage

Gastric lavage also has a long history and for some time was the mainstay of treatment for self-poisoning. As with ipecac, the aim of treatment is to remove the stomach contents and thereby prevent or reduce absorption of the ingested poison(s). In practice, the stomach is first aspirated after which it is washed out with small amounts of water administered sequentially through an oro-gastric tube, and eliminated by drainage. Although benefit has been reported in individual cases, clinical studies have not confirmed the benefit of gastric lavage even when performed less than 60 minutes after ingestion of a poison, and there is the possibility that drug absorption may be enhanced by its use. However, this is contentious, and evidence that gastric lavage exacerbates the severity of self-poisoning by increasing or speeding absorption, by pushing poison into the part of the gut where most absorption takes place, is lacking (Eddleston *et al.*, 2003).

Gastric lavage is contraindicated when the patient has an unprotected airway or after ingestion of a hydrocarbon with high aspiration potential, or in patients at risk of haemorrhage or gastrointestinal perforation. Serious complications are rare, but include aspiration pneumonia, laryngospasm, hypoxia and hypercapnia, mechanical injury to the throat, oesophagus and stomach, and fluid and electrolyte imbalance.

7.7.3 Studies considered^{7 8}

Although consensus reviews of gastric decontamination methods have been published (AACT-EAPCCT, 1997a, 1997b, 1997c, 1997d, 1997e, 1999) systematic reviews of these methods have not been undertaken. The NCCMH team therefore undertook such a review. Of 1,177 items found in a search for all treatments of overdose, nine were RCTs comparing: activated charcoal with either gastric lavage or emesis with ipecac; single dose of activated charcoal with multiple doses; or activated charcoal given immediately with activated charcoal given after a delay. Four of these were excluded (BOSSE1995, KULIG1985, MERIGIAN2002, POND1995), leaving five (ALBERTSON1989, LAINE1994, LAINE1997, POND1984, UNDERHILL1990). Apart from two studies (LAINE1994, LAINE1997) that used healthy volunteers, the other studies were conducted with patients arriving at emergency departments with a suspected overdose.

⁷ Full details of the search strategies used here and elsewhere in the guidelines are in Appendix 7.

⁸ Here and elsewhere in the guideline, each study considered for review is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

In addition, studies using healthy volunteers were found in which data reported combined pre- and post-crossover outcomes, precluding meta-analyses. However, two of these looked at activated charcoal given at different time intervals (GREEN2001, ROSE1991). Since this is an important comparison for which there is little other level-I evidence, these studies were considered in a narrative review in addition to the data from non-crossover studies.

Studies considered

ALBERTSON1989 compared activated charcoal with ipecac followed by activated charcoal in patients who had ingested a range of substances.

GREEN2001 compared activated charcoal given at one, two or three hours after ingestion with a 'control' group, using healthy volunteers given 4 g paracetamol in a crossover design.

LAINE1994 compared single-dose with repeated-dose activated charcoal following astemizole ingestion in healthy volunteers.

LAINE1997 compared activated charcoal given at different time intervals following amlodipine ingestion in healthy volunteers.

POND1984 compared single-dose with repeated-dose activated charcoal in patients with phenobarbitone overdose. All participants had gastric lavage before receiving treatment.

ROSE1991 compared activated charcoal given at 15, 20 or 120 minutes after ingestion with a 'control' group, using healthy volunteers given 5 g paracetamol in a crossover design.

UNDERHILL1990 compared activated charcoal, gastric lavage and emesis with ipecac in patients who had ingested 5 g or more of paracetamol within four hours of attendance. This study was small and the randomisation procedure was unclear since a fourth 'control' group was established at another hospital (although abandoned for ethical reasons). This study is also considered in Section 7.6 on paracetamol overdose.

7.7.4 Outcomes

The following outcomes were considered:

- Number of patients experiencing complications
- Number of patients hospitalised
- Number of patients admitted to ICU
- % fall in level of plasma paracetamol
- Duration of mechanical ventilation (in hours)
- Time before criteria met for extubation (in hours)
- Time intubated (in hours)

- Time in hospital (in hours)
- Level of serum phenobarbital when ready for extubation (mg/L)
- Serum phenobarbital half-life during intubation (in hours)
- Serum phenobarbital half-life after extubation (in hours)
- Renal clearance of phenobarbital during intubation (ml/min)
- Renal clearance of phenobarbital after extubation (ml/min)
- Outcomes for AC at different time intervals (immediately, 2 h and 6 h) were extracted
- Area under amlodipine plasma concentration – time curve from 0 to 96 h (ng per ml hours)
- Peak amlodipine plasma concentration (ng per ml)
- Elimination half-life of amlodipine in 72 h (in micrograms).

7.7.5 Evidence statements⁹

7.7.5.1 Activated charcoal taken immediately versus water taken immediately

Effect of treatment on outcomes

There is strong evidence suggesting that there is a clinically significant difference favouring activated charcoal taken immediately over water taken immediately on the area under the plasma concentration curve from 0 to 96 hours in individuals ingesting amlodipine (N = 1; n = 16; WMD = -264.1; 95% CI, -332.71 to -195.49).

There is evidence suggesting that there is a statistically significant difference favouring activated charcoal taken immediately over water taken immediately on the area under the plasma concentration curve from 0 to 96 hours in individuals ingesting astemizole, but the size of this difference is unlikely to be of clinical significance (N = 1; n = 14; WMD = -345; 95% CI, -374.52 to -315.48).

There is strong evidence suggesting that there is a clinically significant difference favouring activated charcoal taken immediately over water taken immediately on the peak plasma concentration in individuals ingesting amlodipine (N = 1; n = 16; WMD = -6.5; 95% CI, -8.18 to -4.82).

There is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal taken immediately over water taken immediately on the peak plasma concentration in individuals ingesting astemizole (N = 1; n = 14; WMD = -9.1; 95% CI, -9.92 to -8.28).

⁹ Forest plots are available in Appendix 19. All evidence statements are from level-I evidence.

7.7.5.2 Activated charcoal at 2 hours versus water taken immediately

There is strong evidence suggesting that there is a clinically significant difference favouring activated charcoal taken at 2 hours after amlodipine ingestion over water taken immediately on the area under the plasma concentration curve from 0 to 96 hours in volunteers ingesting amlodipine (N = 1; n = 16; WMD = -130; 95% CI, -200.93 to -59.07).

There is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal taken at 2 hours after amlodipine ingestion over water taken immediately on the peak plasma concentration in volunteers ingesting amlodipine (N = 1; n = 15; WMD = -3.1; 95% CI, -4.94 to -1.37).

There is insufficient evidence to determine if there is a clinically significant difference between activated charcoal taken at 2 hours after amlodipine ingestion and water taken immediately on the elimination half-life in volunteers ingesting amlodipine (N = 1; n = 16; WMD = -1; 95% CI, -6.35 to 4.35).

7.7.5.3 Activated charcoal at 6 hours versus water taken immediately

There is insufficient evidence to determine if there is a clinically significant difference between activated charcoal taken at 6 hours after amlodipine ingestion and water taken immediately on the area under the concentration curve from 0 to 96 hours in volunteers ingesting amlodipine (N = 1; n = 16; WMD = -39; 95% CI, -115.86 to 37.86).

There is evidence suggesting that there is no clinically significant difference between activated charcoal taken at 6 hours after amlodipine ingestion and water taken immediately on the peak plasma concentration in volunteers ingesting amlodipine (N = 1; n = 15; WMD = 0; 95% CI, -2.53 to 2.53).

There is insufficient evidence to determine if there is a clinically significant difference between activated charcoal taken at 6 hours after amlodipine ingestion and water taken immediately on the elimination half-life in volunteers ingesting amlodipine (N = 1; n = 16; WMD = -2.1; 95% CI, -6.4 to 2.2).

7.7.5.4 Repeated dose activated charcoal versus water taken immediately

There is evidence suggesting that there is a statistically significant difference favouring repeated-dose activated charcoal over water taken immediately on the area under the plasma concentration curve in volunteers ingesting astemizole, but the size of this difference is unlikely to be of clinical significance (N = 1; n = 14; WMD = -88; 95% CI, -131.63 to -44.37).

There is evidence suggesting that there is no clinically significant difference between repeated-dose activated charcoal and water taken immediately on the peak plasma concentration in volunteers ingesting astemizole (N = 1; n = 14; WMD = -0.5; 95% CI, -1.71 to 0.71).

There is insufficient evidence to determine if there is a clinically significant difference between repeated-dose activated charcoal and water taken immediately on the

elimination half-life in volunteers ingesting astemizole (N = 1; n = 14; WMD = -6; 95% CI, -75.5 to 63.5).

7.7.5.5 Activated charcoal versus activated charcoal plus emesis with ipecac

Effect of treatment on outcomes

There is insufficient evidence to determine if there is a clinically significant difference between activated charcoal and activated charcoal plus ipecac on:

- reducing the likelihood of treatment-related complications in patients with suspected overdose (N = 1; n = 200; RR = 0.17; 95% CI, 0.02 to 1.46)
- reducing the likelihood of hospitalisation in patients with overdose (N = 1; n = 200; RR = 0.87; 95% CI, 0.41 to 1.84)
- reducing the likelihood of ICU admission in patients with overdose (N = 1; n = 200; RR = 0.72; 95% CI, 0.23 to 2.30).

7.7.5.6 Activated charcoal versus gastric lavage

Effect of treatment on plasma paracetamol levels

There is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal over gastric lavage on reducing plasma paracetamol levels (as measured by percentage fall in plasma paracetamol level) in patients with paracetamol overdose (N = 1; n = 34; WMD = -12.92; 95% CI, -22.63 to -3.21).

7.7.5.7 Activated charcoal versus emesis with ipecac

Effect of treatment on plasma paracetamol levels

There is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal over emesis with ipecac on reducing plasma paracetamol levels (as measured by percentage fall in plasma paracetamol level) in patients with paracetamol overdose (N = 1; n = 34; WMD = -11.55; 95% CI, -21.36 to -1.74).

7.7.5.8 Single-dose activated charcoal versus repeated doses

Effect of treatment on a range of outcomes

There is evidence suggesting that there is a statistically significant difference favouring single-dose activated charcoal over repeated-dose activated charcoal on change in astemizole plasma concentration between 0 and 96 hours in healthy volunteers ingesting astemizole, but the size of this difference is unlikely to be of clinical significance (N = 1; n = 14; WMD = -257; 95% CI, -291.5 to -222.5).

There is limited evidence suggesting that there is a clinically significant difference favouring a single dose of activated charcoal over repeated doses of activated charcoal on:

- peak astemizole plasma concentration in healthy individuals ingesting astemizole (N = 1; n = 14; WMD = -8.6; 95% CI, -9.49 to -7.71).

There is limited evidence suggesting that there is a clinically significant difference favouring repeated doses of activated charcoal over a single dose of activated charcoal on:

- the level of serum phenobarbital when ready for extubation in patients with phenobarbital overdose (N = 1; n = 10; WMD = 34; 95% CI, 15.81 to 52.19)
- the serum phenobarbital half-life during intubation in patients with phenobarbital overdose (N = 1; n = 10; WMD = 56.4; 95% CI, 11.08 to 101.72).

There is insufficient evidence to determine if there is a clinically significant difference between a single dose of activated charcoal and repeated doses of activated charcoal on:

- the duration of mechanical ventilation in patients with poisoning from range of ingested substances (N = 1; n = 10; WMD = -9.00; 95% CI, -31.17 to 13.17)
- the time before criteria for extubation was met in patients with poisoning from a range of ingested substances (N = 1; n = 10; WMD = -9.00; 95% CI, -31.17 to 13.17)
- the duration of intubation in patients with poisoning from a range of ingested substances (N = 1; n = 10; WMD = -5.00; 95% CI, -31.13 to 21.13)
- the time spent in hospital in patients with poisoning from a range of ingested substances (N = 1; n = 10; WMD = 0.60; 95% CI, -1.26 to 2.46)
- serum phenobarbital half-life after extubation in patients with phenobarbital overdose (N = 1; n = 10; WMD = -0.20; 95% CI, -44.61 to 44.21)
- renal clearance of phenobarbital during extubation in patients with phenobarbital overdose (N = 1; n = 9; WMD = -0.12; 95% CI, -1.45 to 1.21)
- renal clearance of phenobarbital after extubation in patients with phenobarbital overdose (N = 1; n = 9; WMD = -0.64; 95% CI, -1.93 to 0.65).

7.7.5.9 Activated charcoal taken immediately versus activated charcoal taken after 2 hours

The crossover studies came to different conclusions with GREEN2001 concluding that administration of activated charcoal in paracetamol overdose was worthwhile only up to 1 hour after ingestion and ROSE1991 concluding that it was worthwhile up to 2 hours.

In healthy individuals ingesting amlodipine there is strong evidence that there is a clinically significant difference favouring activated charcoal taken immediately over activated charcoal taken after 2 hours on:

- change in amlodipine plasma concentration between 0 and 96 hours in healthy volunteers ingesting amlodipine (N = 1; n = 16; WMD = -134.10; 95% CI, -152.14 to -116.06)

- peak amlodipine plasma concentration in healthy volunteers ingesting amlodipine (N = 1; n = 16; WMD = -3.4; 95% CI, -3.93 to -2.87).

In healthy individuals ingesting amlodipine there is limited evidence that there is a clinically significant difference favouring activated charcoal taken immediately over activated charcoal taken after 2 hours on:

- urinary excretion of amlodipine in 72 hours in healthy volunteers ingesting amlodipine (N = 1; n = 16; WMD = -212; 95% CI, -293.77 to -130.23).

7.7.5.10 Activated charcoal taken immediately versus activated charcoal taken after 6 hours

In healthy volunteers ingesting amlodipine there is strong evidence suggesting that there is a clinically significant difference favouring activated charcoal taken immediately over activated charcoal taken after 6 hours on:

- change in amlodipine plasma concentration between 0 and 96 hours (N = 1; n = 16; WMD = -225.1; 95% CI, -259.76 to -190.44)
- peak amlodipine plasma concentration (N = 1; n = 16; WMD = -6.5; 95% CI, -8.31 to -4.69).

In healthy volunteers ingesting amlodipine there is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal taken immediately over activated charcoal taken after 6 hours on:

- urinary excretion of amlodipine in 72 hours (N = 1; n = 16; WMD = -239; 95% CI, -288.9 to -189.1).

7.7.5.11 Activated charcoal taken after 2 hours versus activated charcoal taken after 6 hours

In healthy volunteers ingesting amlodipine there is limited evidence suggesting that there is a clinically significant difference favouring activated charcoal taken after 2 hours over activated charcoal taken after 6 hours on:

- change in amlodipine plasma concentration between 0 and 96 hours (N = 1; n = 16; WMD = -91; 95% CI, -130.05 to -51.95)
- peak amlodipine plasma concentration between 0 and 96 hours (N = 1; n = 16; WMD = -3.1; 95% CI, -4.97 to -1.23).

In healthy volunteers ingesting amlodipine there is insufficient evidence to determine whether there is a clinically significant difference between activated charcoal taken after 2 hours and activated charcoal taken after 6 hours on:

- urinary excretion of amlodipine in 72 hours (N = 1; n = 16; WMD = -27; 95% CI, -122.79 to 68.79).

7.7.6 Clinical summary

There is little high quality trial evidence for most GI decontamination procedures, with insufficient evidence to support the addition of ipecac to activated charcoal in the management of overdose, and limited evidence that activated charcoal is more effective than either gastric lavage or emesis with ipecac, although the one available study (ALBERTSON1989) was small with doubtful randomisation and the outcome measured was not clinically meaningful.

In the ingestion of amlodipine in healthy volunteers there is strong evidence that administering activated charcoal is effective in preventing absorption of the ingested drug up to two hours after ingestion, whereas six hours after ingestion there is no difference between activated charcoal and water. There is also limited evidence from crossover trials (also in healthy volunteers) that administering activated charcoal within two hours of ingestion is more effective than delaying administration for longer.

In the ingestion of astemizole in healthy volunteers, there is limited evidence suggesting that activated charcoal reduces absorption of the ingested drug, and that a single dose of activated charcoal is sufficient to prevent the absorption of the ingested drug and to shorten its elimination half-life. However, in cases of poisoning with phenobarbital, there is limited evidence from a single small study that repeated doses of activated charcoal increase the elimination of the drug.

There is therefore more evidence for the use of activated charcoal in GI decontamination than for any other method, with the available evidence base showing that it must be administered as soon as possible after ingestion to be effective. The RCT evidence reviewed here shows that it is still effective up to two hours after ingestion, although this mostly comes from healthy volunteers. Current clinical practice is to give activated charcoal only up to one hour after ingestion.

7.7.7 Clinical practice recommendations

- 7.7.7.1 Gastrointestinal decontamination should be considered only for people who have self-harmed by poisoning who present early, are fully conscious with a protected airway, and are at risk of significant harm as a result of poisoning. (B)
- 7.7.7.2 When a person who has self-poisoned presents to the emergency department within 1 hour of ingestion and is fully conscious and able to protect his or her own airway, emergency department staff should consider offering activated charcoal at the earliest opportunity. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (B)
- 7.7.7.3 Activated charcoal may also be considered between 1 and 2 hours after ingestion as there is some evidence that activated charcoal may still be effective in reducing absorption, especially if the ingested substance delays gastric emptying, such as tricyclic antidepressants. Activated charcoal should be offered only when the substance(s) ingested are likely to be adsorbed by activated charcoal and when the person is considered to be at risk of significant harm. (C)

- 7.7.7.4 Ambulance and emergency department services whose staff may be involved in the care of people who have self-harmed by poisoning should ensure that activated charcoal is immediately available to staff at all times. (B)
- 7.7.7.5 All healthcare professionals who are able to offer activated charcoal to people who have self-poisoned should ensure that they know how and when this should be administered. This should include knowing for which poisons activated charcoal should and should not be used; the potential dangers and contraindications of giving activated charcoal; and the need to encourage and support service users when offering activated charcoal. (B)
- 7.7.7.6 Multiple doses of activated charcoal should not be used in the management of self-poisoning to reduce the absorption, or to promote elimination of poisons, unless specifically recommended by TOXBASE or following consultation with the National Poisons Information Service (NPIS). (B)
- 7.7.7.7 Emetics, including ipecac (ipecacuanha), should not be used in the management of self-poisoning. (B)
- 7.7.7.8 Cathartics as a specific treatment should not be used in the management of self-poisoning. (C)
- 7.7.7.9 Gastric lavage should not be used in the management of self-poisoning unless specifically recommended by TOXBASE or following consultation with NPIS. (B)
- 7.7.7.10 Whole bowel irrigation should not be used in the management of self-poisoning, unless specifically recommended by TOXBASE or following consultation with NPIS. (B)

7.7.8 Research recommendations

- 7.7.8.1 An RCT, recording all relevant biochemical and clinical outcomes, is needed to determine the relative efficacy of activated charcoal given to patients presenting between 1 and 2 hours following ingestion of poison, as compared with giving no activated charcoal, in the treatment of overdose, particularly when used in paracetamol overdose. Particular attention should be paid to the differences with different ingested poisons and to the incidence of side effects.

