

Self-harm: longer-term  
management

## **Costing report**

Implementing NICE guidance

November 2011

NICE clinical guideline 133



This costing report accompanies the clinical guideline: 'Self-harm: longer-term management' (available online at [www.nice.org.uk/guidance/CG133](http://www.nice.org.uk/guidance/CG133)).

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### **This guidance is written in the following context**

This report represents the view of NICE, which was arrived at after careful consideration of the available data and through consulting with healthcare professionals. It should be read in conjunction with the NICE guideline. The report and template are implementation tools and focus on the recommendations that were considered to have a significant impact on national resource utilisation.

The cost and activity assessments in the report are estimates based on a number of assumptions. They provide an indication of the likely impact and are not absolute figures. Assumptions used in the report are based on assessment of the national average. Local practice may be different from this, and the template can be amended to reflect local practice.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this costing tool should be interpreted in a way that would be inconsistent with compliance with those duties.

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## Executive summary

This costing report looks at the resource impact of implementing the NICE guideline 'Self-harm: longer-term management' in England.

The costing method adopted is outlined in appendix A; it uses the most accurate data available, was produced in conjunction with key clinicians, and reviewed by clinical and financial professionals.

### ***Significant<sup>1</sup> resource-impact recommendations***

This report focuses on the recommendations that are considered to have the greatest resource impact nationally and therefore require the most additional resources to implement or can potentially generate the biggest savings. They are:

- General principles of care – when language is a barrier to accessing or engaging with services, provide information and interventions in preferred language and provide independent interpreters (recommendation 1.1.5).
- Psychosocial assessment in community mental health services – provision of integrated and comprehensive assessment of needs and risks (recommendation 1.3.1)<sup>2</sup>.
- Longer-term treatment and management of self-harm – offering 3 to 12 sessions of a psychological intervention (recommendation 1.4.8)<sup>2</sup>.

### ***Net resource impact***

The annual change in resource use arising from implementing the recommendations considered in the costing analysis is summarised below.

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<sup>1</sup> The following impacts have been defined as significant:

- where the number of people affected by the guidance recommendations is estimated to be over 300 (equivalent to 1 patient per 170,000; in practice, smaller populations may have no patients or possibly more than one, particularly if it is a disease that runs in families and there is a cluster in one area)
- where initial costing work indicates that the national cost is more than £1 million (equivalent to £2000 per 100,000 population).

<sup>2</sup> Costs for children's services and adult services relating to assessments and interventions are separately identified.

### Recommendations with a significant resource impact

	Current cost (£000)	Proposed cost (£000)	Change in cost (£000)
Access to services (rec 1.1.5)	-	400	400
Psychosocial assessment (rec 1.3.1)	27,600	37,900	10,300
Longer-term treatment (rec 1.4.8)	8,600	14,200	5,600
<b>Total estimated cost</b>	<b>36,200</b>	<b>52,500</b>	<b>16,300</b>

### Costs

The table above shows the estimated net change in annual costs after full implementation. There may be other costs associated with ongoing training of mental health professionals that involves people who self-harm (see recommendation 1.1.10). These costs are likely to vary significantly and would be difficult to estimate. The timeframe for implementation depends on local service providers and may vary.

### Benefits and savings

Data from trials for interventions to reduce self-harm indicate that there is a trend towards self-harm reduction with follow-up therapies such as problem-solving therapy. However, savings would be difficult to predict because people behave differently and respond differently to interventions. Implementing the clinical guideline may reduce self-harm and may result in the following savings and benefits:

- Potential saving in hospital admission – costs per admission could range from £204 to £4231, depending on the level of injury and complications.
- Potential saving in A& E attendance cost – cost per attendance £110.
- Saving in ambulance emergency call-out costs – average cost per call-out £246.
- Reduced drug costs where these have previously been given as a specific intervention to reduce self-harm (see recommendation 1.4.9).

- Reduced pressure on emergency community mental health services and children's mental health services.
- Potential improvements in social or occupational functioning of people who self-harm.
- Economic benefits to wider society in terms of reduction in days lost from work and costs to families and carers.

### ***Local costing template***

The costing template produced to support this guideline enables organisations in England, Wales and Northern Ireland to estimate the impact locally and replace variables with ones that depict the current local position. A sample calculation using this template showed that additional costs of around £31,500 could be incurred for a population of 100,000.

# 1 Introduction

## 1.1 *Supporting implementation*

1.1.1 The NICE clinical guideline on Self-harm: longer-term management is supported by the following implementation tools available on our website [www.nice.org.uk/guidance/CG133](http://www.nice.org.uk/guidance/CG133):

- costing tools
  - a national costing report; this document
  - a local costing template; a spreadsheet that can be used to estimate the local cost of implementation
- a slide set; key messages for local discussion
- clinical case scenarios; example cases designed to improve and assess the users' knowledge of the guidance
- podcasts; one of which discusses risk assessment with an expert practitioner, the other discusses access to services and harm minimisation with a service user
- baseline assessment tool; assess your baseline against the recommendations in the guidance in order to prioritise implementation activity including clinical audit
- clinical audit support; a package of clinical audit tools.

## 1.2 *What is the aim of this report?*

1.2.1 This report provides estimates of the national cost impact arising from implementation of guidance on self-harm in England. These estimates are based on assumptions made about current practice and predictions of how current practice might change following implementation.

1.2.2 This report aims to help organisations plan for the financial implications of implementing NICE guidance.

1.2.3 This report does not reproduce the NICE guideline on 'Self-harm: longer-term management' and should be read in conjunction with it (see [www.nice.org.uk/guidance/CG133](http://www.nice.org.uk/guidance/CG133)).

1.2.4 The costing template that accompanies this report is designed to help those assessing the resource impact at a local level in England, Wales or Northern Ireland.