7.8 Treatment and management of poisoning with salicylates

7.8.1 Introduction

Current evidence suggests that there has been little change in the discharge rate following self-poisoning with salicylates between 1981 and 1993 in Scotland (McLoone & Crombie, 1996), although the absolute numbers dropped from 626 to 486 (Crombie & McLoone, 1998). However, data for England and Wales regarding people who died from aspirin overdose (suicidal and accidental) suggest there has been a 48% fall over the

period from 1996 to 1999 (Hawton *et al.*, 2001b). The later study also examined the number of aspirin overdoses, alone or in combination, presenting to five hospitals over the same period. The number of aspirin overdoses did not change significantly, raising the possibility that the treatment is more effective. However, data limited to a small handful of hospitals may not be representative. Nevertheless, data collected by the Oxford Monitoring System for Attempted Suicide between 1985 and 1997 shows that the proportion of self-poisoning episodes involving salicylates decreased from 22.7% to 10.6% (Townsend *et al.*, 2001), although because the number of self-poisoning episodes more than doubled from 684 to 1317 this represents a very small change in absolute numbers (155 to 140).

In any event, aspirin overdose can be serious, leading to hyperventilation, tinnitus and deafness, vasodilatation and sweating. Severe cases can result in coma and death. The major clinical problem following salicylate poisoning is maintaining a balanced acid-base metabolism (*BNF*; British Medical Association, 2003: Emergency Treatment of Poisoning).

7.8.2 Current clinical practice

Salicylate absorption can be reduced using activated charcoal, taken within the first two hours after ingestion. The evidence for the use of activated charcoal is reviewed separately (see Section 7.7). This section will be restricted to reviewing the subsequent treatment of salicylate poisoning.

Following salicylate overdose, treatment will depend upon plasma salicylate levels, pH and electrolyte balance. Fluid replacement is usually necessary, and when the plasma concentration of salicylates exceeds 500 mg/litre in adults, or 350 mg/litre in children, the administration of sodium bicarbonate is recommended to promote urinary excretion of salicylates. In more severe cases, especially if plasma salicylate concentrations are greater than 700 mg/litre, or in the presence of severe metabolic acidosis, then haemodialysis is the treatment of choice (*BNF*; British Medical Association, 2003, p. 20).

Although the *BNF* remains an important source for the management of poisoning, most clinicians now refer to TOXBASE, which has a more comprehensive coverage of the treatment of salicylate poisoning.

7.8.3 Studies reviewed¹⁰

No existing systematic review of the treatment of salicylate poisoning was found. The NCCMH review team therefore undertook systematic searches of electronic databases. A total of 701 articles were downloaded, of which thirteen were considered relevant. Since none of these was an RCT a narrative review was undertaken.

A number of case studies were identified, for example examining the effect of sodium bicarbonate and haemodialysis (Higgins *et al.*, 1998), haemodialysis and haemoperfusion (Jacobsen *et al.*, 1988) and the use of haemodiafiltration (Wrathall *et al.*, 2001) following salicylate poisoning. These individual studies provide some confirmation that current practice is supportable, and suggest alternatives for people who cannot undergo haemodialysis.

In summary, we found no substantial or reliable evidence to suggest there should be a change in the currently accepted treatment of salicylate poisoning.

7.8.4 Clinical practice recommendations

7.8.4.1 Following gut decontamination with activated charcoal, where this is indicated by this guideline, the further treatment of self-poisoning with salicylates should follow the current guidance outlined in TOXBASE. (C)

7.9 Treatment and management of paracetamol overdose

7.9.1 Introduction

Paracetamol is rapidly absorbed from the stomach and small bowel, and interventions for reducing absorption should be carried out at the earliest opportunity (see 7.7 above). A substantial overdose of paracetamol is hepatotoxic and can cause acute liver failure and death if the patient does not receive treatment. If an antidote is given within 24 hours a complete recovery can be made. Early features of paracetamol overdose include nausea and vomiting, which usually settle within 24 hours following ingestion, although persistence beyond this usually suggests liver damage (*BNF*; British Medical Association, 2003).

Guidelines drawn up by the National Poisons Information Service (NPIS, personal communication, 2003) are currently in use in UK emergency departments. A flowchart has also been produced to augment this and can also be used as a stand-alone guidance tool (Wallace *et al.*, 2002). This recommends the use of intravenous acetylcysteine¹¹ to prevent liver damage when potentially toxic serum paracetamol levels are reached following overdose. A second antidote, oral methionine, is also licensed for the treatment of paracetamol overdose in the UK. However, it is not included in the guidelines mentioned above since it may exacerbate the nausea and vomiting associated with paracetamol overdose. In addition, no significant benefits have been reported when methionine has been given more than ten hours after an overdose (Meredith *et al.*, 1995), although there is little actual evidence of either efficacy or adverse effects after

¹⁰ Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

¹¹ Also known as *N*-acetylcysteine.

ten hours. However, both the NPIS and *BNF* recognise that it may be used in exceptional circumstances, such as when it is not possible to give an intravenous antidote, for example when the patient is at a location many hours distant from the nearest emergency department.

7.9.2 Current clinical practice

In current clinical practice most UK centres use acetylcysteine as the drug of choice in the treatment of paracetamol overdose. Acetylcysteine is most effective if given within 8 hours of ingestion of paracetamol although there is evidence that it can provide some protection up to 24 hours. The risk of liver damage can be assessed from plasma paracetamol concentrations taken between 4 and 15 hours after a single overdose. After 24 hours, treatment decisions are based on evidence of impaired liver function, shown by raised INR (international normalised ratio) and abnormal ALT (alanine aminotransferase); renal impairment shown by raised plasma creatinine; and abnormal venous blood acid/base balance or plasma bicarbonate. Management of patients presenting more than 24 hours after ingestion is controversial and should be discussed with the NPIS.

Since acute liver failure does not become established within the first 48 hours after paracetamol poisoning, the guideline does not cover the management of this. Similarly liver transplantation was not considered. One study on patients with acute liver failure was included as it is the only RCT of acetylcysteine.

7.9.3 Studies reviewed^{12 13}

A systematic review by Brok *et al.* (2002), using both RCT and non-RCT evidence, was identified and used as the basis of this review. The first author made his data available to the NCCMH review team. Non-RCT evidence was not considered for review.

Four RCTs (DOUGLAS1976, GAZZARD1975, GAZZARD1974, and HUGHES1977) which examined various treatments for paracetamol overdose that are not licensed for this use in the UK, including cysteamine, dimercaprol and fresh frozen plasma, were excluded from this review. In addition, those studies looking at the treatment of patients with acute liver failure were also excluded unless they looked at a treatment not considered by other studies which the GDG considered important. Thus KEAYS1991 was included but OGRADY1988 was excluded. UNDERHILL1990, which compared activated charcoal with both gastric lavage and ipecac in patients with paracetamol poisoning, is considered in Section 7.5 above. The included studies examined:

- Charcoal haemoperfusion and supportive treatment versus supportive treatment (GAZZARD1974A)
- Methionine and supportive treatment versus supportive treatment (HAMLIN1981)

¹² Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

¹³ Here and elsewhere in the guideline, each study considered for review using meta-analysis is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

- Intravenous acetylcysteine versus 'placebo' in patients with acute liver failure (KEAYS1991).

Outcomes

- Mortality
- Hepatotoxicity (defined as AST > 1000 U/L)
- Liver histology (more than one-quarter liver cell plates destroyed)
- Cerebral oedema
- Patients requiring renal support
- Patients developing hypotension.

7.9.4 Evidence statements

Charcoal haemoperfusion and supportive treatment versus supportive treatment

There is insufficient evidence to determine whether there is a clinically significant difference between charcoal haemoperfusion plus supportive treatment and supportive treatment on mortality in patients with paracetamol overdose (N = 1; n = 16; RR = 3; 95% CI, 0.14 to 64.27).

Methionine and supportive treatment versus supportive treatment

There is limited evidence suggesting that there is a clinically significant difference favouring methionine plus supportive treatment over supportive treatment on reducing hepatotoxicity in patients with paracetamol overdose (N = 1; n = 26; RR = 0.14; 95% CI, 0.02 to 1; NNH = 3; 95% CI, 2 to 7).

There is insufficient evidence to determine whether there is a clinically significant difference between methionine plus supportive treatment and supportive treatment on mortality in patients with paracetamol overdose (N = 1; n = 26; RR = 0.33; 95% CI, 0.01 to 7.5).

There is insufficient evidence to determine whether there is a clinically significant difference between methionine plus supportive treatment and supportive treatment on liver histology (N = 1; n = 19; RR = 0.42; 95% CI, 0.16 to 1.1).

Intravenous acetylcysteine versus 'placebo'

There is limited evidence suggesting that there is a clinically significant difference favouring acetylcysteine over placebo on mortality in patients with acute liver failure following paracetamol poisoning (N = 1; n = 50; RR = 0.65; 95% CI, 0.43 to 0.99; NNH = 4; 95% CI, 2 to 34).

There is insufficient evidence to determine whether there is a clinically significant difference between acetylcysteine and placebo on cerebral oedema in patients with acute liver failure following paracetamol poisoning (N = 1; n = 50; RR = 0.59; 95% CI, 0.34 to 1.02).

There is insufficient evidence to determine whether there is a clinically significant difference between acetylcysteine and placebo on requiring renal support in patients with acute liver failure following paracetamol poisoning (N = 1; n = 50; RR = 0.67; 95% CI, 0.37 to 1.19).

There is limited evidence suggesting that there is a clinically significant difference favouring acetylcysteine over placebo on developing hypotension in patients with acute liver failure following paracetamol poisoning (N = 1; n = 50; RR = 0.6; 95% CI, 0.38 to 0.94; NNH = 4; 95% CI, 2 to 15).

7.9.5 Clinical summary

Although the most commonly used treatment for the later sequelae of paracetamol overdose in current clinical practice is intravenous acetylcysteine, there is RCT evidence for its effectiveness only in the treatment of patients with acute liver failure. The evidence for the use of acetylcysteine in other contexts is based on observational studies (e.g. Prescott *et al.*, 1979). A minority of patients experience anaphylactoid reactions to acetylcysteine. According to TOXBASE adverse reactions occur in up to 15% of patients treated with intravenous acetylcysteine (TOXBASE, May 2004). However, the reduced rate and extent at which people treated with acetylcysteine develop liver damage and liver failure, when compared with historic controls, is sufficiently convincing that undertaking an RCT would be unethical.

There is limited evidence favouring oral methionine plus supportive treatment over supportive treatment alone on reducing hepatotoxicity in patients with paracetamol overdose, although numbers were small. No direct comparison of methionine and acetylcysteine could be identified.

7.9.6 Clinical practice recommendations

- 7.9.6.1 Following gut decontamination with activated charcoal as recommended in this guideline, TOXBASE should be used to guide the further management of paracetamol poisoning. TOXBASE should be easily available to all clinicians treating paracetamol poisoning. (C)
- 7.9.6.2 Intravenous acetylcysteine should be considered as the treatment of choice for paracetamol overdose (although the optimum dose is unknown). If acetylcysteine is not available or cannot be used, for example in people who abuse intravenous drugs where intravenous access may be difficult, or for people with needle phobia, then TOXBASE should be consulted. (C)
- 7.9.6.3 In the event of an anaphylactoid reaction following administration of intravenous acetylcysteine, procedures outlined in TOXBASE should be followed. (GPP)
- 7.9.6.4 In cases of staggered ingestion of paracetamol, the procedures outlined in TOXBASE should be followed in conjunction with discussion with the NPIS. (GPP)

7.9.7 Research recommendations

7.9.7.1 An appropriately designed and adequately powered study should be undertaken to clarify the optimum dose level at which acetylcysteine should be used (for both oral and intravenous administration) in the treatment of paracetamol poisoning, reporting all relevant biochemical and clinical outcomes, including liver function, liver failure and adverse reactions. Consideration should be given to patient characteristics such as co-ingested substances, including alcohol.

7.10 The use of flumazenil in the treatment and management of benzodiazepine overdose

7.10.1 Introduction

Benzodiazepines are common prescription drugs accounting for between 17% and 24% of all CNS drugs prescribed in the UK in 2002 (Prescription Pricing Authority, UK). Benzodiazepines are used in the treatment of people with anxiety and other common mental disorders, many of whom have an increased risk of suicide and self-harm (Lekka *et al.*, 2002; Neutel & Patten, 1997). Benzodiazepines may also cause dependence (Schweizer & Rickels, 1998; Mant & Walsh, 1997), are misused for non-therapeutic purposes (Kapczinski *et al.*, 2001; Woods & Winger, 1997), and can be obtained illegally (Dvornik *et al.*, 2001; Yacoubian, 2003). It is unsurprising, therefore, that a significant percentage of poisoning cases presenting to UK emergency departments involve a benzodiazepine compound. For example, a survey of six emergency departments showed that 15% of people over the age of ten years presenting for poisoning had taken a benzodiazepine either alone or in combination with other drugs (Thomas *et al.*, 1996).

In overdose, benzodiazepines are commonly regarded as safe and not usually fatal. However, if ingested with other psychotropic drugs and/or alcohol, as is common in self-poisoning (Michel *et al.*, 1994; Neeleman & Wessely, 1997; Schmidt & Dalhoff, 2002), the effects of benzodiazepines can potentiate the depressant effects of other substances on the central nervous system (Bayer *et al.*, 1992), and may induce coma and even death (Litovitz *et al.*, 1991).

It is important to note that benzodiazepines are used as frequently in completed suicides as in non-fatal overdose, and in both cases benzodiazepines are usually taken in combination with other psychotropic drugs and/or alcohol (Michel *et al.*, 1994).

In a retrospective analysis of a series of 702 consecutive cases of benzodiazepine poisoning presenting to an emergency department over a period of 14 years, 56% had severe depression of consciousness on admission, with intubation occurring in 47%, and 18% receiving artificial ventilation. Five patients died, and complications occurred in 9.8% of patients (Hojer *et al.*, 1989). Just under 80% of patients had taken benzodiazepines mixed with alcohol and/or another psychoactive drug.

Mixed overdoses resulting in coma (Glasgow Coma Scale – GCS \leq 8) pose a considerable challenge to emergency physicians (Weinbroum *et al.*, 1996), particularly to inexperienced junior doctors. Establishing the likely cause(s) of coma often proves difficult, and the urgent need to sustain adequate ventilation often requires endotracheal intubation and admission to high dependency wards or intensive care

facilities. Although the estimated costs in the UK for the inpatient treatment of people following benzodiazepine overdose are unknown, the cost of admission to intensive treatment (ITU) or high dependency units for any reason is considerable, usually between £1,000 and £2,000 per day. In a study by Kapur *et al.* (2002a), inpatient medical care accounted for 31% of the total cost of self-poisoning; days in ITU accounted for 21% of the total cost.

The anxiolytic and sedative effects of benzodiazepines are mediated through a specific part of a gamma-amino-butyric acid (GABA) receptor (now called the benzodiazepine receptor), effects which are specifically and competitively antagonised by flumazenil, a 1, 4 imodazobenzodiazepine compound showing little if any agonist properties (Weinbroum *et al.*, 1996). Flumazenil has therefore been considered for use in the diagnosis and as a possible treatment for benzodiazepine overdose. The rationale for the use of this antidote in the reversal of the sedative effects of benzodiazepines is not dissimilar to that for naloxone in the context of CNS depression caused by opioids. However, because flumazenil is associated with much greater risks, its use in the diagnosis and treatment of benzodiazepine overdose has been resisted in the UK.

Flumazenil is well absorbed from the gastrointestinal tract but undergoes extensive first-pass hepatic metabolism, giving a specific bioavailability of 20%. When used intravenously it is rapidly and effectively metabolised (to an inactive carboxylic acid form), with an elimination half-life of 40–80 minutes (see Summary of Product Characteristics/Electronic Medicines Compendium, eMC: www.medicines.org.uk). Since most benzodiazepines have a longer duration of action than flumazenil, the sedative effects of benzodiazepines will re-emerge in a relatively short period of time following the administration of intravenous flumazenil. Repeat intravenous injections or infusions may thus be needed (Weinbroum *et al.*, 1991).

Care should be taken in the administration of flumazenil to people who are benzodiazepine-dependent, as this can precipitate acute withdrawal leading to a risk of convulsions. This is also the case with people with epilepsy (*BNF*; British Medical Association, 2003). Flumazenil should also be avoided in people suspected of having ingested a mixed overdose that includes tricyclic antidepressants (for example, Spivey, 1992).

7.10.2 Current practice

Since the late 1980s/early 1990s flumazenil has been licensed in most countries for the reversal of the sedative effects of benzodiazepines used in anaesthetic, intensive care and diagnostic procedures (*BNF*; British Medical Association, 2003). In some countries, including the Republic of Ireland, the USA, Sweden and Australia, flumazenil is also licensed for use in the diagnosis and treatment of benzodiazepine overdose. However, in the UK flumazenil has not been licensed for use in benzodiazepine overdose, either diagnostically or therapeutically, as a result of concerns regarding its potential to cause serious and unpleasant adverse effects in this particular circumstance, and the specific risk of re-sedation resulting from its pharmacokinetic properties.