### **1.3 *Epidemiology of self-harm***

1.3.1 Deliberate self-harm involves intentional self-poisoning or injury, irrespective of the apparent purpose of the act. It is one of the top-five causes of acute medical admissions for both women and men in the UK (NHS Information Centre 2008). Using reference cost data, the number of hospital admissions in England in 2009/10 for psychiatric/suicide attempt; mental/emotional were 114,242 (codes PS25A to PS25C). The actual number is likely to be higher because there may be additional cases recorded under 'Overdose/Ingestion/poisoning' (codes PS23A and PS23B). This category also covers accidental cases and therefore the numbers here cannot be added. Accident and Emergency (A&E) data for 2009/10 show there were 108,312 attendances for self-harm (HES online 2009/10). This figure may also be an under-estimate because further numbers may be recorded under poisoning (including overdose). Using incidence statistics (see below), and estimates on the percentage of people who present to hospital (see table 4), the numbers who annually present to hospital for self-harm are estimated to be around 155,000. This estimate allows for episodes recorded under different categories.

1.3.2 Incidence rates of self-harm vary for different age groups. An England survey of young people found that 3.2% of boys and 11.1% of girls aged 15–16 had self-harmed in the past year (Hawton et al. 2002). The results of the Adult psychiatric morbidity survey for England (2007) identified that 3.7% of men and 3.8% of women aged 16–74 had self-harmed during their lifetime, with 0.5%

of men and 1% of women aged 16–74 having attempted suicide in the past year. Table 1 below shows the estimated incidence of self-harm for children and young people aged 8 to 17 and adults aged 18 and over.

**Table 1 Incidence of self-harm among children and young people and adults**

<b>Populations relevant to guidance</b>	<b>Percentage</b>	<b>Estimated numbers</b>
Incidence of self-harm in males aged 8 to 17	3.20	119,055
Incidence of self-harm in females aged 8 to 17	11.10	394,492
<b>Subtotal children and young people</b>		<b>513,547</b>
Recent self-harm/suicidal attempt males 18 and over	0.50	98,471
Recent self-harm/suicidal attempt females aged 18 and over	1.00	208,912
<b>Subtotal adults</b>		<b>307,383</b>
<b>Total</b>		<b>820,930</b>

## **1.4 Current service provision**

1.4.1 Self-harm is usually managed in secondary care. This includes hospital medical services and mental health services. For children and young people, especially those aged under 16, on presentation at emergency departments they are likely to be admitted to the paediatric ward to await assessment by the children and adolescent mental health service (CAMHS) before discharge. For adults who present to hospital, assessment is most commonly performed by the community mental health team (CMHT). Services for people who self-harm vary widely. Studies have also suggested under-provision with respect to self-harm services. About 62% of the people who present to an emergency department after an incident of self-harm are assessed by a mental health professional (Royal College of Psychiatrists 2008) and around 51% receive mental health follow-up (Bennewith et al. 2004). These figures are used to estimate the cost of current service provision. Implementing

the guideline may therefore result in additional costs associated with assessing people after an incident of self-harm, and providing longer-term follow-up services for people at risk of repeating self-harm.

## **2 Costing methodology**

### **2.1 Process**

- 2.1.1 We use a structured approach for costing clinical guidelines (see appendix A).
- 2.1.2 We have to make assumptions in the costing model. These are tested for reasonableness with members of the Guideline Development Group (GDG) and key clinical practitioners in the NHS.
- 2.1.3 Local users can assess local cost impact, using the costing template as a starting point, and update assumptions to reflect local circumstances.

### **2.2 Scope of the cost-impact analysis**

- 2.2.1 The guideline offers best practice advice on self-harm: longer-term management.
- 2.2.2 The guidance does not cover:
  - children younger than 8 years
  - people with a neurodevelopmental disorder with repetitive stereotypical self-injurious behaviour (SIB), for example head-banging in people with significant learning disability.

There are some important issues not covered by the term self-harm. These include self-harm arising from the excessive consumption of alcohol or recreational drugs, from starvation from anorexia nervosa, and from accidental harm.

Therefore, these issues are outside the scope of the costing work.

2.2.3 We worked with the GDG and other professionals to identify the recommendations that would have the most significant resource-impact (see table 2). Costing work has focused on these recommendations.

**Table 2 Recommendations with a significant resource impact**

Recommendation	Recommendation number	Guideline key priority?
<p>When language is a barrier to accessing or engaging with services for people who self-harm, provide them with:</p> <ul style="list-style-type: none"> <li>• information in their preferred language and in an accessible format</li> <li>• psychological or other interventions, where needed, in their preferred language</li> <li>• independent interpreters</li> </ul>	1.1.5	
<p>Offer an integrated and comprehensive psychosocial assessment of needs (see recommendations 1.3.2–1.3.5) and risks (see recommendations 1.3.6–1.3.8) to understand and engage people who self-harm and to initiate a therapeutic relationship</p>	1.3.1	✓
<p>Consider offering 3 to 12 sessions of a psychological intervention that is specifically structured for people who self-harm, with the aim of reducing self-harm. In addition:</p> <ul style="list-style-type: none"> <li>• The intervention should be tailored to individual need, and could include cognitive-behavioural, psychodynamic or problem-solving elements.</li> <li>• Therapists should be trained and supervised in the therapy they are offering to people who self-harm.</li> <li>• Therapists should also be able to work collaboratively with the person to identify the problems causing distress or leading to self-harm.</li> </ul>	1.4.8	✓

2.2.4 Eleven of the recommendations in the guideline have been identified as key priorities for implementation, and two of these are also among the three recommendations considered to have significant resource impact.

- 2.2.5 The key priority recommendations that have not been costed relate to the working approach towards people who self-harm (recommendation 1.1.1) and best practice for producing integrated comprehensive assessments of need and risks, care plans and risk management plans (recommendations 1.3.2, 1.3.6, 1.3.11, 1.4.2, 1.4.3, 1.4.4). Recommendation 1.4.9 'Do not offer drug treatment as a specific intervention to reduce self-harm' may produce some savings, although these would be difficult to quantify. Recommendation 1.5.1 relating to treating associated mental health conditions is covered by previous NICE guidance on those conditions (see list provided under recommendation 1.5.1).
- 2.2.6 We have limited the consideration of costs and savings to direct costs to the NHS that will arise from implementation. We have not included consequences for the individual, the private sector or the not-for-profit sector. If applicable, any realisable cost savings arising from a change in practice have been offset against the cost of implementing the change.

### **2.3 General assumptions made**

- 2.3.1 The model is based on annual incidence and population estimates (see table 3).
- 2.3.2 The incidence figures in table 1 above have been aligned with the age groups identified in the guidance. Statistics for incidence specifically relating to these age groups are not available; however, an approximation could be made by using data available for 15- to 16-year-olds for children and young people (Hawton 2002), and 16- to 74-year-olds for adults (Information centre for health and social care 2007) – see table 3 below. These figures can be adjusted to reflect local estimates in the costing template.
- 2.3.3 The methods of self-harm can be divided into two broad groups: self-poisoning and self-injury. Of those who self-injure, cutting is the most common method (Hawton 2002). Not all people who self-

harm present to medical services; this is because in the majority of cases the self-harm may not require emergency treatment (Hawton 2006). It has been assumed that people who present to hospital are those people who are identified for assessment and who may need longer-term management. This may be an under-estimate because some people can present to primary care GP services. This number would be difficult to estimate because these people may present to their GP for a condition that their self-harming is associated with, for example depression. A recent study found there is an 84% prevalence of psychiatric disorder in people who self-harm (Hawton 2011). Table 3 shows the estimated numbers who present to hospital when applied to the numbers from table 2 above.

**Table 3 Estimated numbers who present to hospital**

<b>Age group</b>	<b>Percentage</b>	<b>Numbers</b>
Children and young people aged 8 to 17		
Boys	12.6	15,001
Girls	12.6	49,706
<b>Subtotal</b>		<b>64,707</b>
Adult males aged 18 and over	30	29,541
Adult females aged 18 and over	29	60,585
<b>Subtotal</b>		<b>90,126</b>
<b>Total</b>		<b>154,833</b>

2.3.4 To test the reasonableness of this estimate, A&E data for 2009/10 can be used. The number of A&E attendances specifically relating to self-harm were 108,312, the number of A&E attendances for poisoning (including overdose) were 127,240 (HES online 2009/10). This totals around 235,500 attendances. Because attendances for poisoning may include accidental poisoning or overdose including drug or substance misuse and alcohol poisoning (not included within the scope of this guideline), this figure needs to be reduced. The number of acute admissions in 2009/10 for poisoning by 4-aminophenol derivatives (paracetamol) and other non-steroid anti-inflammatory drugs that are widely

available (ICD10 codes T39.1 to T39.3) were around 45,700 (HES online 2009/10). Adding this to the number of A&E attendances gives 154,000 attendances.

## 2.4 **Basis of unit costs**

2.4.1 There is currently no national tariff for mental health services. Mental health commissioners may have block contracts with service providers and use reference costs for pricing activities. Therefore in the absence of a national tariff for mental health, 2009/10 reference costs have been used. These have not been inflated because of the public-sector inflation freeze. Table 4 below shows the unit costs used in the template.

**Table 4 Costs to deliver assessments/interventions**

Activity	Reference cost 2009/10	No. of sessions	Estimated cost £
Integrated comprehensive assessment of needs and risks <sup>a</sup>			
CYP aged 8 to 17	393	1	393
Adults	212	1	212
Seven sessions of a psychological intervention <sup>b</sup>			
CYP aged 8 to 17	229	7	1603
Adults	135	7	945
<sup>a</sup> Assessment by mental health specialist – reference costs 2009/10 code MHCSFAA1 ‘Other services: Child: First attendance’ average cost £393. For adults the average cost 2009/10 is £212 (reference costs: ‘Other services: Adults: First attendance’). <sup>b</sup> Follow-up therapy sessions are taken from reference costs 2009/10. For children and adolescents (code MHCT2) the average cost is £135 per follow-up session; for adults (code MHCT4) the average cost per session is £229. Range of sessions is between 3 and 12; a mid-point of seven sessions is used in estimates. CYP: children and young people.			

2.4.2 Other costs for which local prices may need to be agreed between the provider and the commissioner, for example the cost of translation and interpreters, use recently published examples from a mental health service provider. These can be amended locally.

- 2.4.3 Using these prices in the absence of a tariff means the costs in the report are the estimated costs to the service provider, and may be more representative of the actual cost of delivering the activity.

### **3 Significant resource-impact recommendations**

#### **3.1 Access to services**

##### **Recommendation 1.1.5**

- 3.1.1 When language is a barrier to accessing or engaging with services for people who self-harm, provide them with:

- information in their preferred language and in an accessible format
- psychological or other interventions, where needed, in their preferred language
- independent interpreters.

##### **Background**

- 3.1.2 The period between 2001 and 2010 saw significant change in the UK's foreign-born population. In particular, the 2004 and 2007 enlargements of the European Union have led to mass migration from countries such as Bulgaria, Latvia, Romania, Poland, Slovakia and Lithuania (Office for National Statistics 2010). There are also a significant number of people entering the UK seeking asylum, although these numbers have been declining in recent years (Home Office 2009). There is a higher incidence of self-harm among asylum seekers (Cohen 2008) and some cultural minority groups, particularly young black women (Cooper 2010). The quality and availability of interpreters and translation services varies widely across England. It can be particularly difficult to source interpreters in less ethnically diverse areas (Mind 2009).