7.10.3 Studies considered^{14 15}

No existing systematic review of the use of flumazenil in benzodiazepine overdose was available, so a new review was undertaken. Of the 1,177 papers identified following a systematic search of electronic databases for the treatment of overdose, 13 were considered relevant to the management of suspected benzodiazepine overdose with flumazenil, with 8 satisfying the inclusion criteria set by the GDG (BAYER1992, HOJER1988, HOJER1990, KNUDSEN1988, LHEUREUX1988, O'SULLIVAN1987, SPIVEY1993, WEINBROUM1996). The majority of studies considered for inclusion were from countries other than the UK. The included studies were of patients admitted to emergency departments or intensive care units (ICUs) with severely impaired consciousness following suspected overdose either of benzodiazepines alone or in combination with other substances. Studies employed a range of exclusion criteria, most commonly pregnancy or severe organic illness.

Only post-treatment scores on the Glasgow Coma Scale (GCS) and adverse reactions were extractable from sufficient studies to undertake meta-analyses. Of the 8 studies included, data were available for meta-analysis of mean end-point GCS scores from 125 patients extracted from three of the studies (HOJER1988, LHEUREUX1988 and O'SULLIVAN1987). For analysis of all adverse reactions 5 studies (BAYER1992, HOJER1990, KNUDSEN1988, SPIVEY1993, WEINBROUM1996) provided data on 663 patients, while analysis of physical adverse reactions included data on 493 patients extracted from 4 studies (BAYER1992, HOJER1990, KNUDSEN1988, WEINBROUM1996).

Extractable outcomes reported by single studies included number of patients regaining consciousness (WEINBROUM1996), and the number of patients scoring 1 or 2 on the Clinical Global Impression (CGI) scale (BAYER1992).

It is important to note that the major clinical outcomes in this context (ventilatory failure and failure to guard the airway) were not extractable in this analysis. Thus the GCS is the closest 'proxy' to identify benefits/potential benefits of flumazenil in life-threatening respiratory depression. It is also important to note that the GCS was developed in the context of head injury rather than as a measure of unconsciousness/coma caused by intoxicants and poisons, and may, therefore, have different properties in this context. Recommendations given here will necessarily be extrapolations and the grading used will reflect this. However, the GDG did not regard these issues as sufficiently problematic to invalidate the meta-analysis or our interpretation of the findings.

7.10.4 Evidence statements¹⁶

Effect of treatment on efficacy outcomes

Flumazenil substantially improves the level of consciousness in patients who are unconscious or have marked impairment of consciousness following a suspected benzodiazepine overdose when compared with placebo, and significantly increases the

¹⁴ Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

¹⁵ Here and elsewhere in the guideline, each study considered for review using meta-analysis is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

¹⁶ Forest plots are available in Appendix 19. All evidence statements are from level-I evidence.

likelihood of improving consciousness to a level where the patient can protect his or her own airway and sleep off the effects of the overdose safely (a GCS score greater than 10).

There is strong evidence suggesting that there is a clinically significant difference favouring flumazenil over placebo on improving the level of consciousness (as measured by the GCS) in patients with suspected benzodiazepine poisoning admitted to A&E or ICU either unconscious or with marked impairment of consciousness (mean baseline GCS scores between 7.14 and 12.1 or less) (N = 3; n = 125; SMD = -0.93, 95% CI -1.31 to -0.56).

There is limited evidence suggesting that there is a clinically significant difference favouring flumazenil over placebo on the number of patients with suspected benzodiazepine poisoning who respond to treatment as measured by a CGI scale score of 1 or 2¹⁷ (N = 1; n = 180; RR¹⁸ = 0.27; 95% CI, 0.18 to 0.39; NNH = 2; 95% CI, 1 to 2).

There is limited evidence suggesting that there is a clinically significant difference favouring flumazenil over placebo on the number of patients with suspected benzodiazepine poisoning regaining consciousness¹⁹ (N = 1; n = 31; RR²⁰ = 0.19; CI, 0.07 to 0.54; NNH = 2; 95% CI, 1 to 2).

Tolerability of treatment

Flumazenil-treated patients experienced substantially more total adverse reactions compared with placebo:

There is strong evidence suggesting that flumazenil, when compared with placebo in patients with suspected benzodiazepine poisoning who are unconscious or have markedly impaired consciousness, significantly increases the likelihood of experiencing a greater total number of adverse reactions than those treated with placebo, and that this difference is clinically significant (N = 5; n = 663; RR = 2.27; 95% CI, 1.63 to 3.18).

When psychological and behavioural symptoms normally suppressed by benzodiazepines (agitation, depressed mood, anxiety, abnormal crying, restlessness and aggression) are removed from the analysis, patients treated with flumazenil nevertheless experienced more adverse effects compared with those treated with placebo. Physical symptoms included for analysis were: sudden change in blood pressure, convulsions, nausea/vomiting, redness/pain at injection site, headache, tachycardia, dizziness, hot flushes, shivering and salivation.

There is limited evidence suggesting that flumazenil, when compared with placebo in patients suspected of benzodiazepine overdose who are unconscious or who have markedly impaired consciousness, increases the likelihood of adverse physical reactions significantly more than placebo (N = 3; n = 601; RR = 5.55; 95% CI, 0.98 to 31.30).

¹⁷ That is, 'much improved' or 'improved'.

¹⁸ For statistical purposes, the RR is framed in terms of non-response.

¹⁹ Defined in the study as being fit for extubation – that is, being fully awake, obeying verbal commands, communicating with medical staff and with all haemodynamic and respiratory parameters within normal ranges.

²⁰ For statistical purposes, the RR is framed in terms of not regaining consciousness.

The most serious adverse effects (convulsions, death and sudden drop in blood pressure) reported in these studies occurred at a relatively low rate, and in relatively few patients, making interpretation of the data uncertain. However, of the three patients reported as suffering convulsions, two developed convulsions both before and after administration of flumazenil, and all three had taken mixed overdoses: one acetaminophen, propoxyphene and a benzodiazepine; and in two patients, benzodiazepines were mixed with tricyclic antidepressants (doxepin and amitriptyline).

Case reports confirm that flumazenil may provoke serious reactions and death if administered to patients who have also taken significant quantities of tricyclic antidepressants (e.g. Haverkos *et al.*, 1994). Also, a review of all published cases of seizures associated with the use of flumazenil in any context identified 43 such cases (Spivey, 1992) and confirmed that flumazenil is associated with convulsions when given to people who have also ingested a proconvulsant (mostly tricyclic antidepressants). This study also identified epilepsy/other seizure disorders (including drug-induced and non-drug-induced) and benzodiazepine dependence as factors associated with the emergence of convulsions following administration of flumazenil. Importantly, six people in this series died: three had overdosed on tricyclic antidepressants and three had co-existing serious physical illness.

There was insufficient evidence to determine the relationship between the dose of flumazenil administered and the incidence of all adverse effects or the incidence of more serious ones. However, logically, the concentration of flumazenil in the synaptic cleft and/or the rate of increase in concentration are more likely to lead to serious CNS reactions; thus the speed of administration and the dose given should be important considerations in aiming to reduce the likelihood of serious untoward reactions when administering flumazenil.

7.10.5 Clinical summary

Overall, there is good evidence that flumazenil substantially improves the level of consciousness in patients who are suspected to have self-poisoned with benzodiazepines and who are unconscious or have markedly impaired consciousness. However, substantial numbers of benzodiazepine-overdose patients treated with flumazenil experience a wide range of side effects. Most of these effects are psychological or behavioural, and are related to the process of benzodiazepine withdrawal. The remaining physical effects are often not severe. However, the event rate for serious side effects is too low to determine whether these are caused by the administration of flumazenil, rather than resulting from the combination of drugs ingested. The dose given and the rate of administration may be factors associated with the emergence of convulsions or other serious untoward events. Nevertheless, flumazenil may provoke serious adverse reactions when benzodiazepines have been ingested with tricyclic antidepressants or other proconvulsants, in people with epilepsy, and in people who are dependent upon benzodiazepines. It is important that in assessing and monitoring people for possible treatment with flumazenil that the decision to do so should be based upon a full assessment of their respiratory and ventilatory status.

7.10.6 Clinical practice recommendations

7.10.6.1 When a positive diagnosis of self-poisoning with a benzodiazepine has been made, the possibility of mixed overdose should be considered, and

investigated if necessary, at the earliest opportunity, especially if the patient's clinical progress suggests that he or she may later require admission to intensive care. (GPP)

- 7.10.6.2 In patients who are unconscious, or showing marked impairment of consciousness, with evidence of respiratory depression likely to lead to admission to intensive care with endotracheal intubation, and in whom self-poisoning with a benzodiazepine is suspected, flumazenil should be considered as a therapeutic option to avoid intubation and artificial ventilation. The decision to administer flumazenil should be based upon a comprehensive assessment including a full clinical and biochemical assessment of the patient's respiratory status, and his or her ability to protect his or her own airway. Clinicians should, however, avoid the use of flumazenil in patients who may have ingested proconvulsants, including tricyclic antidepressants; those who have a history of epilepsy; and patients who are dependent upon benzodiazepines. (B)
- 7.10.6.3 When using flumazenil in the treatment of benzodiazepine poisoning, clinicians should use small doses, comparable to those used in other contexts, and administer slowly, to avoid the emergence of the more serious adverse reactions associated with the use of flumazenil. (GPP)
- 7.10.6.4 Given the relatively high incidence of adverse psychological events experienced by patients following administration of flumazenil, the minimum effective dose should be used and only for as long as it is clinically necessary. (B)
- 7.10.6.5 When using flumazenil in the treatment of benzodiazepine poisoning, care should be taken to ensure that patients who become agitated should be closely monitored and warned of the risk of re-sedation, especially if the patient expresses the desire to leave the treatment setting. (C)
- 7.10.6.6 Flumazenil should be used in the treatment of benzodiazepine overdose only when full resuscitation equipment is immediately available. (GPP)
- 7.10.6.7 Only clinicians who have been explicitly trained in the use of flumazenil in the treatment of benzodiazepine poisoning, as described in this guideline, should undertake to administer flumazenil in this context. (GPP)

7.10.7 Research recommendations

- 7.10.7.1 An adequately powered national multi-centre RCT, reporting all relevant clinical outcomes, is required to evaluate the therapeutic use of flumazenil in unconscious patients in whom self-poisoning with benzodiazepines is suspected. Particular attention should be paid to the incidence of serious physical adverse events, dose, the rate of administration of flumazenil, the ingestion of other substances, and patient characteristics that may predict good and poor outcomes, is required.
- 7.10.7.2 An adequately powered diagnostic trial to evaluate different methods of detecting the presence of tricyclic antidepressants in the emergency setting should be undertaken.

7.11 Treatment and management of opioid overdose

7.11.1 Introduction

Naloxone is a specific opioid receptor antagonist with little or no agonist properties (Martin, 1976). Naloxone is recommended in the emergency treatment of poisoning with opioids, including that with dextropropoxyphene (see *BNF*; British Medical Association, 2003, p. 23). It is poorly absorbed orally and therefore only used parenterally. It has a shorter half-life than most opioids.

7.11.2 Current clinical practice

Naloxone is a drug specifically developed for the treatment of opioid overdose and is indicated for the reversal of the CNS depressant effects of opioid drugs in a number of treatment settings, including accidental or intentional self-poisoning and opioid-induced respiratory depression or coma during anaesthesia or analgesia (see Summary of Product Characteristics/Electronic Medicines Compendium, eMC: www.medicines.org.uk).

Its preferred route for administration is by intravenous injection, although intramuscular and subcutaneous routes can be used if intravenous injection routes are unavailable (*BNF*; British Medical Association, 2003). Its short duration of action may produce only a brief reversal of the effects of opioids, and repeated doses or continuous intravenous infusion may therefore be needed. Its use in opioid overdose can save lives and reduce the need for intensive care or the use of high dependency units.

A specific danger in the use of naloxone to reverse opioid overdose exists when the patient is dependent on opioids. In these circumstances, naloxone can rapidly precipitate acute withdrawal symptoms sometimes with extreme behavioural reactions, including violence.

Additionally, in the treatment of co-proxamol overdose, patients should be treated for both opiate and paracetamol overdose. Given that overdose of co-proxamol has a high mortality rate (Hawton *et al.*, 2003a), and that co-proxamol was reported to the NPIS London Centre over 7,000 times in 2001, representing 4% of all poisons cases reported that year, consideration should be given to either discontinuing, or at least increasing the restrictions upon, the prescription of co-proxamol.

7.11.3 Studies reviewed^{21 22}

No existing systematic review of the use of naloxone in opioid overdose was available. A search of electronic databases yielded 123 studies, of which two were identified as potentially relevant (GARCES1993, KAPLAN1999). However, both failed to meet the inclusion criteria set by the GDG. GARCES1993 used a patient population excluded by the guideline scope, and KAPLAN1999 used a comparator treatment not licensed in the UK (nalmeffene). The manufacturers confirmed that there is no efficacy trial of naloxone in the treatment of opioid overdose.

²¹ Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

²² Here and elsewhere in the guideline, each study considered for review using meta-analysis is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

Nevertheless, Evans *et al.* (1973) demonstrated the efficacy and specificity of action of naloxone in 9 patients following opioid overdose compared with 13 patients following non-opioid CNS depressant overdose. Naloxone resulted in recovery of consciousness within 1 to 2 minutes following administration in all 9 patients with opioids, but not in the 13 patients with other CNS depressants. In 6 of the patients in the opioid group it was also possible to demonstrate that naloxone reverses the respiratory depressant effects of opioid overdose. Given the rapid onset of action of naloxone in restoring consciousness and reversing respiratory depression caused by opioids, together with the extreme rarity of adverse effects, further extensive trials have not been performed and are rightly considered unnecessary (Meredith *et al.*, 1993).

A number of more recent case studies have demonstrated the antagonist effects of naloxone on a wide range of opioids in different clinical contexts (for example, see Amin *et al.*, 1995; Meissner *et al.*, 2003).

7.11.4 Clinical summary

Naloxone, as a specific opiate antagonist, is widely accepted as the drug of first choice in the reversal of opiate overdose. No efficacy data derived from RCTs could be found to support this, although there is little doubt that naloxone is effective in this context. Its short half-life can present difficulty when used in the reversal of longer acting opioids.

7.11.5 Clinical recommendations

- 7.11.5.1 Naloxone should be used in the diagnosis and treatment of opioid overdose associated with impaired consciousness and/or respiratory depression. (B)
- 7.11.5.2 When using naloxone in the treatment of opioid poisoning, regular monitoring of vital signs (including the monitoring of oxygen saturation) should be undertaken routinely until the patient is able to remain conscious with adequate spontaneous respiration unaided by the further administration of naloxone. (GPP)
- 7.11.5.3 The minimum effective dose of naloxone should be used to reverse respiratory depression caused by opioids without causing the patient to become agitated. This is especially important in people who are dependent upon opioids. (C)
- 7.11.5.4 When reversing the effects of opioids, especially long-acting opioids such as methadone, the use of an intravenous infusion of naloxone should be considered. (C)
- 7.11.5.5 When reversing the effects of opioid overdose using naloxone in people who are dependent upon opioids, naloxone should be given slowly. Preparations should be made to deal with possible withdrawal effects, especially agitation, aggression and violence. (GPP)
- 7.11.5.6 Consideration should be given to preventing or reducing the prescription of co-proxamol, especially for people who are at risk of self-poisoning. (GPP)

7.12 The treatment and management of superficial wounds

7.12.1 Introduction

There are a variety of ways in which people self-injure, including burning with heat or chemicals, strangulation and hanging, insertion and swallowing of objects, and many others. These methods are less common than self-poisoning and self-cutting and, as such, their management is not dealt with in this guideline. Self-cutting is more common than self-poisoning (Hawton *et al.*, 2002a), although people who self-harm are less likely to seek treatment; self-cutting now amounts to approximately one-fifth of all emergency department attendances for self-harm (Horrocks *et al.*, 2003). In severe cases self-cutting may cause significant blood loss, infection, damage to vital structures and organs, or even death. When surgical intervention is required to treat an injury, the use of such treatment is not without its own risks. Longer-term sequelae include physical impairment and disability, scarring, disfigurement and a range of psychological problems (see Section 2.8).

Instruments used to self-harm by cutting include razor blades, Stanley knives, domestic and other knives, and broken glass. Injuries may be inflicted upon any part of the body, including the forearm, upper arm, neck, leg or chest. While the size of wounds varies enormously, the majority of those seen are small and superficial. However, some cuts may be deep, penetrating the fascia and sometimes involving deeper structures such as tendons, vessels and nerves. Wounds may be multiple or single, and incised or contused depending on the type of instrument used.

Following full medical and surgical assessment of the person who has self-harmed by cutting, complex wounds involving tissues and structures below the fascia will need surgical exploration, with appropriate referral for specialist interventions which are beyond the scope of this guideline. However, superficial and uncomplicated wounds can be closed relatively simply using a number of different methods, such as tissue adhesive, skin closure strips (for example, *Steristrips*), sutures and staples.

This section will examine the evidence base for the different methods of wound closure for superficial and uncomplicated self-inflicted injuries in terms of acceptability, wound healing/complications, pain and appearance. In addition, key elements in the overall management of self-injury such as wound assessment, wound cleaning, anaesthesia and pain relief will be addressed as good practice points.

7.12.2 Current practice

In the management of superficial uncomplicated wounds of whatever cause, sutures, skin closure strips and tissue adhesive have become the established alternatives. A number of different types of tissue adhesive are available (for example, 1 2-Octylcyanoacrylate (*Dermabond*), 1 2-N-Cyanoacrylate (*Epiglue*) and 1 N-Butylcyanoacrylate (*LiquiBand*), enbucrylate (*Hisotacryl*)), all of which are used in the same way, either alone in the closure of minor wounds, or for additional suture support in more complex injuries (see 13.10.5, *BNF*; British Medical Association, 2003).

Skin staples, sometimes used for surgical wound closure in other settings, such as following surgery to the thyroid gland, are not used in the treatment of superficial self-inflicted wounds since removal in a primary care setting can prove problematic.

7.12.3 Studies considered^{23 24}

No systematic reviews or RCTs evaluating the use of wound sutures, tissue adhesive or skin closure strips in the management of wound closure specifically following self-harm could be identified. Searches were then directed towards studies of superficial wound closure for traumatic and surgical wounds not specifically caused by self-harm.

An existing systematic review of uncomplicated wound closure not caused by self-harm was located (Farion *et al.*, 2002). However, since it used several data extraction and statistical methods unsuitable for the development of this guideline, it was not used.