## **Assumptions made**

- 3.1.3 Based on expert opinion, it has been assumed that there is limited access to interpreters and translation services in mental health settings, particularly for longer-term treatments relating to self-harm for which the same person is needed while delivering therapies. Many service users rely on friends and family (Thom 2008). This may result in people not engaging with services because of the stigma attached to self-harming. To estimate the numbers of people who may need support, estimates published by the Office for National Statistics using 2001 census data have been used in the costing template. The size of the ethnic minority population in 2001 was 7.9% of the total population. This has been applied across the relevant age groups in the costing template. The figures produced are shown in table 5 below.
- 3.1.4 To identify the population who may need access to interpreting and translation services, school statistics on pupil characteristics have been used. These identify the percentage of pupils in primary and secondary state-funded schools whose first language is known or believed to be other than English (Department for Education 2011). The proportion expressed as a percentage of the total number of pupils in school is 14.5%. In the absence of figures for adults, this percentage has been applied across all age groups because it has been assumed that if it applies to children, it is likely to apply to the adult population who may be family or carers. The figures produced are shown in table 5 below.

## **Costs**

- 3.1.5 The costs of translating information and using interpreters to support interventions used in the costing template are taken from a mental health trust and a local community interpreting service. These are for example purposes and service providers should review and amend these to reflect local rates. The average cost of translating information per 1000 words is £113. A breakdown of

costs for each language group is provided in the template so that costs can be calculated locally for the number of items translated.

3.1.6 The estimated cost for an interpreter to attend assessments and therapy sessions is £43 for the first hour and an hourly rate of £27 thereafter. For 3 to 12 therapy sessions (see recommendation 1.4.8), the cost could range from £97 to £340. A mid-point of seven 1-hour sessions is used in the costing assumption. The total cost for seven sessions is therefore £205. Upper and lower cost ranges are explored in the sensitivity analysis.

**Table 5 Estimated numbers who may need support with accessing services and cost of interpreters**

Present to hospital	Numbers assessed after implementation (see table 7)	Percentage from black and ethnic minority groups	Numbers	Estimated proportion who have EAL	Numbers who are EAL and may need interpreters
CYP aged 8 to 17	55,001	7.9	4345	14.5%	630
Adults aged 18 and over	76,607	7.9	6052	14.5%	878
<b>Total</b>	<b>131,608</b>		<b>10,397</b>		<b>1508</b>
Activity			Numbers	Unit cost £	Total cost £000s
Assessment (2 hours) <sup>a</sup>			1508	70	105
Interventions			1508	205	309
<b>Total</b>					<b>414</b>
<sup>a</sup> Based on expert opinion, assessment time with patient is 2 hours, assumption interpreter not needed for write up and liaison with other services for comprehensive care plan.					
CYP: Children and young people; EAL: English as an additional language.					

3.1.7 Using the figures from Table 5 above, the estimated cost of implementing recommendation 1.1.5 together with recommendations 1.3.1 (assessment) and 1.4.8 (interventions) is calculated to be around £0.4 million. Although the cost is not significant nationally, in some areas there may be significant local costs.

- 3.1.8 The additional costs of interpreters and translation to improve access to services are costs that are initially borne by service providers; these may be passed on to commissioners after negotiation.

### **Other considerations**

- 3.1.9 There may be a higher proportion of adults who need access to translation and interpreter services than estimated. This is because not all people who migrate to the UK and who need access to these services will have children entering the education system. There may also be differences in the percentage of people from ethnic groups who self-harm; for example, there is a higher incidence of self-harm in young black women (Cooper 2010).
- 3.1.10 The assumptions allow for all people from ethnic and minority groups who are assessed to have access to an interpreter for assessment and follow-up services if needed. This ensures Equalities legislation is complied with, and may make allowance for any under-estimating of demand in the adult group who need access to services. Localities will need to review these estimates and amend them according to local circumstances using the assumptions worksheet.

## **3.2 *Integrated comprehensive assessment of needs and risks***

### **Recommendation 1.3.1**

- 3.2.1 Offer an integrated and comprehensive psychosocial assessment of needs (see recommendations 1.3.2–1.3.5) and risks (see recommendations 1.3.6–1.3.8) to understand and engage people who self-harm and to initiate a therapeutic relationship.

### **Background**

- 3.2.2 There are still wide variations in practice for providing specialist assessments for self-harm. Based on a recent survey carried out

by the Royal College of Psychiatrists in 2008 (Royal College of Psychiatrists 2010) around 62% of service users replying to the college said they had received a psychosocial assessment, although a third were dissatisfied with the quality of the assessment they had received. Multicentre research by Cooper et al. (2010) found that black and minority ethnic groups were less likely to receive psychiatric assessment and follow-up than the white group, having presented for treatment. NICE guidelines (Self-harm: short-term management 2004) and the Royal College of Psychiatrists (2004) both emphasise the need for all patients who self-harm to receive psychosocial assessment.

### **Assumptions**

3.2.3 Using data from the most recent survey carried out by the Royal College of Psychiatrists, it has therefore been assumed in the costing template that a further 38% of people who present to hospital after self-harming would need an integrated and comprehensive assessment of needs and risks. Expert opinion suggests that it may not be possible to provide an assessment in all cases because around 15% of people would leave the emergency department before being discharged. Using the estimates for people who present to hospital after self-harming (see table 4 above), implementing recommendation 1.3.1 could result in around 36,000 additional assessments (see table 6 below). This assumes that there are adequate procedures in place to ensure that appointments are not missed.

**Table 6 Estimated number of people who self-harm who receive assessment after implementation**

<b>Age group</b>	<b>Numbers</b>	<b>Percentage assessed</b>	<b>Numbers assessed</b>	<b>Current numbers assessed</b>	<b>Change</b>
Children and young people aged 8 to 17	64,707	85	55,001	40,118	14,883
Adults aged 18 and over	90,126	85	76,607	55,878	20,729
<b>Total</b>	<b>154,833</b>		<b>131,608</b>	<b>95,996</b>	<b>35,612</b>

## **Cost**

3.2.4 Applying the estimated cost per assessment of £393 for a child or young person aged 8 to 17 and £212 for an adult aged 18 and over (see table 4 above) produces an estimated additional cost of £10.2 million.

## **Other considerations**

3.2.5 Service providers currently performing assessments for self-harm may need to review these in light of the guidance to ensure they provide a comprehensive and integrated assessment of needs and risks. There may be additional costs associated with changing current practice for assessments in order to implement the guidance.