The NCCMH team therefore carried out a new systematic search. Of 765 studies retrieved, 22 were considered for inclusion and 13 satisfied inclusion criteria, providing data on 1,800 patients/wounds. Eight RCTs compared the use of tissue adhesive and suturing (BARNETT1998, BRUNS1996, JAIBAJI2000, KARCIOGLU2002, QUINN1993, QUINN1997, SCHULTZ1979, SINHA2001), two studies compared tissue adhesive with 'standard wound closure' (i.e. the comparator treatment could include sutures, staples or skin closure strips, as determined by the treating clinician) (BRUNS1998, SINGER2002), two compared a tissue adhesive with skin closure strips (MATTICK2002, ZEMPSKY2001) and one compared two different tissue adhesives (OSMOND1999).

Included studies varied in terms of:

- Age of patients (6 studies over 20 years; 7 under 20 years)
- Length of study (10 studies follow-up under 3 months; 3 studies follow up to 12 months)
- Site of lesion or laceration (4 studies facial; 1 hand; 1 face, torso or extremities; 7 not specified)
- Length of wound (up to 5 cm)
- Time between injury and treatment (<6 up to <12 hours)
- Randomisation of patients (11 studies) or randomisation of wounds (2 studies)
- Country of study (US = 6; UK = 3; Canada = 1; Denmark = 1; New Zealand = 1; Turkey = 1).

7.12.4 Evidence statements²⁵

7.12.4.1 Tissue adhesive versus suture and 'standard wound care': complications

When compared with the use of sutures in superficial wound closure, tissue adhesives are associated with no greater incidence of complications 1 to 3 months after treatment.

²³ Full details of the search strategies used here and elsewhere in the guideline are in Appendix 7.

²⁴ Here and elsewhere in the guideline, each study considered for review using meta-analysis is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

²⁵ Forest plots are available in Appendix 19. All evidence statements are from level-I evidence.

However, when compared with all other methods of wound closure (suture, staple or skin closure strips: 'standard wound care'), tissue adhesive is equally likely to cause complications as 'standard wound care', both at 1 week and at 1 to 3 months post-treatment follow-up.

There is insufficient evidence to determine if there is a statistically significant difference between tissue adhesive and suture on reducing the likelihood of complications at 1 week follow-up in patients with minor wounds (N = 3; n = 305; RR = 0.1²⁶; 95% CI, 0.3862 to 2.61).

There is evidence suggesting that there is no clinically significant difference between tissue adhesive and suture on reducing the likelihood of complications at 1–3 months follow-up in patients with minor wounds (N = 4; n = 265; RR = 1.24; 95% CI, 0.59 to 2.65).

There is insufficient evidence to determine if there is a statistically significant difference between tissue adhesive and suture on reducing the likelihood of complications at 8–18 months follow-up in patients with minor wounds (N = 1; n = 37; RR = 4.22; 95% CI, 0.52 to 34.28).

There is evidence suggesting that there is no clinically significant difference between tissue adhesive and 'standard wound care', in patients with minor wounds, on reducing the likelihood of complications at 1 week post-treatment (N = 1; n = 884; RR = 1.45; 95% CI, 0.85 to 2.50).

There is evidence suggesting that there is no clinically significant difference between tissue adhesive and 'standard wound care' on reducing the likelihood of complications in patients with minor wounds at 1–3 months post-treatment (N = 2; n = 938; RR = 1.16; 95% CI, 0.91 to 1.48).

7.12.4.2 Acceptability of tissue adhesive versus suture and 'standard wound care': pain and dissatisfaction with treatment

Tissue adhesives appear to be less likely than sutures to cause pain in children as rated by parents or professionals, and adults are significantly less likely to be satisfied with the method of suture than with adhesives. This is also confirmed when comparing tissue adhesive with 'standard wound care' in adults. However, by 5 to 10 days post treatment, there appears to be no difference between tissue adhesives and 'standard wound care' with regard to reported pain:

There is limited evidence suggesting that there is a clinically significant difference favouring tissue adhesive over suturing with the parent rating less pain during the procedure in children with minor wounds (N = 1; n = 163; WMD = -13.3; 95% CI, -21.43 to -5.17).

²⁶ Since complications arising from wound closure method are likely to be the result of the wound closure procedure itself, data for this outcome were extracted following both intention-to-treat (which assumes that those lost to follow-up have the 'bad' outcome) and per protocol principles. Since similar statements resulted from both methods, the effect sizes from the per protocol analysis are presented.

There is limited evidence suggesting that there is a clinically significant difference favouring tissue adhesive over suturing with the doctor rating less pain during procedure in children with minor wounds (N = 1; n = 163; WMD = -12.6; 95% CI, -20.06 to -5.14).

There is limited evidence suggesting that there is a clinically significant difference between tissue adhesive and suturing with the nurse rating less pain during procedure in children with minor wounds (N = 1; n = 163; WMD = -14.9; 95% CI, -22.5 to -7.3).

There is limited evidence suggesting that there is a clinically significant difference between tissue adhesive and suturing with fewer patients with minor wounds receiving tissue adhesive expressing dissatisfaction with the treatment (N = 1; n = 52; RR = 0.12; 95% CI, 0.02 to 0.85).

There is evidence suggesting that there is no clinically significant difference between tissue adhesive and 'standard wound care' on the pain experienced at 5–10 days post-treatment (N = 1; n = 924; RR = 0.92; 95% CI, 0.72 to 1.18).

7.12.4.3 Tissue adhesive versus suture and 'standard wound care': cosmetic appearance

Tissue adhesives are no more likely to produce an optimal cosmetic outcome than either sutures or 'standard wound care'. However, there was some limited evidence to suggest that, although the differences are small, tissue adhesive produced a better cosmetic outcome than sutures. There was insufficient evidence to determine if there was any difference between tissue adhesive and sutures on either overall cosmetic result or on the width of resulting scar tissue:

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and suturing on increasing the likelihood of achieving an optimal cosmetic score at 1 week post-treatment in patients with minor wounds (N = 1; n = 136; RR = 1.04; 95% CI, 0.67 to 1.61).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and suturing on increasing the likelihood of achieving an optimal cosmetic score at 3 months post-treatment in patients with minor wounds (N = 1; n = 136; RR = 0.9; 95% CI, 0.61 to 1.33).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and suturing on increasing the likelihood of wounds achieving an optimal cosmetic score at 1 year post-treatment in patients with minor wounds (N = 1; n = 136; RR = 1; 95% CI, 0.76 to 1.31).

There is limited evidence suggesting that there is a clinically significant difference between tissue adhesive and suturing, in patients treated with minor wounds, with wounds treated with tissue adhesive having better visual analogue cosmesis scores at 10 days post-treatment (N = 1; n = 52; WMD = -7.74; 95% CI, -12.78 to -2.7).

There is limited evidence suggesting that there is a clinically significant difference between tissue adhesive and suturing, in patients with minor wounds, with wounds

treated with tissue adhesive having better visual analogue cosmesis scores at 3 months post-treatment (N = 1; n = 52; WMD = -7.44; 95% CI, -14.54 to -0.34).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and suturing on visual analogue cosmesis score of the wound at 1 year post-treatment (N = 1; n = 77; WMD = 0; 95% CI, -7.72 to 7.72).

There is insufficient evidence to determine whether there is a clinically significant difference between tissue adhesive and standard care on the likelihood of wounds not having optimal cosmesis at 3 months post-treatment in patients with minor wounds (N = 1; n = 924; RR = 0.89; 95% CI, 0.7 to 1.13).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and standard care on visual cosmesis of the wound at 3 months post-treatment in patients with minor wounds (N = 1; n = 116; WMD = -1.3; 95% CI, -8.03 to 5.43).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and suturing on the mean width of the scar (N = 1; n = 37; WMD = -0.6; 95% CI, -2.62 to 1.42).

7.12.4.4 Tissue adhesive versus skin closure strips

There was insufficient evidence to determine if there was a clinically significant difference between tissue adhesive (*Dermabond*) and adhesive strips (*Steristrips*) in terms of number of complications, acceptability, or cosmetic appearance:

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and *Steristrips* on reducing the likelihood of complications in patients with minor wounds (N = 1; n = 68; RR = 0.18; 95% CI, 0.02 to 1.39).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and *Steristrips* on reducing the likelihood of patients with minor wounds leaving the study early due to treatment failure (N = 1; n = 60; RR = 4; 95% CI, 0.47 to 33.73).

There is insufficient evidence to determine if there is a clinically significant difference between tissue adhesive and *Steristrips* on the visual cosmesis of the wound as rated by the surgeon (N = 2; n = 102; Random effects WMD = -2.86; 95% CI, -11.15 to 5.42).

7.12.4.5 Tissue adhesives: Which tissue adhesive?

Searches identified only one eligible head-to-head trial of different tissue adhesives: *Histoacryl Blue* (enbucrylate) versus *Dermabond* (1 2-Octylcyanoacrylate). There was insufficient evidence to determine if there was any difference in terms of complications, cosmetic result or time to repair between the two types of tissue adhesive:

There is insufficient evidence to determine if there is a clinically significant difference between *Histoacryl Blue* and *Dermabond* on reducing the likelihood of complications at 10–15 days post-treatment (N = 1; n = 94; RR = 1.8; 95% CI, 0.65 to 4.97).

There is insufficient evidence to determine if there is a clinically significant difference between *Histoacryl Blue* and *Dermabond* on increasing the likelihood of achieving an optimal cosmesis score at 3 months post-treatment follow-up (N = 1; n = 94; RR = 0.89; 95% CI, 0.68 to 1.15).

There is insufficient evidence to determine if there is a clinically significant difference between *Histoacryl Blue* and *Dermabond* on the time to repair the wound (N = 1; n = 94; WMD = 0.2; 95% CI, -1.13 to 1.53).

7.12.5 Clinical summary

In the treatment of superficial wounds, tissue adhesives are as effective as sutures and 'standard wound care', causing less pain and dissatisfaction with the treatment in both adults and children. Although evidence is contradictory, tissue adhesive may produce a marginally better cosmetic result, although this is unlikely to be significant in the long term. The evidence available is insufficient to determine if tissue adhesive is any better or worse than skin closure strips, or if any type of tissue adhesive is better than any other.

7.12.6 Clinical practice recommendations

- 7.12.6.1 In the treatment and management of injuries caused by self-cutting appropriate physical treatments should be provided without unnecessary delay, irrespective of the cause of the injury. (GPP)
- 7.12.6.2 In the treatment and management of people with self-inflicted injuries, clinicians should take full account of the distress and emotional disturbance experienced by people who self-harm additional to the injury itself, in particular, immediately following injury and at presentation for treatment. (GPP)
- 7.12.6.3 In the treatment and management of superficial uncomplicated injuries of 5 cm or less in length, the use of tissue adhesive should be offered as a first-line treatment option. (A)
- 7.12.6.4 In the treatment and management of superficial uncomplicated injuries of 5 cm or less in length, if the service user expresses a preference for the use of skin closure strips, this should be offered as an effective alternative to tissue adhesive. (B)
- 7.12.6.5 In the treatment and management of superficial uncomplicated injuries greater than 5 cm in length, or deeper injuries of any length, wound assessment and exploration, in conjunction with a full discussion of preferences with the service user, should determine the appropriate physical treatment provided. (GPP)
- 7.12.6.6 For people presenting for treatment who have a history of self-harm, clinicians may consider offering advice and instructions for the self-management of superficial injuries, including the provision of tissue adhesive. Discussion with a mental health worker may assist in the decision about which service users should be offered this treatment option. (GPP)

7.12.7 Research recommendations

- 7.12.7.1 Adequately powered RCTs, reporting all relevant short-, medium- and long-term outcomes, including the experience of care and the acceptability of treatments, are needed to evaluate methods of wound closure for people who have self-harmed through cutting. For superficial wounds this should include trials comparing skin closure strips and tissue adhesives, and head-to-head trials of the cost and clinical effectiveness of different types of tissue adhesive.
- 7.12.7.2 Appropriately designed studies to evaluate the place of self-management of wound closure for people who recurrently self-harm by cutting, identifying people for whom this approach would be most suited, should be undertaken.

7.13 Post-care services and information

7.13.1 Introduction

Clinical staff should always provide appropriate follow-up information to service users. This could include information about local services and self-help groups, as well as harm minimisation techniques and coping strategies. Staff should always be sensitive to the needs of individual service users when providing information. In addition, staff should always contact the service user's general practitioner and the responsible mental health team in writing, giving full details of the self-harm episode, care given and plans for follow-up care.

7.13.2 Clinical practice recommendations

- 7.13.2.1 Where service users are likely to repeat self-injury, clinical staff, service users and carers may wish to discuss harm minimisation issues/techniques. Suitable material is available from many voluntary organisations. (GPP)
- 7.13.2.2 Where service users are likely to repeat self-injury, clinical staff, service users and carers may wish to discuss appropriate alternative coping strategies. Suitable material is available from many voluntary organisations. (GPP)
- 7.13.2.3 Where service users have significant scarring from previous self-injury, consideration should be given to providing information about dealing with scar tissue. (GPP)
- 7.13.2.4 Harm minimisation strategies should not be offered for people who have self-harmed by poisoning. There are no safe limits in self-poisoning. (GPP)
- 7.13.2.5 Where service users are likely to repeat self-poisoning, clinical staff (including pharmacists) may consider discussing the risks of self-poisoning with service users, and carers where appropriate. (GPP)

8 Psychosocial assessment after hospital attendance for self-harm

8.1 Introduction

For at least 25 years it has been NHS policy that everybody who attends hospital after an episode of self-harm should receive a psychosocial assessment (Department of Health and Social Security, 1984). While psychosocial assessment includes several components, the most important are the assessment of needs and the assessment of risks. The assessment of needs is designed to identify those personal (psychological) and environmental (social) factors that might explain an act of self-harm; this assessment should lead to a formulation, based upon which a management plan can be developed. The assessment of risk is designed to identify those factors that predict poor outcomes – it has been particularly applied to the identification of risks for subsequent repetition of self-harm or of suicide. Its aim is to ensure that any management plan is modified to take into account the need to minimise risk, and to ensure that aftercare is offered especially to those at most risk. Clearly, to separate these two aspects of assessment for ease of description is artificial in practice.

Despite the importance of comprehensive assessment following an act of self-harm, many service users ‘fall through the net’. In many hospitals, more than half of attenders are discharged from the emergency department without specialist assessment (Termansen & Bywater, 1975; Thomas *et al.*, 1996; Kapur *et al.*, 1998). Patients who leave hospital direct from an emergency department, and especially those who leave without a psychosocial assessment, are less likely to have been offered follow-up (Owens *et al.*, 1991; Suokas & Lonqvist, 1991; Gunnell *et al.*, 1996; Kapur *et al.*, 1998). In addition, those who do receive a psychosocial assessment (rather than needs or risk assessment specifically) may be less likely to repeat an act of self-harm (Hickey *et al.*, 2001; Kapur *et al.*, 2002b).

The availability of properly trained health professionals able to undertake needs and risk assessments is compromised by the fact that most people who have self-harmed seek help at times when only an emergency mental health service is available, with about three-quarters of people presenting to hospital in the evenings. In some hospitals such people are admitted overnight, with a view to psychosocial assessment the next day. The proposed advantages of this policy are that the assessment will be of higher quality, and that aftercare is easier to arrange with the patient during office hours. Since about half of people attending hospital after self-harm have consumed alcohol (Merrill *et al.*, 1992; Wylie *et al.*, 1996) and some people have taken drugs, this argument has some appeal, but it is not widely accepted.

Since assessment is a necessary precursor of any treatment, this chapter will review the current practice of needs and risk assessment, and the literature upon which this is based, for people who self-harm. There is no widely accepted or standardised method to enable healthcare professionals to identify accurately those who need further

psychological and/or psychiatric help. This is no doubt due to the diversity of underlying causes of self-harming behaviour. This is particularly the case for risk assessment.

The following chapter will, therefore, also highlight the problems of needs and risk assessment, and their somewhat artificial separation, and suggest possible solutions. We shall also consider who should undertake psychosocial assessment following an act of self-harm.

8.2 Literature review

The GDG approached the literature review for this section by concentrating on risk assessment rather than needs assessment, for which there is no need for a formal review. To review the literature on risk assessment the GDG began by considering building its own measure of risk prediction. To support this the NCCMH review team undertook exploratory searches to assess the extent of the literature on individual predictive factors and on the specific predictive power of some of these factors. However, based on the results of these, the GDG took the view that this was too broad an approach given the wide range of possible predictive factors and their likely weak predictive power for a particular individual (see Section 8.4.3 below), and it decided to concentrate on evaluating existing formal measurement tools. Exploratory searches were undertaken to assess the range of available literature, including searching for studies testing the predictive power of three specific measures (Buglass & Horton, 1974; Kreitman & Foster, 1991; Patterson *et al.*, 1983). No relevant study was identified, and no study comparing one assessment tool with another was found.

The GDG therefore decided to undertake a narrative review. This was prepared by a GDG member with extensive knowledge of this area, and then modified by consensus with the whole GDG. In addition, special advisers for children and the elderly were asked to contribute additional good practice points (graded 'GPP') regarding each population, highlighting differences from the general adult population who may self-harm.

8.3 The assessment of need

8.3.1 Current 'best practice'

The first point of possible assessment for people who have self-harmed and attend an emergency department is at triage. A key issue at triage is the assessment of cognitive function and mental capacity, since further assessment is likely to be unreliable if a person's cognitive function (especially orientation and attention span) or level of consciousness is impaired. If drug or alcohol intoxication has impaired the patient's cognitive function, then much of the rest of the assessment is rendered unreliable or may be impossible to carry out.

Further immediate psychosocial assessment at triage should include an assessment of a person's willingness to stay for further assessment and possible treatment, to consider the person's levels of distress and to determine the possible presence of a mental illness. Recommendations regarding the overall approach to the physical and psychological elements of triage are in Chapter 7. From this early assessment, the level of urgency for psychosocial assessment can be quickly established.

Once it has been ascertained that the patient is mentally fit to participate in further assessment, the specific areas to cover following an act of self-harm, over and above mental state assessment, include the social context of the act, the personal characteristics of the individual and motivation for the act. As with any psychiatric assessment, obtaining the views of other informants, where this is possible and acceptable to the service user, often provides a broader understanding of the situation and can confirm/disconfirm the history provided by the service user. The main components of assessment of need after self-harm therefore include:

- Social situation (including current living arrangements, work and debt)
- Personal relationships (including recent breakdown of a significant relationship)
- Recent life events and current difficulties
- Psychiatric history and mental state examination, including any history of previous self-harm and alcohol or drug use
- Enduring psychological characteristics that are known to be associated with self-harm
- Motivation for the act.

Information about the psychiatric, social and psychological factors and contexts of the act can then be brought together into a formulation that describes the antecedents of the episode of self-harm. The formulation should therefore include:

- *Long-term vulnerability factors* including early loss or separation from parents, difficult relationships with parents signified by rejecting or overprotective parenting styles, or abuse in early life. Although sexual abuse has been highly associated with self-harm, emotional or physical abuse is also important. Enduring psychological characteristics and psychiatric problems.
- *Short-term vulnerability* including current difficulties in relationships and lack of social support, work or health-related problems, drug and alcohol misuse, or exacerbation of psychological symptoms.
- *Precipitating factors* are likely to be stressors experienced in the few days immediately prior to self-harm. Again relationship problems, financial worry, anniversaries, deaths or other losses can act as precipitators to the act of self-harm.

8.3.2 Review of the evidence supporting current practice

The focus upon the social context of an act of self-harm, the personal characteristics of the individual who has self-harmed and the motivation behind the act have been justified in a number of ways and on the basis of a range of epidemiological, social demographic and psychological studies.

8.3.2.1 Social or environmental factors

In most cases, people report that they have taken an overdose in response to social problems (Bancroft *et al.*, 1977). Common problems include difficulties with housing, unemployment (Platt & Kreitman, 1990), debt, poor personal health, and conflict or loss in personal relationships. Sixty-six percent of patients in one study (Milnes *et al.*, 2002), and more men than women, recorded at least one problem that they believed to be insoluble; such problems were most often in the area of relationships. Patients who reported insoluble problems experienced higher levels of hopelessness and more suicidal intent. There was significant correlation between the number of insoluble problems and hopelessness, and between hopelessness and suicidal intent. However, there is some evidence that repetition of self-harm may occur despite resolution of personal problems (Sakinofsky & Roberts, 1990; Sakinofsky *et al.*, 1990).

People who self-harm are more likely to be from social class V. However, the influence of employment status or social class is not clear-cut. Compared with men who are employed, men who are unemployed are also more likely to be single, not live with their family, belong to a lower social class, or misuse drugs and have a criminal record. Socio-economic deprivation and social fragmentation may each make an independent contribution to self-harm rates, particularly in men (Gunnell, 1995).

8.3.2.2 Psychological characteristics

In most acute services about 30% to 40% of general hospital attenders who have self-harmed are given a psychiatric diagnosis and about one-third have had prior contact with the psychiatric services. The most common diagnosis is some form of depressive disorder. About one-half to three-quarters of people suffer from depression at the time of self-harm, although depressive symptoms may be substantially reduced only days after the episode (Ennis *et al.*, 1989). Alcohol dependence is diagnosed in about 10% of cases (Merrill *et al.*, 1992; Suokas & Lonnqvist, 1995; Wylie *et al.*, 1996), with mental illnesses such as schizophrenia and bipolar disorder being diagnosed in less than 10% of cases.

Enduring psychological characteristics associated with self-harm include hopelessness (Cullberg *et al.*, 1988), which as a character trait may occur independently of depression, hostility to others, antisocial behaviour (Suokas & Lonnqvist, 1995), and poor problem-solving abilities (Schotte & Clum, 1987). Repeated self-harm is also associated with difficulties with regulation of emotion and behaviour (Linehan *et al.*, 2000). Those who self-harm score higher on impulsiveness than would be expected from the general population, and after controlling for age effects those who repeat self-harm are more impulsive than those who have self-harmed once only (Evans *et al.*, 1996).

Beck's research group in the 1970s found that, while depression and hopelessness are related to suicidal intent, the relation between depression and suicide disappears when accounting for hopelessness; perhaps hopelessness is the link between depression and suicide. In their later studies they found that suicidal behaviour was better predicted by hopelessness than by depression; they followed up patients with suicidal ideation and found that of the patients who eventually killed themselves 90% had a hopelessness score greater than 9 (Beck & Kovacs, 1975; Beck & Kovacs, 1985; Beck *et al.*, 1993).

When dealing with a difficult situation dichotomous thinking makes it difficult to identify options or to see how the situation might change. This cognitive rigidity leads to problem-solving difficulties and patients who self-harm have more passive problem-solving styles than other patients, with solutions being less versatile and less relevant to the problem (Ennis *et al.*, 1989).

Poor problem-solving ability is also linked to deficits of autobiographical memory. When asked to generate specific memories in response to given cue words, those who self-harm tend to respond with general memories, rather than specific ones. Thus when life stresses arise people who have rigid styles of thinking cannot deal with the situation effectively. These psychological characteristics may arise in response to (and interact with) social and personal deprivation. This then leads to hopelessness, which increases the risk of self-harm. Hopelessness and poor problem-solving ability may, however, act independently of each other to increase risk (Schotte & Clum, 1987).

8.3.2.3 Motivation

Suicidal intent is the degree to which the individual 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 (Salter & Platt, 1990). The most widely used standardised measure is the Suicide Intent Scale (Beck *et al.*, 1974a), which assesses the circumstances of the act (such as planning and attempts to avoid rescue) and the individual's reported intention to die. Suicidal intent is positively (but weakly) associated with the medical seriousness of the act (Hawton & Catalan, 1987).

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. According to the affect regulation model (Suyemoto, 1988), the act of self-harm allows expression of emotions that the individual can no longer tolerate. An example might be anger that is directed towards the self, so as to prevent it from being directed at and destroying the person at whom the anger is felt. It is important to reiterate that there are no widely used standardised measures of these other motivations and the assessment of motivation, therefore, needs to be based on a judgement formed at the time of assessment.

8.4 The assessment of risk

8.4.1 Introduction

The use of risk assessment for people following an act of self-harm has the aim of predicting the likelihood that a person who has self-harmed will repeat the act, either fatally or non-fatally. In addition, once an estimate of risk has been arrived at, the assessment should also lead to an intervention designed to reduce that risk. A number of features are used to predict repetition or eventual suicide after an episode of self-harm. They fall into three categories:

- Characteristics of the act of self-harm: for example its medical seriousness; use of violent methods; evidence of planning or precautions taken to prevent rescue; intent and the choice of method

- Characteristics of the person: for example mental illness; psychological attributes such as hopelessness; age; gender; criminality
- Circumstances of the individual: for example social class; physical illness; recent bereavement or other cause of social isolation.

8.4.2 Current practice

Risk assessment measures may take the form of a single question – for example, about intent to die at the time of the act – but they usually contain a selection of items of which the most widely used are listed below (Greer & Bagley, 1971; Beck *et al.*, 1974a; Buglass & Horton, 1974; Morgan *et al.*, 1976; Bancroft & Marsack, 1977; Beck & Kovacs, 1985; Wilkinson & Smeeton, 1987; Hawton & Fagg, 1988; Beck & Steer, 1989; Ekeberg *et al.*, 1991; Owens *et al.*, 1994).

8.4.2.1 Risk factors

The following risk factors are the most commonly reported risks for non-fatal repetition of self-harm (Owens *et al.*, 1994; Hawton & Van Heeringen, 2000):

- 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.

It is worthy of note that these risk factors are different from the risk factors most commonly reported for completed suicide, but there is clearly some overlap. The risk factors most commonly reported for suicide are:

- Older age
- Male
- Previous attempts
- Psychiatric history (especially inpatient treatment)

- Unemployment
- Poor physical health
- Living alone
- Medical severity of the act – especially near-fatal self-harm
- Hopelessness
- Continuing high suicidal intent.

It is important to note the absence of ‘a history of child sexual abuse’, ‘a history of child physical abuse’ and ‘current or past experience of domestic violence’ from the risk factors listed above, which are derived from the current literature on risk factors for self-harm and suicide. Many of the studies addressing risk factors for suicide and/or self-harm have not collected data on childhood experience of abuse or domestic violence. Asking detailed questions about a person’s experiences of childhood abuse and violence is problematic in the context of the emergency department following an act of self-harm, not only as part of a research study but also in routine psychosocial assessment.

Importantly, however, the literature on the effects of child sexual abuse and domestic violence does identify these as risk factors for both self-harm and suicide (Kendall-Tackett *et al.*, 1993; Humphreys & Thiara, 2003). Moreover, people with a history of child sexual abuse are identified as at significantly increased risk of suicide in the Department of Health’s *National Suicide Prevention Strategy* (2002). In addition, the *Women’s Mental Health Strategy* (2002) clearly identifies people with a history of child sexual and other abuse and domestic violence as at substantially greater risk of both self-harm and suicide. The connection between the repetition of self-harm and childhood sexual abuse has been raised elsewhere (Yeo & Yeo, 1993).

8.4.2.2 Standardised measures of risk

Standardised measures based on these risk factors come in two main formats: combinations of demographic and clinical risk factors that are identified at interview and recorded on checklists, or individual psychological characteristics (such as hopelessness or depression) that are identified by self-report questionnaire. There are a substantial number of such scales (Lester, 1970; Burk *et al.*, 1985; Cochrane-Brink *et al.*, 2000). The more commonly used and reported in the suicide prevention literature are:

- Risk of Repetition Scale (6 items; Buglass & Horton, 1974)
- Edinburgh Risk of Repetition Scale (11 items; Kreitman & Foster, 1991)
- Suicide Assessment Checklist (21 items; Rogers *et al.*, 1994)
- Suicide Assessment Scale (20 items; Stanley *et al.*, 1986)
- SAD PERSONS (10 items; Patterson *et al.*, 1983)
- Suicide Intent Score (21 items; Beck *et al.*, 1974a)

- Modified Intent Score (12 items; Pierce, 1977)
- Hopelessness Scale (21 items; Beck *et al.*, 1974b).

8.4.3 Review of the evidence supporting current practice

The content of these standardised measures comes from a number of sources, including:

- Cross-sectional studies that compare the characteristics of self-harm populations and completed suicides. The assumption is that the more like the 'average' person who dies by suicide an individual is, then the more likely he or she is to attempt suicide
- Cross-sectional studies that compare self-harm populations with other psychiatric populations who have no history of self-harm. The assumption is that the more like the 'average' self-harm patient an individual is, then the more likely he or she is to repeat the act
- Cohort (follow-up) studies in which groups of patients are followed up after an act of self-harm, and factors present at the time of the act are assessed for their association with subsequent non-fatal self-harm or suicide
- Cohort studies in which other populations – psychiatric patients, for example – are followed up after assessment, and factors present at the recruitment are assessed for their association with subsequent non-fatal self-harm or suicide.

There are problems interpreting much of the literature on risk after self-harm. The majority of research in the area has been cross-sectional – for example, one popular scale (SAD PERSONS, Patterson, *et al.*, 1983) has not been validated in a cohort study. Surprisingly, some have argued that such a study would be unethical (Juhnke, 1994, also quoting others), but the results from cross-sectional validation may be misleading. Over half of all completed suicides, for example, are by people with no known history of self-harm (Tuckman & Youngman, 1963a & b; Gunnell & Frankel, 1994) and it may be that risks in those who kill themselves after previous non-fatal acts are not the same as risks in those whose first self-harming act is fatal. We cannot assume that risks are evenly distributed across the whole population at risk, and that (for example) risk factors identified by comparing psychiatric populations with suicides will apply equally to those who kill themselves after an episode of non-fatal self-harm.

Even when a cohort design is used, findings obtained in one clinical population – such as psychiatric inpatients – may not apply to another, such as people who attend a general hospital after self-harm. This is true especially when the original population is a highly selected one. For example, an early study by Tuckman and Youngman (1963a & b) was influential in establishing clinical thinking about risk after self-harm. However, although the study was based on a cohort study, participants were recruited after making contact with the Philadelphia Police Department. Its findings therefore cannot be applied in the context of UK emergency departments.

Many scales have had their psychometric properties evaluated only in the original population from which they were derived or, if not empirically derived, in only a single study (Burk *et al.*, 1985). When replication is attempted the results may be

disappointing. For example, when Resnick and Kendra (1973) attempted to validate the widely known scale of Tuckman and Youngman (1963a & b) in a new population, they were unable to do so.

Since risk assessment scales are usually made up by aggregating different risk factors, it is not uncommon to find that different elements of the risk profile are discrepant. For example, it is common to find that somebody with a number of long-term risk factors (such as age, alcohol dependence, poor social support) none the less undertakes an act of self-harm that in itself indicates little risk (for example, low expressed suicidal intent, medically non-serious, immediate help-seeking). Few measures weight their component items (Kreitman & Foster, 1991), and those few follow-up studies that have modelled suicidal behaviour using multiple measures as predictors have not studied self-harm populations (e.g. Gutierrez *et al.*, 2000).

Suicide is rare, and self-harm is therefore often used as a proxy. Thus predictors of non-fatal self-harm are assumed to be similar to those for suicide. However, since repetition of self-harm after a non-fatal act is common (some 15% to 20% in the first year, rising to 20% to 25% over longer-term follow-up) while suicide is relatively uncommon (0.5% to 1% in the first year, rising to 4% to 5% over longer-term follow-up), this assumption can be only partly true (Owens *et al.*, 2002).

8.4.3.1 Can risk scales predict suicide?

One use to which risk assessment might be put is to allow services to be targeted on those perceived as being at high risk of repetition or suicide. In this scenario, risk assessment is used as a means of defining those cases that will receive further specialist care. To follow this policy, a measure would be needed that was able to identify individuals at high or low risk.

Scales to predict suicide have extremely weak predictive power because the absolute risk of suicide is so low (Dennehy *et al.*, 1996). High relative risks do not equate with high absolute risk because suicide is an uncommon event. For example, the annual suicide rate in the general population is in the region of 10 per 100,000. A relative risk of suicide of 100 in the year following an episode of self-harm seems impressive (Hawton & Fagg, 1988), but it means that as few as one in 100 self-harming individuals will die by suicide in the following year. Identifying this small proportion by conventional means of risk assessment is extremely difficult.

The study by Hjelmeland *et al.* (2000) is a good example. Eventual suicide in a follow-up study of self-harm patients was strongly associated with intent to die at the time of the act, as expressed at the time of assessment after the act. Indeed, all the women who died by suicide had expressed an intent to die at the time of the non-fatal act. The authors suggest this as an important risk factor for suicide. But 584 out of 925 (63%) of the original cohort expressed this intent and only six women died by suicide during follow-up. In other words, nearly 99% of those who expressed this intent did not go on to kill themselves during the follow-up period.

It is possible to deal with the problem of missing cases by setting thresholds on a measure so that it has high sensitivity – the problem with low sensitivity being that repeats (non-fatal and fatal) occur as people slip through the net. Consequently, the tendency is to push up the sensitivity at the cost of specificity. The resulting problem

then is of poor positive predictive value because of the combination of low specificity of the test and low prevalence of the predicted outcome.

8.4.3.2 Can risk scales predict repetition of self-harm?

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 very accurate because the individual risk factors which constitute them have poor positive predictive value. For example, in one study (Owens *et al.*, 1991) of about 1,000 patients, which found four of the above risk factors for repetition to be significantly more common among those people who repeated, the best risk factor (past psychiatric contact) had a positive predictive value of only 21%. Adding the individual items to produce a composite risk score does not add sufficiently to this predictive value: the Edinburgh scale (Kreitman & Foster, 1991) reported a positive predictive value of only 24%.

Second, scores on risk of repetition scales show a positively skewed distribution. That is, they are not evenly distributed throughout 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 highly, and most repeats arise from the much larger number of people at lower apparent risk. For instance, those identified as being at high risk using the Edinburgh risk assessment scale (Kreitman & Foster, 1991) accounted for only 26% of cases of later suicidal behaviour, the much larger 'low risk' group accounting for the remainder.

Risk assessment therefore appears to be a useful means of identifying a small group of very high risk people – that is, people who have unusually high relative risks of further self-harm or suicide – while being too inaccurate to be used as a screening measure to allow services to be targeted on those whose risk is above a certain threshold.

8.5 Integrating risk and needs assessment

Given the problems of standardised risk assessment scales, a different approach has been debated within the literature (Rudd & Joiner, 1998; Motto, 1991). While it seems on the face of it a good idea to assess risk, all available risk assessment measures are too inaccurate for it to be reasonable to assume that somebody assessed at low risk is in fact safe. The logic of risk assessment (multi-determined risks, uncommon outcomes) tells us that it will not be possible to develop a new and highly accurate measure that will solve this problem. And in any case, there are many who would challenge the values implicit in restricting services with the sole aim of reducing repetition or suicide.

An alternative approach is to accept that risk lies on a continuum (Rose, 1992). Risk assessment serves to place an individual on that continuum, at the time of the assessment. Its main value is to influence the decision about urgency and intensity of intervention, rather than to determine the contents of (or even the offer of) intervention. Additionally, it can serve as a focus for discussing the person's current attitude to their problems, and since risk may change it can be monitored to inform changes in the

intensity of intervention. Thus most of the items that might appear in a risk assessment scale could be enquired about and dealt with accordingly by a needs assessment approach. A clear advantage in assessing risk in the context of a needs assessment approach is that the risks identified can be used to tailor further assessment of need, and the subsequent interventions to the individual in their particular circumstance, taking account of their past history. Some examples of how this could be done are given in Table 5.

Table 5. Examples of how risk factors predicting high risk or fatal or non-fatal repetition can be integrated with possible corresponding needs

Factors that predict high risk of fatal or non-fatal repetition	Corresponding needs that might be identified during assessment
Indications of high intent	Need for close care and attention, perhaps including hospital admission. Should be assessed by a reasonably senior specialist.
Young men	More likely to be disengaged from any form of support (e.g. the GP), be homeless, be unemployed, be in debt, take substances or misuse alcohol.
Older men	Associated with social isolation, loss events, poverty and debt, physical symptoms (or illness or disability), alcohol, depressive illness.
Previous episode of self-harm	Recurrence points to a need for a new or more consistent management plan to establish relationship and seek alternative means of responding to circumstances.
Previous or current psychiatric care	Recurrence points to a need for a new or more consistent management plan and points to need for psychiatric assessment and judgement about follow-up or immediate care.
Substance misuse	Risk of poor engagement with services and indicates a need for specialist services.
Unemployment	Need for a longer-term strategy to gain employment. Linked to social and financial difficulties.
Personality disorder	May need a long-term strategy for treatment and help, in specialist services.
Criminal record, violence (perpetrator or victim)	May need a long-term strategy for treatment and help, in specialist services.
Hopelessness and poor problem-solving	Need assessment for further therapy (cognitively oriented therapies).