## **3.3 Interventions for self-harm**

### **Recommendation 1.4.8**

3.3.1 Consider offering 3 to 12 sessions of a psychological intervention that is specifically structured for people who self-harm, with the aim of reducing self-harm. In addition:

- The intervention should be tailored to individual need, and could include cognitive-behavioural, psychodynamic or problem-solving elements.

- Therapists should be trained and supervised in the therapy they are offering to people who self-harm.
- Therapists should also be able to work collaboratively with the person to identify the problems causing distress or leading to self-harm.

## **Background**

3.3.2 Self-harm is associated with a wide variety of psychiatric diagnoses and psychological problems. In routine clinical practice service users will receive a wide range of psychological interventions that may or may not focus primarily on their self-harm.

## **Assumptions**

3.3.3 The costing assumptions for people who may receive longer-term psychological interventions relate to people who repeatedly self-harm or people who are newly assessed to be at risk of repeating self-harm. This is because many presentations are one-off self-harm in response to stress. These people usually present with a small overdose, there is no evidence of mental illness and the person is often embarrassed by what they have done. These people are unlikely to attend follow-up appointments (example survey response, Royal College of Psychiatrists survey 2008).

3.3.4 Around 10–15% of children and adolescents aged under 16 who present to hospital for self-harm are self-harm repeaters (Nadkarni 2000). The mid-point of this figure of 12.5% has been used in the costing assumptions to approximate the current number of self-harm repeaters aged 8 to 17. The figure produced is approximately 5000 cases. To estimate future cases identified as a result of implementing the guidance, the upper limit of 15% has been used. The figure produced is approximately 8200 cases identified.

3.3.5 For adults, one in six hospital attendances for self-harm is repeated self-harm (Owens et al. 2002). The costing template therefore applies a percentage of 16.7% for adults relating to current

numbers identified. The figure produced is approximately 9300 cases. To estimate future cases identified as a result of implementing the guidance, an analysis of 30 studies has been used. This suggests a range of repetition of between 6% and 30% (NHS Centre for Reviews and Dissemination 1998), therefore the upper limit of 30% has been used in the costing template. This takes into account new cases identified where there may be some risk of repeating self-harm. The figure produced is approximately 23,000 future cases identified.

3.3.6 Implementing recommendation 1.4.8 could lead to more cases of repeated self-harm being followed up with psychiatric interventions. It has been assumed that currently only around 51% of people who repeatedly self-harm receive follow-up services (Bennewith 2004). This is around 7300 people. To fully implement the guideline, additional services for longer-term interventions may need to become available. The estimates for additional demand on services are given in table 7 below.

3.3.7 The estimated number of people who may be offered interventions after implementing the guideline has been adjusted in the costing template for the percentages of people who take up psychiatric help. Data for the specific age groups defined in the guideline are unavailable; therefore, approximate figures have been used. For age groups 8 to 17, around 60% would present to educational services and may then be followed up by social services; the percentage who may use services in primary care (and who may also receive specialist healthcare services) is 35% (Office for National Statistics 2001). The percentage used relates to 11- to 15-year-olds because the rate of self-harm among younger children aged 5 to 10 is low. For adults aged 18 and over, this percentage is 44% (Adult Psychiatric Morbidity Survey 2007). Using these assumptions, there is an estimated increase in the number of

people who take up follow up interventions of around 5700 people (see table 7 below).

**Table 7 Estimated additional number of people who self-harm who may be offered and who take up interventions after implementation**

	<b>Numbers assessed</b>	<b>Proportion referred</b>	<b>Numbers</b>	<b>Take up of interventions</b>	<b>Numbers</b>
<b>Current numbers receiving follow-up care</b>					
CYP aged 8 to 17	40,118	12.5%	5015	51%	2558
Adults aged 18 and over	55,878	16.7%	9313	51%	4750
<b>Total</b>	<b>95,996</b>		<b>14,328</b>		<b>7308</b>
<b>Future numbers after implementation</b>					
CYP aged 8 to 17	55,001	15%	8250	35%	2888
Adults aged 18 and over	76,607	30%	22,982	44%	10,112
<b>Total</b>	<b>131,608</b>		<b>31,232</b>		<b>13,000</b>
<b>Change</b>					+330
CYP aged 8 to 17					
Adults aged 18 and over					+5362
<b>Total</b>					<b>+5692</b>
<b>CYP: children and young people.</b>					

3.3.8 The estimated number of people currently receiving longer-term interventions relates to existing cases of self-harm. The future uptake of interventions relates to new cases identified as a result of implementing the guidance and existing cases of self-harm repeaters. The percentage of uptake is lower because many more people will be offered follow up in the future and a lower proportion might actually take up interventions.

## Cost

3.3.9 The estimated cost of longer-term interventions for self-harm depends on the person and the number of therapies they may need. Recommendation 1.4.8 provides for a range of between 3 and 12 sessions. The costing work therefore assumes a mid-point of seven sessions which can be adjusted to reflect local experience. For children and young people the cost of seven sessions of therapy is £1603; for an adult the cost is £945 (see table 4 above). Table 8 below shows the estimated resource impact of implementing recommendation 1.4.8.

**Table 8 Estimated cost of longer-term treatment for self-harm**

	<b>Additional numbers who may receive longer-term interventions</b>	<b>Estimated cost of interventions per case</b>	<b>Total cost £000s</b>
CYP aged 8 to 17	330	1603	529
Adults aged 18 and over	5362	945	5068
<b>Total</b>	<b>5692</b>		<b>5597</b>
CYP: children and young people.			