8.6 Who should undertake assessments?

The 1984 DHSS guidelines 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 (Newson-Smith & Hirsch, 1979; Catalan *et al.*, 1980; Newson-Smith, 1980; Gardner *et al.*, 1982). As a result, many self-harm assessment teams now include psychiatric social workers and nurses. Non-medical staff take longer over assessments than psychiatrists, and recommend psychiatric follow-up more often (Newson-Smith, 1980).

One trial (Gardner *et al.*, 1977) compared outcomes depending on whether an assessment and management decision was made by a psychiatrist or junior medical (non-psychiatric) staff and found no difference in repetition rate; 38 out of 140 (27%) repeated within the year after assessment by the general medical team, compared with 43 out of 133 (32%) after psychiatric assessment. However, caution needs to be applied in generalising from this trial since it has not been replicated, junior medical staff received levels of training and supervision that are not available in many places, and neither all staff nor all eligible patients participated. Nevertheless, this does provide some confirmation of the potential for training non-psychiatric staff to improve their skills in this area.

Observational studies suggest that when emergency department staff make assessments in routine clinical practice, the quality of note-taking is poor, and important information – such as assessment of mental state or continuing suicidal thinking – is frequently not recorded (Black & Creed, 1988; O'Dwyer *et al.*, 1991; Merrill *et al.*, 1992; Shepherd *et al.*, 1995; Ebbage *et al.*, 1994).

In practice, most assessments, especially those requested outside normal working hours, are undertaken by junior psychiatrists working on a rota, and standards of training and supervision are patchy (Taylor, 1998).

8.7 Clinical summary

Preliminary psychosocial assessment at triage may help to prevent considerable numbers of people who self-harm leaving services before psychosocial assessment. Although systematic evidence is lacking, there is agreement that this should include, at minimum, assessment of cognitive function and mental capacity, a person's willingness to stay for further assessment, the person's level of distress, and the possible presence of a mental illness.

Assessment of needs for psychosocial intervention is a necessary part of the treatment and care for people who have self-harmed. Assessment should be comprehensive and include evaluation of the social, psychological and motivational factors specific to each particular act of self-harm, as well as a full mental health assessment. Formal standardised measures, for most of the elements of a needs assessment, are not available.

Assessment of risk is also a necessary part of the care of people who have self-harmed. Standardised risk assessment scales are only of use in detecting people of high/very high risk of repetition or suicide. However, standardised risk assessment scales have a low

predictive power for the vast majority of people who have self-harmed, having either low sensitivity and high specificity, or higher sensitivity and lower specificity, each combined with a low prevalence of the predicted outcome.

The alternative approach of integrating risk assessment into a needs assessment framework represents a possible solution to the problems identified, although this remains to be evaluated.

Social workers, psychiatric nurses and psychiatrists, if properly trained in the assessment and preliminary management of people who self-harm, are all able to undertake assessment, although there is insufficient evidence to determine if outcomes differ for each professional group. Nevertheless, the training and supervision of junior psychiatrists to undertake this work appears to be variable and patchy.

Note-taking by emergency department staff when assessing and treating people who self-harm appears to be poor, frequently not recording mental state assessment or continued suicidal thinking.

8.8 Clinical practice recommendations

Triage (emergency department staff, and professionals based in primary and community settings)

8.8.1.1 All people who have self-harmed should be offered a preliminary psychosocial assessment at triage (or at the initial assessment in primary or community settings) following an act of self-harm. Assessment should determine a person's mental capacity, their willingness to remain for further (psychosocial) assessment, their level of distress and the possible presence of mental illness. (C)

For people waiting for physical treatments

8.8.1.2 People who have self-harmed should be provided with clear and understandable information about the care process, both verbally and as written material in a language they understand. (C)

For people who wish to leave before assessment and/or treatment

8.8.1.3 For a person who has self-harmed and presents to services, but wishes to leave before psychosocial assessment has been undertaken, assessment of mental capacity and the presence of mental illness should be undertaken before the person leaves the service. This assessment should be clearly recorded in his or her notes. The assessment should be passed on to the person's GP and to the relevant mental health services as soon as possible to enable rapid follow-up. (C)

8.8.1.4 People who have self-harmed and present to services and wish to leave before psychosocial assessment has been undertaken, and in whom diminished capacity and/or the presence of a significant mental illness is established, should be referred for urgent mental health assessment. Appropriate measures should also be taken to prevent such a person leaving the service. (C)

Understanding and engaging the service user

8.8.1.5 Healthcare workers should undertake the assessment of needs and risks for people who have self-harmed as part of a therapeutic process to understand and engage the service user. (GPP)

Assessment of need (specialist mental health professionals)

8.8.1.6 All people who have self-harmed should be offered an assessment of needs, which should be comprehensive and include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current suicidal intent and hopelessness, as well as a full mental health and social needs assessment. (C)

8.8.1.7 The comprehensive assessment of needs should be written clearly in the service user's notes. (C)

8.8.1.8 To encourage joint clinical decision-making, service users and the assessor should both read through the written assessment of needs, wherever possible, to mutually agree the assessment. Agreement should be written into the service user's notes. Where there is significant disagreement, the service user should be offered the opportunity to write his or her disagreement in the notes. The assessment should be passed on to their GP and to any relevant mental health services as soon as possible to enable follow-up. (GPP)

Assessment of risk (specialist mental health professionals)

8.8.1.9 All people who have self-harmed should be assessed for risk; this assessment should include identification of the main clinical and demographic features known to be associated with risk of further self-harm and/or suicide, and identification of the key psychological characteristics associated with risk, in particular depression, hopelessness and continuing suicidal intent. (C)

8.8.1.10 The assessment of risk should be written clearly in the service user's notes. The assessment should also be passed on to their GP and to any relevant mental health services as soon as possible to enable follow-up. (GPP)

8.8.1.11 If a standardised risk-assessment scale is used to assess risk, this should be used only to aid in the identification of people at high risk of repetition of self-harm or suicide. (C)

8.8.1.12 Standardised risk assessment scales should not be used as a means of identifying service users at supposedly low risk who are not then offered services. (C)

8.8.1.13 Consideration should be given to combining the assessment of risk into a needs assessment framework to produce a single integrated psychosocial assessment process. (GPP)

Referral and discharge following self-harm

8.8.1.14 The decision to refer for further assessment and/or treatment or to discharge the service user should be taken jointly by the service user and the healthcare professional whenever this is possible. When this is not possible, either as a

result of diminished mental capacity or the presence of significant mental illness, this should be explained to the service user and written in their notes. (GPP)

- 8.8.1.15 Referral for further assessment and treatment should be based upon the combined assessment of needs and risk. The assessment should be written in the case notes and passed on to the service user's GP and to any relevant mental health services as soon as possible to enable follow-up. (C)
- 8.8.1.16 The decision to discharge a person without follow-up following an act of self-harm should be based upon the combined assessment of needs and risk. The assessment should be written in the case notes and passed on to their GP and to any relevant mental health services. (C)
- 8.8.1.17 In particular, the decision to discharge a person without follow-up following an act of self-harm should not be based solely upon the presence of low risk of repetition of self-harm or attempted suicide and the absence of a mental illness, because many such people may have a range of other social and personal problems that may later increase risk. These problems may be amenable to therapeutic and/or social interventions. (GPP)
- 8.8.1.18 Temporary admission, which may need to be overnight, should be considered following an act of self-harm, especially for people who are very distressed, for people in whom psychosocial assessment proves too difficult as a result of drug and/or alcohol intoxication, and for people who may be returning to an unsafe or potentially harmful environment. Reassessment should be undertaken the following day or at the earliest opportunity thereafter. (GPP)

Training

- 8.8.1.19 All health professionals, including junior psychiatrists, social workers and psychiatric nurses, who undertake psychosocial assessment for people who have self-harmed should be properly trained and supervised to undertake assessment of needs and risk specifically for people who self-harm. (C)
- 8.8.1.20 Mental health services and emergency department services should jointly develop regular training programmes in the psychosocial assessment and early management of self-harm, to be undertaken by all healthcare professionals who may assess or treat people who have self-harmed. (C)

Special issues for children and young people

- 8.8.1.21 All children or young people who have self-harmed should normally be admitted overnight to a paediatric ward and assessed fully the following day before discharge or further treatment and care is initiated. Alternative placements may be required, depending upon the age of the child, circumstances of the child and their family, the time of presentation to services, child protection issues and the physical and mental health of the child; this might include a child or adolescent psychiatric inpatient unit where necessary. (C)
- 8.8.1.22 For young people aged 14 years and older who have self-harmed, admission to a ward for adolescents may be considered if this is available and preferred by the young person. (C)

- 8.8.1.23 A paediatrician should normally have overall responsibility for the treatment and care of children and young people who have been admitted following an act of self-harm. (C)
- 8.8.1.24 Following admission of a child or young person who has self-harmed, the admitting team should obtain parental (or other legally responsible adult) consent for mental health assessment of the child or young person. (C)
- 8.8.1.25 During admission to a paediatric ward following self-harm, the Child and Adolescent Mental Health Team should undertake assessment and provide consultation for the young person, his or her family, the paediatric team and social services and education staff as appropriate. (C)
- 8.8.1.26 All children and young people who have self-harmed should be assessed by healthcare practitioners experienced in the assessment of children and adolescents who self-harm. Assessment should follow the same principles as for adults who self-harm, but should also include a full assessment of the family, their social situation, and child protection issues. (GPP)
- 8.8.1.27 Child and adolescent mental health service practitioners involved in the assessment and treatment of children and young people who have self-harmed should: be trained specifically to work with children and young people, and their families, after self-harm; be skilled in the assessment of risk; have regular supervision; and have access to consultation with senior colleagues. (C)
- 8.8.1.28 Initial management should include advising carers of the need to remove all medications or other means of self-harm available to the child or young person who has self-harmed. (GPP)

Special issues for older people

- 8.8.1.29 All people older than 65 years of age who have self-harmed should be assessed by mental healthcare practitioners experienced in the assessment of older people who self-harm. Assessment should follow the same principles as for younger adults who self-harm, but should also pay particular attention to the potential presence of depression, cognitive impairment and physical ill health, and should include a full assessment of their social and home situation. (GPP)
- 8.8.1.30 All acts of self-harm in people older than 65 years of age should be regarded as evidence of suicidal intent until proven otherwise because the number of people in this age range who go on to complete suicide is much higher than in younger adults. (GPP)
- 8.8.1.31 Given the high risks among older adults who have self-harmed, consideration should be given to admission for mental health, risk and needs assessment, and time given to monitor changes in mental state and levels of risk. (GPP)
- 8.8.1.32 In all other respects, the assessment and treatment of older adults who have self-harmed should follow the recommendations given for adults. (GPP)

8.9 Research recommendations

- 8.9.1.1 Multi-centre monitoring of the number of people who self-harm, including whether each act is a repetition of previous self-harm, taking into account cross-flow in and out of each catchment area, should be undertaken to assess local differences in self-harm presentations and to enable observational studies to be carried out to evaluate the impact of different styles of mental health service provision.
- 8.9.1.2 An appropriately designed study reporting all relevant outcomes should be undertaken to assess the impact of changes in local health policy upon the management of self-harm in difference services (for example, in emergency departments), including outcomes for service users.
- 8.9.1.3 An appropriately designed study should be undertaken to discover more about self-injury, particularly the similarities and differences compared with self-poisoning, such as whether repetition rates and fatal suicide attempts are different.
- 8.9.1.4 An appropriately designed study should be undertaken to assess the impact on services of involving service users in service planning and delivery, especially in emergency departments, focusing particularly on outcomes, including satisfaction and loss from the service, for people with repeated presentations.
- 8.9.1.5 An appropriately designed study, reporting all relevant outcomes including user satisfaction with services and the numbers lost from services, repetition rates and suicide, should be undertaken to pilot and evaluate integrated needs and risk assessment, compared with both 'standard assessment practice' and a separate assessment of needs and risk.

9 Psychological, pharmacological and psychosocial interventions for the management of self-harm

9.1 Introduction

Each year up to 170,000 people in the UK attend an emergency department having self-harmed (Kapur *et al.*, 1998). Between 0.5% and 1% of these people will die by suicide during the subsequent year (Hawton *et al.*, 2003b; Owens *et al.*, 2002). This group accounts for about one-quarter of the 5,000 people who kill themselves in England annually. The Department of Health (2002) has identified the assessment and treatment of people who self-harm and attend an emergency department as a national priority for action in reducing the suicide rate. Moreover, there is a growing consensus that an act of self-harm is probably the most powerful single predictor of subsequent suicide (Royal College of Psychiatrists, 1994).

Suicide is a major cause of death in the young, and is the third largest cause of life years lost. Nevertheless, it is a rare event, and has multiple causes. Also, the great majority of those who present to an emergency department having self-harmed will not go on to kill themselves. This makes it extremely difficult to identify those from within the group who have self-harmed who are at risk of killing themselves in the short or medium term. Moreover, to be able to demonstrate adequately the effectiveness of an intervention for people who have self-harmed, in terms of reducing the proportion of later suicides, an RCT would need a total sample size of over 40,000 people (Gunnell & Frankel, 1994). None of the studies reviewed in this chapter had sufficient power to address suicide prevention as an outcome of mental health interventions for people who self-harm.

About one in six people who attend an emergency department following self-harm will harm themselves again in the following year (Owens *et al.*, 2002). For this reason, this chapter concentrates on evaluating the impact of different treatments on repetition of self-harm.

Self-harm is not an illness, but is a more or less dangerous behaviour that should alert us to an underlying problem, difficulty or disorder. People who self-harm are no more homogeneous as a group than people who have a cough. Coughs have numerous possible underlying causes including smoking, the common cold, tuberculosis and lung cancer. The same variability applies to self-harm. We know that gender, age and social and economic factors all influence the likelihood of a person self-harming, as do past personal history, mental ill health and substance misuse. The picture is further complicated by the fact that self-harm has 'reasons' as well as 'causes', and for some people it can also be a 'solution' to underlying problems. Precisely why an individual self-harms at a particular point in their life will be unique, even in someone who self-harms frequently. It could be argued, therefore, that providing a treatment for self-harm

will be no more specific than offering a treatment for a cough. This creates a difficulty in reviewing treatments for self-harm.

With these cautions in mind, this chapter examines the level-I evidence for interventions designed for people who have self-harmed. The treatments/interventions reviewed fall into three broad categories: psychological therapies, pharmacological therapies and psychosocial interventions, each with a somewhat different rationale for their use.

9.2 Current clinical practice

About 50% of people who have self-harmed and attend an emergency department do not wait for, or are not offered, a psychosocial assessment, and therefore receive no treatment for the problems that may have led them to self-harm (Bennewith *et al.*, in press; Kapur *et al.*, 1998; Horrocks *et al.*, 2003). This figure may be slightly higher in services in England (Hawton *et al.*, 1997). Moreover, after psychosocial assessment, the provision of treatment and services is also highly variable depending upon geographical location, even though there is agreement that psychosocial assessment should lead to appropriate social, psychological or psychiatric help (Royal College of Psychiatrists, 1994).

Interventions offered to people who have self-harmed and reviewed for this guideline include:

- **Psychological interventions** – problem-oriented therapies (problem-solving therapy, cognitive behavioural therapy and psychodynamic interpersonal therapy); dialectical behaviour therapy; inpatient behavioural therapy and insight-oriented therapy; long- and short-term therapy; home-based family therapy; and group therapy. The rationale for such interventions is that an estimated 70% of self-harm episodes are precipitated by a personal problem (Bancroft *et al.*, 1977), and the wealth of data showing a strong association with past and present trauma. Psychological therapies are often aimed at improving social functioning, as well as reducing self-harming behaviour (e.g. Wood *et al.*, 2001; McLeavey *et al.*, 1994).
- **Pharmacological interventions** – antipsychotics and antidepressants. The use of pharmacological therapies for people who self-harm is derived from the link between mental ill health and self-harm. Most people who attend an emergency department after self-harm meet the criteria for a mental disorder, and the majority could be diagnosed as being depressed (Haw *et al.*, 2001). However, service users in this study were interviewed in the emergency department at a time when they are likely to show symptoms that only days later may have subsided. Some studies have also postulated a link between self-harm and the neurochemical changes purportedly associated ordinarily with depression, such as reduced central serotonergic function in people with suicidal behaviour (e.g. Roy & Linnoila, 1990).
- **Social and service-level interventions** – intensive intervention plus outreach; emergency card; continuity of therapist and a suicide prevention centre; a letter from the GP; nurse-led case management; admission to hospital or discharge to GP; specialised services and general services. Much of the focus

of such interventions is to improve contact and engagement with services following treatment for an index episode. This is important because adherence to outpatient treatment programmes after an episode of self-harm is generally poor at about 40% (Van Heeringen, 1992).

9.3 Studies included²⁷

An existing systematic review was identified (Hawton *et al.*, 2002a) for which the authors made their data available to the NCCMH team. The original review included 25 studies (ALLARD1992²⁸, CHOWDHURY1973, COTGROVE1995, DRAPER, EVANS1999, GIBBONS1978, HARRINGTON1998, HAWTON1981, HAWTON1987, HIRSCH1982, LIBERMAN1981, LINEHAN1991, MCLEAVEY1994, MONTGOMERY1979, MONTGOMERY1982, MONTGOMERY1983, MORGAN1993, SALKOVSKIS1990, TORHORST1987, TORHORST1988, VANDERSANDE1997, VANHEERINGEN1995, VERKES1998, WATERHOUSE1990, WELU1977), one of which did not meet the inclusion criteria set by the GDG and was excluded (CHOWDHURY1973). All included studies were level-I evidence (see Chapter 3).

Additional systematic searches were undertaken to update the review. Ten additional studies were found (BATTAGLIA1999, BENNEWITH2002, CEDEREKE2002, CLARKE2002, EVANS1999A, GUTHRIE2001, SANDMAN1993, SANDMAN2000, WILHELM2000, WOOD2001), three of which did not meet the inclusion criteria set by the GDG (SANDMAN1993, SANDMAN2000, WILHELM2000). An additional unpublished study was sourced by contacting researchers known to be working in this area (TYRER²⁹). Thus, 32 studies were included, providing data on up to 9,863 participants.

Four studies were undertaken in the US, two in both Belgium and Germany, and one in each of Canada, the Netherlands and Sweden. The remainder were carried out in the UK. Studies were carried out between 1977 and 2003, and ranged in length from 2 to 24 months. Three studies looked at services for teenagers (COTGROVE1995, HARRINGTON1998, WOOD2001).

Most studies recruited participants following an episode of self-harm treated in the emergency department (ALLARD1992, CEDEREKE2002, CLARKE2002, COTGROVE1995, EVANS1999, GIBBONS1978, GUTHRIE2001, HIRSCH1982, MCLEAVEY1994, VANHEERINGEN1994, VERKES1998, WATERHOUSE1990, WELU1977). However, in BENNEWITH2002 participants were identified from a local case register of people treated for self-harm in the emergency department. Several studies identified participants from hospital admissions following self-harm (EVANS1999A, HAWTON1981, HAWTON1987, MONTGOMERY1979, MONTGOMERY1983, MORGAN1993, TORHORST1987, VANDERSANDE1997). Others included participants referred to psychiatric services (BATTAGLIA1999, HARRINGTON1998, LIBERMAN1981, LINEHAN1991, TORHORST1988,

²⁷ Full details of the search strategy used for this and other reviews in the guideline are in Appendix 7.

²⁸ Here and elsewhere in the guideline, each study considered for review using meta-analysis is referred to by a study ID (primary author and date of study publication, except where a study is *in press* or only submitted for publication, when a date is not used). Information about included studies is in Appendix 17, which also includes a list of excluded studies together with reasons for exclusion. Full references to studies reviewed are in Appendix 18.

²⁹ This study has been published since this review was undertaken (see Appendix 18).

WOOD2001). Most studies did not specify the method of self-harm, but a few included only those who had self-poisoned (HAWTON1981, HAWTON1987, HIRSCH1982, MCLEAVEY1994, SALKOVSKIS1990).

9.4 Comparisons made

The interventions for which studies are available are considered under three headings: psychological interventions, pharmacological interventions, and psychosocial and other interventions. The interventions in some studies were hard to categorise; therefore, for this review, the categories into which studies in the original review had been grouped were maintained. Two additional comparisons were made to widen the focus of the review: 'specialised services' are compared with 'generalised services', and all psychological therapies are compared with standard aftercare.

Outcomes

- Repetition of self-harm (including fatal and non-fatal suicide attempts)
- Death by suicide
- Leaving the study early for any reason
- Number hospitalised
- Hopelessness scale score
- Rate of self-harm behaviour
- Score on Suicidal Ideation Scale
- Readmission rate
- Health of the Nation Outcome Scales for Children and Adolescents score.

9.5 Psychological interventions

The following trials vary considerably in the populations included in the trial, and, inevitably, comparisons with 'standard care' are compounded by the variation in what amounts to 'standard care'. In any case, studies were usually small and few have attempted to replicate another study, with the result that in most cases there was insufficient evidence to make any positive or negative recommendations.

9.5.1 Problem-oriented therapy versus standard aftercare

Five studies were included in this comparison (EVANS1999, GIBBONS1978, HAWTON1987, SALKOVSKIS1990, TYRER), including problem-solving therapy (GIBBONS1978, HAWTON1987, SALKOVSKIS1990), and manual-assisted cognitive behavioural therapy (EVANS1999, TYRER). Two additional studies (GUTHRIE2001,

MCLEAVEY1994), which met inclusion criteria, were not included in the final analyses since it was not possible to extract dichotomous data on an intention-to-treat basis.

Effect of treatment on repetition

There is insufficient evidence to determine whether there is a clinically significant difference between problem-oriented therapy and standard aftercare on reducing the likelihood of repetition of self-harm (N = 5³⁰; n = 1014; RR = 0.87; 95% CI, 0.73 to 1.03)³¹.

There is insufficient evidence to determine whether there is a clinically significant difference between problem-oriented therapy and standard aftercare on reducing the likelihood of repetition of self-harm 12 months after treatment (N = 1; n = 480; RR = 0.91; 95% CI, 0.77 to 1.07).

Effect of treatment on death by suicide

There is insufficient evidence to determine if there is a clinically significant difference between problem-oriented therapy and standard aftercare on reducing the likelihood of death by suicide in people who self-harm (N = 1; n = 480; RR = 0.4; 95% CI, 0.08 to 2.06).

Acceptability of treatment

There is insufficient evidence to determine if there is a clinically significant difference between problem-oriented therapy and standard aftercare on reducing the likelihood of leaving treatment early (N = 2; n = 514; RR = 0.98; 95% CI, 0.66 to 1.46).

9.5.2 Dialectical behaviour therapy versus standard aftercare

Only one study made this comparison (LINEHAN1991). Participants in the experimental group were required to stop any other psychotherapeutic intervention they were undergoing for the duration of the study period. Since this was not a requirement for participants in the control group, 9 (out of 25) received some kind of additional intervention during the study. All participants had a diagnosis of borderline personality disorder thus limiting the applicability of these findings. The outcome 'repetition' included only self-harm with suicidal intent.

Effect of treatment on repetition

There is limited evidence suggesting that there is a clinically significant difference favouring dialectical behaviour therapy over 'standard aftercare' on reducing the likelihood of repetition of self-harm with suicidal intent in people with borderline personality disorder (N = 1; n = 63; RR = 0.81; 95% CI, 0.66 to 0.98).

Acceptability of treatment

There is insufficient evidence to determine if there is a clinically significant difference between dialectical behaviour therapy and 'standard aftercare' on reducing the likelihood of leaving treatment early in people with borderline personality disorder (N = 1; n = 63; RR = 1.08; 95% CI, 0.51 to 2.29).

³⁰ Data from two trials (GUTHRIE2001, HAWTON1987) could not be extracted on an intention-to-treat basis so these are omitted from this comparison.

³¹ Forest plots are available in Appendix 19.

9.5.3 Inpatient behaviour therapy versus insight-oriented therapy

One study made this comparison (LIBERMAN1981). Here behaviour therapy covered social skills training, anxiety management and family work, and insight-oriented therapy involved individual therapy, group therapy, psychodrama and family therapy. Both groups received about 32 hours of therapy over 10 days.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between inpatient behaviour therapy and insight-oriented therapy on reducing the likelihood of repetition of self-harm (N = 1; n = 24; RR = 0.67; 95% CI, 0.13 to 3.3).

9.5.4 Long-term therapy versus short-term therapy

Only one study made this comparison (TORHORST1988). It compared outcomes following 12 monthly therapy sessions with 12 weekly sessions. The type of therapy offered was not specified. Outcomes were measured at the end of treatment for each group.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between long-term therapy and short-term therapy on reducing the likelihood of repetition of self-harm (N = 1; n = 80; RR = 1; 95% CI, 0.44 to 2.26).

9.5.5 Home-based family therapy versus standard aftercare

One study compared home-based family therapy undertaken by two social work masters-level students with 'standard aftercare' involving no home visits. The experimental intervention involved a single home-based assessment and four treatment sessions at home (HARRINGTON1998). All participants were under 16 years old, none of them were seriously suicidal; nearly 90% were female; and over 60% were reported as having major depression. All were routine referrals to mental health services.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between home-based family therapy and standard aftercare on reducing the likelihood of repetition of self-harm (N = 1; n = 149; RR = 1.01; 95% CI, 0.47 to 2.19).

Effect of treatment on other efficacy outcomes

There is evidence suggesting that there is no clinically significant difference between home-based family therapy and standard aftercare on reducing hopelessness in people who self-harm as measured by the Hopelessness Scale (N = 1; n = 154; WMD = 0.3; 95% CI, -0.98 to 1.58).

There is insufficient evidence to determine if there is a clinically significant difference between home-based family therapy and standard aftercare on reducing suicidal ideation in people who self-harm as measured by the Suicidal Ideation Scale (N = 1; n = 154; WMD = -3.4; 95% CI, -19.18 to 12.38).

There is insufficient evidence to determine if there is a clinically significant difference between home-based family therapy and standard aftercare on reducing suicidal

ideation at 4-month follow-up in people who self-harm as measured by the Suicidal Ideation Scale (N = 1; n = 149; WMD = -5.1; 95% CI, -17.37 to 7.17).

9.5.6 Group therapy versus standard aftercare

One study (WOOD2001) evaluated the impact of developmental group therapy for teenagers (mean age 14 years). Participants were allocated either to group therapy or standard care. Group therapy involved a minimum of six sessions, after which participants were free to choose how much longer they remained in the group. Standard care included interventions from community psychiatric nurses and psychologists, including family sessions, counselling, and psychotropic medication.

Effect of treatment on repetition

There is strong evidence suggesting that there is a clinically significant difference favouring group therapy over standard aftercare on reducing the likelihood of repetition of self-harm in adolescents (N = 1; n = 63; RR = 0.19; 95% CI, 0.05 to 0.81).

Effect of treatment on other efficacy outcomes

There is insufficient evidence to determine if there is a clinically significant difference between group therapy and standard aftercare on reducing suicide ideation in adolescents who self-harm as measured by the Suicidal Ideation Scale (N = 1; n = 54; WMD = -4.7; 95% CI, -28.54 to 19.14).

There is insufficient evidence to determine whether there is a clinically significant difference between group therapy and standard aftercare on improving global outcome in adolescents who self-harm as measured by the Health of the Nation Outcome Scales for Children and Adolescents (N = 1; n = 62; WMD = -2.1; 95% CI, -5.96 to 1.76).

9.5.7 Psychological therapies versus standard aftercare

To examine whether a specific psychological treatment is any more effective than 'standard care', data from problem-oriented therapies and dialectical behaviour therapy (EVANS1999, GIBBONS1978, HARRINGTON1998, HAWTON1987, LINEHAN1991, SALKOVSKIS1990, TYRER, WOOD2001) were pooled and meta-analysed. Note that two studies (GUTHRIE2001 and MCLEAVEY1994) are omitted since dichotomous data could not be extracted on an intention-to-treat basis.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between psychological therapies and standard aftercare on reducing the likelihood of repetition of self-harm (N = 5; n = 1014; RR = 0.88; 95% CI, 0.74 to 1.05).

Acceptability of treatment

There is insufficient evidence to determine if there is a clinically significant difference between psychological therapies and standard aftercare on reducing the likelihood of leaving treatment early (N = 3; n = 177; Random effects: RR = 1.30; 95% CI, 0.5 to 3.37).

9.6 Pharmacological interventions

For this guideline, only antipsychotic and antidepressant medication trials were reviewed. Clearly, the use of antipsychotic medication is not for the treatment of psychotic phenomena; rather, their general capacity to reduce arousal and to calm a person is the more likely mechanisms of action. No data were available regarding side effects, thus limiting conclusions, especially given the usually high incidence of side effects with antipsychotic medication (NCCMH, 2002).

9.6.1 Antipsychotic medication versus placebo or low-dose antipsychotic medication

Two studies compared moderate-dose antipsychotic medication with either placebo or a very small dose of the same drug (BATTAGLIA1999, MONTGOMERY1979). In MONTGOMERY1979 flupenthixol depot (20 mg) or placebo was administered every 4 weeks for 6 months. All participants were classed as people who self-harm repeatedly. In BATTAGLIA1999 12.5 mg fluphenazine or 1.5 mg fluphenazine was administered once a month for 6 months.

Effect of treatment on repetition

There is limited evidence suggesting that there is a clinically significant difference favouring flupenthixol over placebo on reducing the likelihood of repetition of self-harm (N = 1; n = 30; RR = 0.29; 95% CI, 0.1 to 0.81).

There is insufficient evidence to determine if there is a clinically significant difference between 12.5 mg fluphenazine and 1.5 mg fluphenazine on reducing the likelihood of leaving treatment early (N = 1; n = 58; RR = 1.12; 95% CI, 0.71 to 1.76).

There is insufficient evidence to determine whether there is a clinically significant difference between 12.5 mg fluphenazine and 1.5 mg fluphenazine on reducing the average number of repetitions of self-harm per month (N = 1; n = 53; SMD = -0.06; 95% CI, -0.6 to 0.48).

9.6.2 Antidepressants versus placebo

Three studies made this comparison (HIRSCH1982, MONTGOMERY1983, VERKES1998). In HIRSCH1982 either 30 mg to 60 mg of mianserin was given or 75 mg to 150 mg of nomifensine³². Participants took either antidepressant for 6 weeks. In MONTGOMERY1983 participants took 30 mg mianserin for 6 months, and in VERKES1998 participants took 40 mg paroxetine for 12 months. In this last study both study groups also received psychotherapy.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between antidepressants and placebo or an ultra-low dose of antidepressant on reducing the likelihood of repetition of self-harm (N = 3; n = 243; RR = 0.89; 95% CI, 0.61 to 1.29).

³²Not available in the UK.

Effect of treatment on death by suicide

There is insufficient evidence to determine if there is a clinically significant difference between antidepressants and placebo or an ultra-low dose of antidepressant on reducing the likelihood of death by suicide in people who self-harm (N = 1; n = 91; RR = 0.33; 95% CI, 0.01 to 7.8).

Acceptability of treatment

There is insufficient evidence to determine if there is a clinically significant difference between antidepressants and placebo or an ultra-low dose of antidepressant on reducing the likelihood of leaving treatment early (N = 1; n = 91; RR = 0.93; 95% CI, 0.75 to 1.14).

9.7 Psychosocial and other interventions

9.7.1 Intensive intervention plus outreach versus standard aftercare

Six studies were included in this comparison (ALLARD1992, CEDEREKE2002, HAWTON1981, VANDERSANDE1997, VANHEERINGEN1995, WELU1977). In an *intensive intervention* participants in the experimental group have greater access to therapists than those in standard care. Additionally, efforts were made to maintain contact with participants throughout the study period, for example to follow up following a missed appointment. Study length ranged from 3 to 12 months. The participants varied between studies in terms of source of participant and diagnoses, although some studies did not give a psychiatric diagnosis.

Effect of treatment on repetition

There is evidence suggesting that there is no clinically significant difference between intensive intervention plus outreach and standard aftercare on reducing the likelihood of repetition of self-harm (N = 6; n = 1395; RR = 0.97; 95% CI, 0.83 to 1.14).

Effect of treatment on death by suicide

There is insufficient evidence to determine if there is a clinically significant difference between intensive intervention plus outreach and standard aftercare on reducing the likelihood of death by suicide in people who self-harm (N = 4; n = 1031; RR = 0.99; 95% CI, 0.43 to 2.25).

Effect of treatment on other outcomes

There is limited evidence suggesting that there is a clinically significant difference favouring intensive intervention plus outreach over standard aftercare on reducing the likelihood of people who self-harm being hospitalised 12 months after treatment (N = 1; n = 249; RR = 0.63; 95% CI, 0.43 to 0.93).

There is evidence suggesting that there is a statistically significant difference favouring intensive intervention plus outreach over standard aftercare on reducing hopelessness in people who self-harm, as measured by the Hopelessness Scale at 12-months follow-up, but the size of this is unlikely to be of clinical significance (N = 1; n = 274; WMD = -1.4; 95% CI, -2.7 to -0.1).

Acceptability of treatment

There is evidence suggesting that there is no clinically significant difference between intensive intervention plus outreach and standard aftercare on reducing the likelihood of leaving treatment early (N = 6; n = 1395; Random effects: RR = 0.93; 95% CI, 0.72 to 1.21).

9.7.2 Emergency card versus standard aftercare

Three studies were included in this comparison (COTGROVE1995, EVANS1999A, MORGAN1993). Patients in the experimental group, in addition to being offered standard aftercare, were given an emergency contact card, which either gave them 24-hour access to emergency advice from a psychiatrist (EVANS1999A, MORGAN1993) or allowed them to admit themselves to hospital (COTGROVE1995). The studies lasted between six months and a year. Participants in COTGROVE1995 were all adolescents.

Effect of treatment on repetition

There is evidence suggesting that there is no clinically significant difference between using an emergency card and standard aftercare on reducing the likelihood of repetition of self-harm (N = 3; n = 1144; Random effects: RR = 0.79; 95% CI, 0.39 to 1.57).

Effect of treatment on death by suicide

There is insufficient evidence to determine if there is a clinically significant difference between using an emergency card and standard aftercare on reducing the likelihood of death by suicide at the end of the intervention period (6–12 months) in people who self-harm (N = 1; n = 1039; RR = 1.97; 95% CI, 0.18 to 21.6).

9.7.3 Same therapist versus different therapist

One study made this comparison (TORHORST1987). All participants received a motivational interview, letter and assessment of motivation towards therapy. This was designed to increase engagement with treatment. Participants in the experimental group then received therapeutic contact with the original hospital therapist in an outpatient setting, whereas participants in the control group received therapy in a specialised suicide prevention centre with a different therapist. This makes it hard to assess the effect of treatment. In addition, and despite randomisation, at baseline participants in the same-therapist group had more risk factors for repetition of self-harm than those in the different-therapist group, including being more likely to be older, male and divorced, and having more episodes of self-harm in the year before the index episode. These differences could wholly account for the differences in repetition.

Effect of treatment on repetition

There is limited evidence suggesting that there is a clinically significant difference favouring different therapist over same therapist on reducing the likelihood of repetition of self-harm (N = 1; n = 141; RR = 3.22; 95% CI, 1.09 to 9.51).

There is insufficient evidence to determine if there is a clinically significant difference between receiving a different therapist and receiving the same therapist on reducing the likelihood of repetition of self-harm 9 months after treatment (N = 1; n = 136; RR = 3.18; 95% CI, 0.9 to 11.25).

Effect of treatment on attendance at therapy sessions

There is some evidence suggesting that there is a clinically significant difference favouring same therapist over different therapist on increasing the likelihood of attending at least one therapy session after an episode of self-harm treated in hospital (N = 1; n = 141; RR = 0.58; 95% CI, 0.38 to 0.89).

Effect of treatment on death by suicide

There is insufficient evidence to determine if there is a clinically significant difference between receiving a different therapist and receiving the same therapist on reducing the likelihood of death by suicide 9 months after treatment (N = 1; n = 127; RR = 1.68; 95% CI, 0.29 to 9.69).