## Potential savings and benefits

3.3.10 Engaging the person in therapies to reduce their self-harming may avoid them presenting to A&E and being admitted to hospital. The savings may be realised by service providers of ambulance and hospital-based services. The cost of an admission to hospital for self-harm can range from £204 to £4231, depending on the level of injury and complications (NHS Reference Costs 2009/10 and Mandatory Tariff 2011/12); the cost of someone attending A&E is £110. This applies the most relevant cost categories 'Category 2 investigation with category 1 or 2 treatment' (Mandatory Tariff 2011/12 codes VB07Z and VB08Z), and ambulance call-outs cost on average £246 per call-out (NHS Reference Costs 2009/10). Although the evidence that longer-term interventions reduce self-

harm is limited, there are some trial data from UK trials that suggest some interventions such as problem-solving therapy could reduce self-harm (Hawton et al. UK trial 1987; Salkovskis et al. 1990; McLeavy et al. 1994). Table 9 below shows the typical costs that could be avoided by reducing or preventing self-harm.

**Table 9 Typical costs that could be avoided by implementing the guidance**

Description	Reference	Non-elective tariff £
A&E attendance	VB07Z and VB08Z	110
Ambulance transfer cost	Reference cost 2009/10	246
Intensive care cost per day	Reference costs 2009/10 XC07Z Adult critical care 0 organs supported	710
	XB05Z Pediatric critical care – intensive care basic	2225
Treatment for poisoning	WA11V – major complications	2200
	WA11X – intermediate complications	611
	WA11Y – without complications	387
Treatment for other wounds or injuries	HD35A – major complications	4231
	HD35B – intermediate complications	4231
	HD35C – without complications	514

3.3.11 Longer-term treatment that may reduce self-harm could have wider economic benefits. The indirect economic costs of self-harming behaviour to an individual and their family are unknown, but are likely to be substantial, especially in terms of days lost from work and other activities, including family responsibilities. There are also significant benefits for individuals because longer-term therapies may assist them to stay in work and improve their quality of life.

### Other considerations

3.3.12 There may be other costs associated with ongoing training of mental health professionals involved with people who self-harm (see recommendation 1.1.10). These costs are likely to vary significantly and could not be estimated.

## **4 Sensitivity analysis**

### **4.1 Methodology**

- 4.1.1 There are a number of assumptions in the model for which no empirical evidence exists; these are therefore subject to a degree of uncertainty.
- 4.1.2 Appropriate minimum and maximum values of variables were used in the sensitivity analysis to assess which variables have the biggest impact on the net cost or saving. This enables users to identify the significant cost drivers.
- 4.1.3 It is not possible to arrive at an overall range for total cost because the minimum or maximum of individual lines are unlikely to occur simultaneously. We undertook one-way simple sensitivity analysis, altering each variable independently to identify those that have greatest impact on the calculated total cost.
- 4.1.4 Appendix B contains a table detailing all variables modified and the key conclusions drawn are discussed below.

### **4.2 Impact of sensitivity analysis on costs**

#### **Current percentage of people who receive a psychiatric assessment after implementation**

- 4.2.1 Applying a 10% variation to the percentage of people who currently receive a psychiatric assessment after self-harming from 62% to a minimum of 52% and a maximum of 72% produces minimum costs of £43,000 and maximum costs of £20,000 respectively for a population of 100,000. This represents a change in cost of £23,000 per 100,000 population. The 10 % variation used reflects that current practice varies widely, and this estimate has a significant impact on costs because it is driven by the numbers presenting to hospital for self-harm.

## **Future percentage of people who receive psychiatric assessment after implementation**

4.2.2 Varying the percentage of people who may receive a psychiatric assessment after implementation of the guidance from 85% to a minimum value of 72% (Bennewith 2004) to a maximum value of 98% produces minimum costs of £16,000 and maximum costs of £47,000 respectively for a population of £100,000. This represents a change in cost of £31,000 per 100,000 population. The reason for the high sensitivity of this estimate is because the number of people assessed in future has a greater impact on activity and costs.

## **Average number of therapy sessions needed for longer term interventions.**

4.2.3 Using the range provided in recommendation 1.4.8 of providing a minimum of 3 sessions to a maximum of 12 sessions of a psychological intervention produces minimum costs of £25,000 and maximum costs of £39,000 per 100,000 population. This represents a change of £14,000 per 100,000 population. The reason for the high cost variation is because of the high unit cost of therapy which is £229 per session for children and young people aged 8 to 17 and £135 for adults aged 18 and over.

# **5 Impact of guidance for commissioners**

5.1.1 Mental health services are currently outside the scope of payment by results (PbR) and subject to local price negotiation. Work is being carried out by the Department of Health on developing mental health currencies. Commissioners may wish to look at contracts with mental health trusts and psychosocial therapy providers and how these are structured in order to encourage collaborative working, particularly for children and young people who may need to continue treatment beyond 18 years.

Implementing the guidance may require commissioners to make additional investment in mental health services for self-harm.

- 5.1.2 For programme budgeting purposes, costs would fall under category 205X 'Other mental health disorders'.

## **6 Conclusion**

- 6.1.1 The recommendations aim to improve the assessment and longer-term care of people who self-harm. This includes improving access to services and ensuring collaborative working in the delivery of care plans. It is anticipated that by performing integrated and comprehensive assessments of needs and risks and making services more accessible, people who regularly self-harm would engage more with longer-term therapies. There are likely to be costs involved for some localities in providing comprehensive assessments to people who self-harm where this is not current practice, and ensuring coordinated delivery of interventions. Potential costs avoided and benefits could be significant to both the NHS and the wider economy. Examples are reduced hospital admissions, A&E attendances and ambulance call-outs, and wider economic benefits such as improvements in social or occupational functioning.

### **6.2 *Total national cost for England***

- 6.2.1 Using the significant resource-impact recommendations shown in table 10 and assumptions specified in section 3 we have estimated the annual cost impact of implementing these recommendations in England to be a cost of £16 million. Table 10 shows the breakdown of cost of each significant resource-impact recommendation.