9.7.4 General hospital admission versus discharge

One study made this comparison (WATERHOUSE1990). In this study no additional treatment was offered to either group, although all patients were advised to contact their GP on discharge. Average length of admission was 17 hours. Only those who did not require hospital admission because of medical or psychiatric needs were included in the study, and the majority of patients were not randomised as they were considered to pose too great a risk to be assigned to the non-admission group. Therefore, the patients included in the study constitute an extremely biased sample.

Effect of treatment on repetition

There is insufficient evidence to determine if there is a clinically significant difference between general hospital admission and discharge on reducing the likelihood of repetition (N = 1; n = 77; RR = 0.77; 95% CI, 0.18 to 3.21).

9.7.5 GP letter versus standard aftercare

One study made this comparison (BENNEWITH2002). In this study, which was cluster-randomised by GP practice, patients were sent a letter by GPs from practices allocated to the experimental group inviting them to make an appointment for a consultation.

Effect of treatment on repetition

There is insufficient evidence to determine whether there is a clinically significant difference between using a GP letter and standard aftercare on reducing the likelihood of repetition of self-harm (N = 1; n = 1932; RR = 1.12; 95% CI, 0.94 to 1.34).

9.7.6 Nurse-led case management versus standard aftercare

One study made this comparison (CLARKE2002). The intervention involved case management combined with routine management, including medical and psychiatric assessment.

Effect of treatment on readmission

There is insufficient evidence to determine if there is a clinically significant difference between nurse-led case management and standard aftercare on reducing the likelihood of people who self-harm being readmitted to hospital (N = 1; n = 467; RR = 0.85; 95% CI, 0.48 to 1.51).

9.7.7 Specialised services versus generalised services

This comparison combined intensive intervention plus outreach with emergency card interventions and compared them with standard aftercare (ALLARD1992, CEDEREKE2002, CLARKE2002, COTGROVE1995, EVANS1999A, HAWTON1981, MORGAN1993, VANDERSANDE1997, VANHEERINGEN1995, WELU1977).

Effect of treatment on repetition

There is evidence suggesting that there is no clinically significant difference between specialised services and generalised services on reducing the likelihood of repetition of self-harm (N = 10; n = 2881; RR = 0.97; 95% CI, 0.85 to 1.11).

9.8 Clinical summary

The overriding conclusion from this review is that the evidence base for the treatments of self-harm is extremely limited. Most studies are small and tend to recruit fairly specific groups, making generalisation problematic. This is true for most of the studies upon which recommendations are made. Moreover, as a group, people who self-harm are highly heterogeneous, and what works for one subgroup may be useless for another. With this important caveat in mind, the evidence, such as it is, can be summarised as follows.

There is limited evidence that an intensive intervention plus outreach compared with standard aftercare reduces hospitalisation 12 months after treatment, and reduces hopelessness; that dialectical behaviour therapy compared with standard aftercare reduces repetition in people with borderline personality disorder (although numbers were small and this applies only to people who repeatedly self-harm); and that depot flupenthixol compared with placebo reduces repetition rates in people who self-harm repeatedly. However, the absence of data on side effects is an important omission.

There is also some evidence that attending a specialised suicide prevention centre and seeing a new therapist is more likely to reduce repetition than seeing the same therapist from an inpatient admission for outpatient therapy, although these findings may be accounted for by differences between the patient groups at baseline. However, seeing the same therapist increases the likelihood of attending therapy in the first place. It is difficult to draw reliable conclusions from the one study that made this comparison (TORHORST1987).

For adolescents there is strong evidence suggesting that there is a clinically significant difference favouring group therapy over standard aftercare on reducing the likelihood of repetition, although the numbers were small. For other therapies and outcomes there is insufficient evidence of effectiveness.

The evidence reviewed here suggests that there are surprisingly few specific interventions for people who have self-harmed that have any positive effect. The GDG came to the conclusion that, at the present time, there was insufficient evidence to support any recommendation for interventions specifically designed for people who self-harm. While there may be some evidence for the treatment of subgroups of service users, such as those diagnosed with borderline personality disorder, the studies were too small to make recommendations. However, the positive outcome for adolescents who have repeatedly self-harmed receiving group therapy is encouraging; although, because

of the rather selective group this was applied to, this approach is in need of further investigation.

Moreover, the GDG came to the conclusion that referral for further treatment after an act of self-harm should be determined by the overall needs of the service user, rather than by the fact that they have self-harmed per se. This draws attention to the reliance on repetition as the primary outcome measure in many studies whereas outcomes relevant to service users such as depression status or quality of life may be more relevant.

9.9 Clinical practice recommendations

- 9.9.1.1 Following psychosocial assessment for people who have self-harmed, the decision about referral for further treatment and help should be based upon a comprehensive psychiatric, psychological and social assessment, including an assessment of risk, and should not be determined solely on the basis of having self-harmed. (C)
- 9.9.1.2 Clinicians should ensure that service users who have self-harmed are fully informed about all the service and treatment options available, including the likely benefits and disadvantages, in a spirit of collaboration, before treatments are offered. The provision of relevant written material with time to talk over preferences should also be provided for all service users. (GPP)
- 9.9.1.3 The mental health professional making the assessment should inform both mental health services (if they are involved already) and the service user's GP, in writing, of the treatment plan. (GPP)
- 9.9.1.4 For people who have self-harmed and are deemed to be at risk of repetition, consideration may be given to offering an intensive therapeutic intervention combined with outreach. The intensive intervention should allow frequent access to a therapist when needed, home treatment when necessary and telephone contact; and outreach should include following up the service user actively when an appointment has been missed to ensure that the service user is not lost from the service. The therapeutic intervention plus outreach should continue for at least three months. (C)
- 9.9.1.5 For people who self-harm and have a diagnosis of borderline personality disorder, consideration may be given to the use of dialectical behaviour therapy. However, this should not preclude other psychological treatments with evidence of effectiveness for people with this diagnosis, but not reviewed in this guideline. (C)
- 9.9.1.6 For young people who have self-harmed several times, consideration may be given to offering developmental group psychotherapy with other young people who have repeatedly self-harmed. This should include at least six sessions. Extension of group therapy may also be offered; the precise length of this should be decided jointly by the clinician and the service user. (B)

9.10 Research recommendations

- 9.10.1.1 Further research into treatments specific to people who self-harm should evaluate the differential responses of different patient subgroups, using a broad range of outcomes, especially those relevant to service users such as quality of life.
- 9.10.1.2 User-led, qualitative research into the experience and views of people who self-harm is required firstly examining the benefits and adverse consequences of the services they receive and the treatments they have undertaken, and secondly investigating the benefits and adverse consequences of self-help groups and service user support groups.
- 9.10.1.3 A multi-centre RCT is required reporting all relevant outcomes including quality of life, occupational status, satisfaction with services and self-harm repetition rates, addressing the clinical and cost effectiveness of emergency card services for people who have self-harmed and presented to services for the first time.
- 9.10.1.4 An adequately powered RCT reporting all relevant outcomes should be undertaken to determine the relative effectiveness of group therapy for young people who self-harm. The study should address patient characteristics (such as gender, diagnosis, frequency and method of self-harm, past history of abuse) and family characteristics (such as parental disharmony and divorce, family size, socio-economic status, mental health problems in the parents and siblings). Outcomes should include loss from services, admission rates, satisfaction, repetition of self-harm, quality of life, educational attainment and employment status. Consideration should also be given to investigating the effectiveness of this type of therapy for adults.
- 9.10.1.5 An adequately powered RCT reporting all relevant outcomes should be undertaken to determine the clinical and cost effectiveness of intensive interventions combined with assertive outreach for people who self-harm. The study should address patient characteristics (such as age, gender, diagnosis, frequency and method of self-harm, past history of abuse) and therapists' characteristics (such as age, gender, training, professional discipline, parental status). Outcomes should include loss from services, admission rates, satisfaction, repetition of self-harm, quality of life and employment status.

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11 Glossary

Activated charcoal: A substance that can bind many poisons in the stomach thereby reducing their absorption into the body.

Advance directives: Written instructions agreed between a patient and healthcare professional in which the patient specifies in advance of treatment his or her preferred treatments and identifies the treatments he or she does not wish to receive. These are used to guide clinicians in the event that the patient becomes unable to make decisions for him- or herself. Advance directives allow people, for instance, to state their wishes with regard to electroconvulsive therapy, or drugs they know give them bad side effects. The patient should understand the nature of the condition for which treatment may be required, the need for treatment, the expected benefits of the proposed treatment, and the possible adverse consequences. Advance directives cannot be used to refuse treatment altogether when a person is subject to the Mental Health Act.

Behavioural therapy: A therapeutic approach based on the belief that all behaviour, normal and abnormal, is learned and that the objective is to teach people new ways of behaving.

Borderline personality disorder: DSM-IV diagnosis where the individual displays a pattern of marked impulsivity and instability in interpersonal relationships, self-image and affects.

Cathartics: Substances such as laxatives that produce an evacuation of the bowels.

Clinical significance: An effect size may be statistically significant, but it is clinically important only if it is assessed as having clinical significance. That is, that the size of the effect is large enough to make a clinical difference – for example, a reduction in the relative risk of 20% or more of experiencing an ‘event’ such as repetition of self-harm is considered clinically significant.

Cognitive behavioural therapy (CBT): A discrete, time-limited, structured psychological intervention, derived from the cognitive behavioural model of affective disorders in which the patient:

- Works collaboratively with a therapist to identify the types and effects of thoughts, beliefs and interpretations on current symptoms, feelings states and/or problem areas
- Develops skills to identify, monitor and then counteract problematic thoughts, beliefs and interpretations related to the target symptoms/problems
- Learns a repertoire of coping skills appropriate to the target thoughts, beliefs and/or problem areas.

Cohort study (also known as **follow-up, incidence, longitudinal, or prospective study**): An observational study in which a defined group of people (the cohort) is followed over time and outcomes are compared in subsets of the cohort who were exposed or not exposed, or exposed at different levels, with an intervention or other factor of interest. Cohorts can be assembled in the present and followed into the future (a 'concurrent cohort study'), or identified from past records and followed forward from that time up to the present (a 'historical cohort study'). Because random allocation is not used, matching or statistical adjustment must be used to ensure that the comparison groups are as similar as possible.

Dialectical behaviour therapy: A multifaceted and intensive psychological treatment designed for patients with borderline personality disorder.

Electroconvulsive therapy (ECT): A therapeutic procedure in which an electric current is briefly applied to the brain to produce a seizure. This is used for treatment of severe depression symptoms or to ease depression that is not responding well to other forms of treatment. Sometimes called convulsive therapy, electroshock therapy or shock therapy.

Emesis: Vomiting – the expulsion of the stomach contents through the mouth.

Endotracheal intubation: Insertion of a rubber or plastic tube through the nose or mouth into the trachea allowing the supply of oxygen or anaesthetic gases to the lungs.

Entero-hepatic elimination: The removal of a drug from the intestine or liver.

Family therapy: Family sessions with a treatment function based on systemic, cognitive behavioural or psychoanalytic principles, which may include psychoeducational, problem-solving and crisis management work and specific interventions with the identified patient.

Gastric lavage: A method of gastric decontamination used in the treatment of poisoning. Lavage involves the passage of a lubricated tube via the mouth and oesophagus into the stomach. Patients are positioned on their side with the head lower than the feet. A small quantity of fluid is passed into the stomach and the contents drained out (by gravity) by lowering the end of the tube. This is repeated until the solution is clear of particulate matter. This procedure should be done only by an experienced health professional.

Gastrointestinal perforation: An opening in the gastrointestinal tract (the passage along which food usually passes).

Haemodiafiltration: A technique similar to haemodialysis, where blood is dialysed using ultrafiltration through a membrane permeable to water and small molecules.

Haemodialysis: A method of removing waste products or poisons from the circulating blood.

Haemoperfusion: The transfer of blood through tissue.

Health Technology Appraisal (HTA): The process of determining the clinical and cost effectiveness of a health technology in order to develop recommendations on the use of new and existing medicines and other treatments within the NHS in England and Wales.

Hepatotoxic: Something that poisons the liver.

Histrionic personality disorder: The guideline uses the DSM-IV definition which states that the individual displays a pattern of excessive emotionality and attention seeking.

Hydrocarbons: An organic molecule that consists only of carbon and hydrogen atoms, and no other elements. Volatile hydrocarbons that can be aspirated into the lungs when swallowed include white spirit, turpentine substitute, petrol, lubricating oils, and solvents in some polishes.

Inpatient behavioural therapy: The patient requires a stay in hospital and receives behavioural therapy.

Insight-oriented therapy: Therapies designed to give people a better awareness and understanding of previously unconscious feelings, motivations and actions and how they influence present feelings and behaviours.

Intubation: A simple operation consisting of the introduction, through the mouth into the larynx, of a tube designed to keep the air passage open at this point.

Ipecac (Ipecacuanha): A substance that produces vomiting when brought into contact with the interior of the stomach.

Osmotic cathartic: Substances that produce an evacuation of the bowel by an osmotic action (drawing fluid into the bowel).

Patient: The term 'service user' is preferred to refer to people who have self-harmed in this guideline. The term 'patient' is used under the following conditions: (1) a person under the care of a doctor in reports of research or recommendations in which care by doctors is a crucial element (e.g. 'Recent surveys suggest that about 10%–15% of patients are managed solely in primary care...'), (2) generic and typical usages, such as 'NICE programmes for patients', 'Patient Bill of Rights', (3) NICE recommendations which are required to be quoted verbatim, (4) frequently used noun compounds (e.g. 'drug-naïve patients' 'patient sample').

Problem-solving therapy: A discrete, time-limited, structured psychological intervention that focuses on learning to cope with specific problem areas and where the therapist and patient work collaboratively to identify and prioritise key problem areas, break problems down into specific manageable tasks, solve problems, and develop appropriate coping behaviours for problems.

Psychodynamic psychotherapy: Psychological interventions, derived from a psychodynamic/psychoanalytic model in which:

- Therapist and patient explore and gain insight into conflicts and how these are represented in current situations and relationships including the therapy relationship (such as transference and countertransference)

- Patients are given an opportunity to explore feelings, and conscious and unconscious conflicts, originating in the past, and the technical focus is on interpreting and working through conflicts
- Therapy is non-directive and patients are not taught specific skills such as thought monitoring, re-evaluation or problem-solving.

Psychosocial assessment: An assessment that includes several components, the most important of which are the assessment of needs and the assessment of risks. The assessment of needs is designed to identify those personal (psychological) and environmental (social) factors that might explain an act of self-harm; this assessment should lead to a formulation, based upon which a management plan can be developed.

Risk assessment: An assessment of the likelihood of an individual repeating self-harm and, in particular, of attempting suicide.

Salicylates: A group of drugs to which aspirin belongs.

Standard care: 'Standard care' is the normal care given to those suffering from acute psychiatric episodes in the area concerned; this involved hospital-based treatment for all studies included.

Suicidal ideation: Thoughts about committing suicide.

TOXBASE: The National Information Poison Service's computerised database, which is available via the internet to healthcare professionals. This database is the primary toxicology information source in the UK for the management of poisoning.

Vasodilatation: A state of increased calibre of the blood vessels.

12 Abbreviations

A&E	Accident and emergency
AC	Activated charcoal
ACB	Association of Clinical Biochemists
AGREE	Appraisal of Guidelines for Research and Evaluation
BAEM	British Association for Accident and Emergency Medicine
BNF	British National Formulary
BPS	British Psychological Society
BT	Behaviour therapy
CBT	Cognitive behavioural therapy
CEBMH	Centre for Evidence-Based Mental Health, University of Oxford
CEFAHP	Clinical Effectiveness Forum for the Allied Health Professionals
CEMH	Centre for Economics in Mental Health
CHAI	Commission for Healthcare Audit and Inspection
CI	Confidence interval
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CNS	Central nervous system
CORE	Centre for Outcomes Research and Effectiveness, British Psychological Society
CRU	College Research Unit, Royal College of Psychiatrists
DBT	Dialectical behaviour therapy
DHSS	Department of Health and Social Services
DOH	Department of Health
DSM-IV	Diagnostic and Statistical Manual of the American Psychiatric Association (4th edition)
ECT	Electroconvulsive therapy
ED	Emergency department
EMBASE	Excerpta Medica Database
ES	Effect size
GABA	Gamma-amino-butyric acid
GCS	Glasgow Coma Scale
GDG	Guideline Development Group
GI	Gastrointestinal
GP	General practitioner
GPP	Good practice point
HADS	Hospital Anxiety and Depression Scale
HRSD	Hamilton Rating Scale for Depression
HTA	Health Technology Appraisal
ICU	Intensive care unit
IoP	Institute of Psychiatry

IV	Intravenous
MDF	Manic Depression Fellowship
MEDLINE	Compiled by the US National Library of Medicine (NLM) and published on the web by Community of Science, MEDLINE is a source of life sciences and biomedical bibliographic information
MIU	Minor Injuries Unit
N	Number of studies
n	Number of participants
NAC	N-acetylcysteine
NCCMH	National Collaborating Centre for Mental Health
NHS	National Health Service
NHSD	NHS Direct
NICE	National Institute for Clinical Excellence
NIMHE	National Institute of Mental Health in England
NISW	National Institute for Social Work
NNH	Number needed to harm
NNT	Number needed to treat
NPIS	National Poisons Information Service
NSF	National Service Framework (for mental health)
NSHN	National Self-Harm Network
PCO	Primary Care Organisation
PCT	Primary Care Trust
PsycINFO	An abstract (not full-text) database of psychological literature from the 1800s to the present.
PubMed	A service of the National Library of Medicine; includes over 14 million citations for biomedical articles back to the 1950s; these citations are from MEDLINE and additional life science journals
QI	Quality improvement
RCGP	Royal College of General Practitioners
RCN	Royal College of Nursing
RCPsych	Royal College of Psychiatrists
RCT	Randomised controlled trial
RPS	Royal Pharmaceutical Society
RR	Relative risk (risk ratio)
SIB	Self-injurious behaviour
SMD	Standardised mean difference
SSRIs	Selective serotonin reuptake inhibitors
TCAs	Tricyclic antidepressants
WHO	World Health Organization
WMD	Weighted mean difference