**Table 10 Recommendations with significant resource impact**

Estimated recurrent annual costs of longer-term management for people who self-harm							
Area of care	Unit cost	Current		Proposed		Change	
		Numbers of patients	Cost (£000)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Access to services rec. 1.1.5	£70 <sup>a</sup> / £205 <sup>b</sup>	–	–	1508	414	1508	414
Psychosocial assessment (rec. 1.3.1)							
CYP aged 8 to 17	£393	40,118	15,766	55,001	21,615	14,883	5849
Adult 18 and over	£212	55,878	11,846	76,607	16,241	20,729	4395
<b>Subtotal</b>		95,996	27,612	131,608	37,856	35,612	10,244
Longer-term treatment and management <sup>c</sup> (rec. 1.4.8)							
CYP aged 8 to 17	£1603	2558	4100	2888	4629	330	529
Adult 18 and over	£945	4750	4488	10,112	9556	5362	5068
<b>Subtotal</b>		7308	8588	13,000	14,185	5692	5597
<b>Total estimated costs for provider organizations</b>			<b>36,200</b>		<b>52,455</b>		<b>16,255</b>

<sup>a</sup> Unit cost of £70 relates to the cost of an interpreter for a psychosocial assessment.  
<sup>b</sup> Unit cost of £205 relates to interpreter costs for interventions.  
<sup>c</sup> Longer-term management assumes a mid-point number of seven sessions per service user.  
CYP: children and young people.

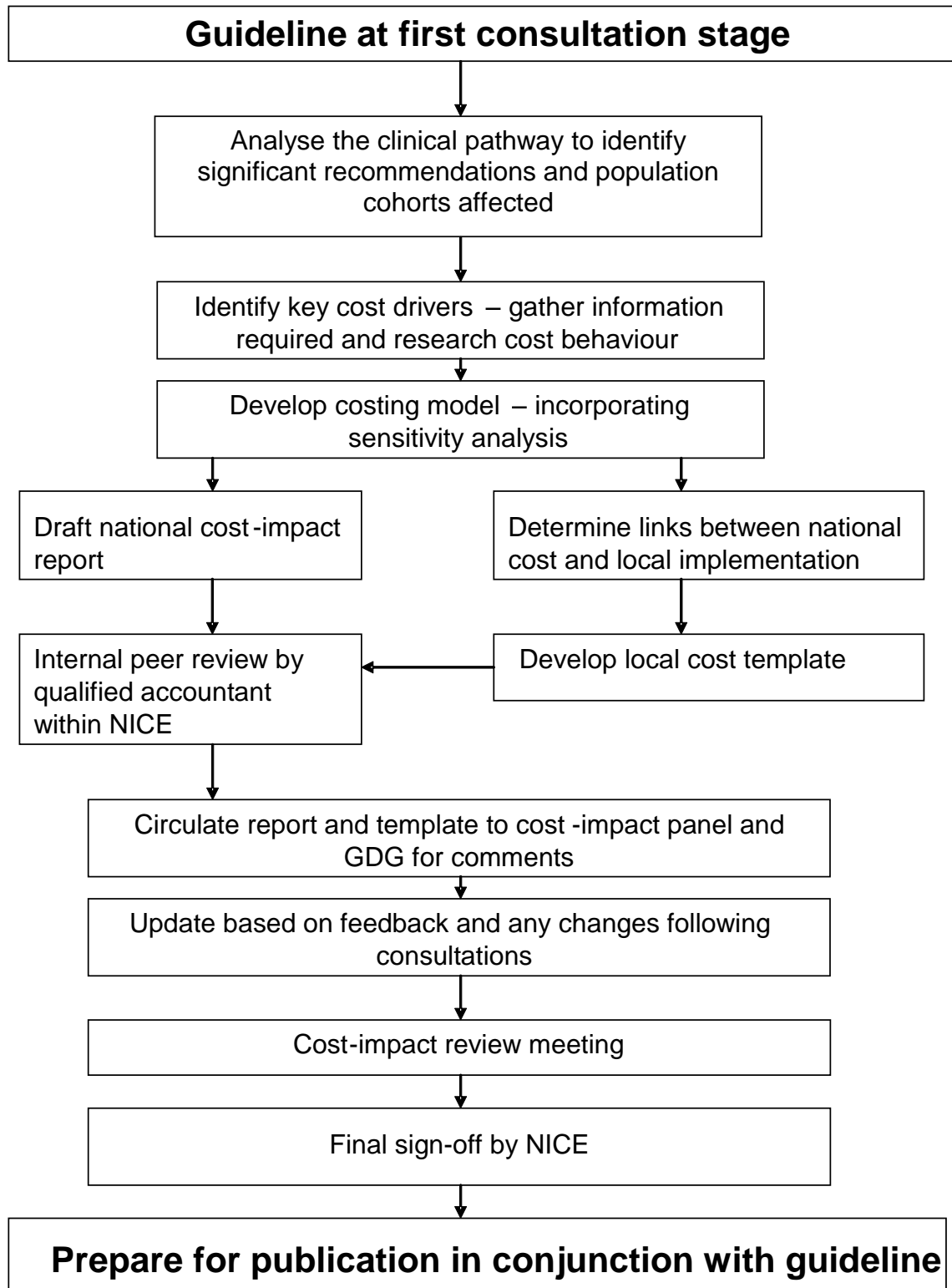
6.2.2 The costs presented are estimates and should not be taken as the full cost of implementing the guideline.

### 6.3 *Next steps*

6.3.1 The local costing template produced to support this guideline enables organisations such as primary care trusts or health boards in Wales and Northern Ireland to estimate the impact locally and replace variables with ones that depict the current local position. A sample calculation using this template showed that a population of

100,000 could expect to incur additional costs of around £31,500.  
Use this template to calculate the cost of implementing this  
guidance in your area.

## Appendix A. Approach to costing guidelines



## Appendix B. Results of sensitivity analysis

### Sensitivity analysis - Population of 100,000

Table 1 shows the sensitivity of the total cost of implementation to changes in each variable individually. (If there are two variables that make up 100% between them, they have been varied together to ensure the model remains realistic).

The sensitivity ratio allows comparison of the variables by analysing the percentage changes in the variables and outturn. The closer the ratio is to 1, the more sensitive the overall cost is to fluctuations in the variable.

	Baseline value	Minimum value	Maximum value	Recurrent costs				Sensitivity ratio
				Baseline costs (£000's)	Minimum costs (£000's)	Maximum costs (£000's)	Change (£000's)	
Incidence of self-harm: males aged 8 to 17	3.2%	2.20%	4.20%	32	31	33	2	0.03
Incidence of self-harm: females aged 8 to 17	11%	8.10%	14.10%	32	29	34	5	0.09
Recent self-harm / suicidal attempt: Males aged 18 and over	0.5%	0.30%	0.70%	32	29	34	5	0.06
Recent self-harm / suicidal attempt: Females aged 18 and over	1.0%	0.80%	1.20%	32	29	34	5	0.12
Proportion who present to hospital: CYP aged 8 to 17	12.6%	10.20%	15.00%	32	29	34	5	0.13
Proportion who present to hospital: Males aged 18 and over	30.0%	25.00%	35.00%	32	30	33	3	0.09
Proportion who present to hospital: Females aged 18 and over	29.0%	24.00%	34.00%	32	29	34	5	0.14
Current proportion who receive psychiatric assessment after presentation to hospital	62.0%	52.00%	72%	32	43	20	-23	0.70
Future proportion assessed after implementation	85.0%	72.00%	98%	32	16	47	31	1.00
Proportion of CYP aged 8 to 17 currently referred for follow up	12.5%	10.00%	15%	32	33	30	-3	0.07
Proportion of adults aged 18 and over currently referred for follow up	16.7%	14.17%	19.17%	32	33	30	-3	0.10
Future proportion of CYP aged 8 to 17 referred for follow up	15.0%	12.50%	17.50%	32	30	33	3	0.09
Future proportion of adults aged 18 and over referred for follow up	30.0%	25.00%	35.00%	32	28	35	7	0.21
Current proportion who may be receiving follow up care	51.0%	46.00%	56.00%	32	33	30	-3	0.15
Future take up of follow up care: CYP aged 8 to 17	35.0%	30.00%	40.00%	32	30	33	3	0.10
Future take up of follow up care: Adults aged 18 and over	44.0%	39.00%	49.00%	32	29	34	5	0.22
Proportion of children, young people and adults from black and ethnic minority groups	7.9%	6.90%	8.90%	32	31	32	1	0.04
Proportion of children, young people and adults from black and ethnic minority groups who need support accessing services	14.5%	12.50%	16.50%	32	31	32	1	0.04
Average number of therapy sessions needed for longer term interventions	7	3	12	32	25	39	14	0.11

## Appendix C. References

- Bennewith O, Gunnell D, Peters T et al. (2004) Variations in the hospital management of self harm in adults in England: observational study. *British Medical Journal* 328 (7448): 1108–9
- Cohen J (2008) Safe in our hands? A study of suicide and self-harm in asylum seekers. *Journal of Forensic and Legal Medicine* 15: 234–44
- Cooper J, Murphy E, Webb R et al. (2010) Ethnic differences in self-harm, rates, characteristics and service provision: three city cohort study. *British Journal of Psychiatry* 197(3): 212–18
- Curtis L (2010) Unit costs of health and social care. Personal Social Services Research Unit (PSSRU). Available from [www.pssru.ac.uk/uc/uc.htm](http://www.pssru.ac.uk/uc/uc.htm)
- Department for Education (2011) Schools, pupils and their characteristics. Available from [www.education.gov.uk/rsgateway/DB/SFR/s001012/index.shtml](http://www.education.gov.uk/rsgateway/DB/SFR/s001012/index.shtml)
- Hawton K, McKeown S, Day A et al. (1987) Evaluation of out-patient counseling compared with general practitioner care following overdoses. *Psychology Medicine* 17: 751–61
- Hawton K, Rodham K, Evans E et al. (2002) Deliberate self-harm in adolescents: self report survey in schools in England. *British Medical Journal* 325 (7374): 1207
- Hawton et al. (2011) Prevalence of psychiatric disorder in patients who self harm; systematic review. Adopted in NICE full guideline ‘Self-harm longer-term management’ for narrative review
- McLeavey BC, Daly RJ, Ludgate JW et al. (1994) Interpersonal problem solving skills training in the treatment of self-poisoning patients. *Suicide Life Threatening Behavior* 24: 382–94
- Mind (2009) A civilized society. Mental health provision for refugees and asylum-seekers in England and Wales. London: Mind
- National costing report: Self-harm: longer-term management

Nadkarni A, Parkin A, Dogra N et al. (2000) Characteristics of children and adolescents presenting to accident and emergency departments with deliberate self-harm. *Journal of Accident and Emergency Medicine* 17(2): 98–102

National Schedule of Reference Costs (2009–10) NHS Trusts and PCTs combined data

NHS Information Centre for Health and Social Care (2008) Personal correspondence to NSPCC

NHS Mandatory Tariff 2011/2012 for accident and emergency attendances

Office for National Statistics (2001) Children and adolescents who try to harm, hurt or kill themselves. London: Department of Health

Office for National Statistics (2010) Estimated population resident in the United Kingdom, by country of birth April 2009 to March 2010. Newport: Office for National Statistics

Owens D, Horrock J, Hous A (2002) Fatal and non fatal repetition of self-harm: systematic review. *British Journal of Psychiatry* 181: 193–9

Royal College of Psychiatry (2008) Better services for people who self-harm. Wave 3 baseline data – key findings and recommendations

Royal College of Psychiatry (2010) Self-harm, suicide and risk: helping people who self-harm. Final report of a working group. College report CR158

Salkovskis PM, Atha C, Storer D (1990) Cognitive behavioural problem solving in the treatment of patients who repeatedly attempt suicide. A controlled trial. *British Journal of Psychiatry* 157: 871–6

The Information Centre for Health and Social Care (2007) Adult psychiatric morbidity in England: results of a household survey (Table 4.9). Leeds: The Information Centre for Health and Social Care

Thom N (2008) Using telephone interpreters to communicate with patients.  
Nursing Times 104(946): 28–9