

Drug misuse: psychosocial  
interventions and  
opioid detoxification

# Costing report

## Implementing NICE guidance

July 2007

NICE clinical guidelines 51 and 52



This costing report accompanies the clinical guidelines: 'Drug misuse: psychosocial interventions' (available online at [www.nice.org.uk/CG051](http://www.nice.org.uk/CG051)) and 'Drug misuse: opioid detoxification' (available online at [www.nice.org.uk/CG052](http://www.nice.org.uk/CG052))

**Issue date:** July 2007

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

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

The cost and activity assessments in the reports are estimates based on a number of assumptions. They provide an indication of the likely impact of the principal recommendations 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 to estimate local impact.

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## **Executive summary**

This costing report looks at the resource impact of implementing the NICE guidelines 'Drug misuse: psychosocial interventions' and 'Drug misuse: opioid detoxification' 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 working in the NHS.

### ***Supporting implementation***

The NICE clinical guidelines on drug misuse are supported by a range of implementation tools available on our website ([www.nice.org.uk/CG051](http://www.nice.org.uk/CG051) and [www.nice.org.uk/CG052](http://www.nice.org.uk/CG052) ) and detailed in the main body of this report. The tools for these guidelines have been integrated with tools for other NICE guidance on drug and substance misuse.

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

Because of the breadth and complexity of the guidelines, this report focuses on recommendations that are considered to have the greatest resource impact and therefore require the most additional resources to implement or can potentially generate savings. They are:

#### **Psychosocial interventions**

- behavioural couples therapy
- psychological treatments for comorbid anxiety and depression
- treatment for people in prison who have drug misuse problems.

#### **Opioid detoxification**

- the choice of setting for detoxification.

### ***Total cost impact***

The annual changes in revenue costs arising from fully implementing the guidelines are summarised in the table below.

<b>Recommendation</b>	<b>Guideline</b>	<b>Budget impact £000s</b>
Behavioural couples therapy	Psychosocial	1,542
Prison care: anxiety and depression	Psychosocial	995
Prison care: behavioural couples therapy	Psychosocial	421
<b>Total for psychosocial guideline</b>		<b>2,958</b>
The choice of setting for detoxification	Detoxification	10,447
<b>Resource impact of implementation</b>		<b>13,405</b>
Savings attributable to healthcare		4,142

Contingency management has not been included in the costing work. The guidance recommends that a number of demonstration sites are initially established. Implementing the contingency management recommendations in between four and six sites is unlikely to have material resource implications.

### ***Benefits and savings***

It can reasonably be expected that improved care for people who misuse drugs, specifically opioids, will be reflected in significant savings to the criminal justice system and the NHS.

- In England and Wales in 2003/04, class A drug use was estimated to cost around £15.4 billion in economic and social terms (Gordon et al. 2006).
- It is estimated that for every extra £1 spent on the treatment of drug misuse, there is a return of £3 in the cost savings associated with lower

victim costs of crime and reduced demands on the criminal justice system (Gossop et al. 2001).

- The total savings through implementing the guideline attributable to healthcare have been estimated as being £4.1 million.
- An additional £37.2 million of savings to society have been estimated but it should be highlighted that the majority of these savings will be outside of the NHS in the criminal justice system.

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

The costing template produced to support these guidelines 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 £28,932 could be incurred for a population of 100,000.

The costing template that accompanies this report allows local users to adjust the prevalence of drug misuse to reflect their health community.

# 1 Introduction

## 1.1 *Supporting implementation*

1.1.1 The NICE clinical guidelines on drug misuse are supported by the following implementation tools available on our website [www.nice.org.uk/CG051](http://www.nice.org.uk/CG051) and [www.nice.org.uk/CG052](http://www.nice.org.uk/CG052):

- costing tools
  - a national costing report; this document
  - a local costing template; a simple spreadsheet that can be used to estimate the local cost of implementation.
- a slide set; key messages for local discussion
- an implementation briefing, which explains the implementation support available and contains links to relevant tools/documents
- audit criteria.

The tools for these guidelines have been integrated with tools for other NICE guidance on drug misuse.

1.1.2 The NICE guidelines on drug misuse should be read in conjunction with the forthcoming publication 'Drug misuse and dependence – guidelines on clinical management: update 2007' (also known as the 'Orange Book'). See [www.nta.nhs.uk](http://www.nta.nhs.uk) for more information.

1.1.3 A practical guide to implementation, 'How to put NICE guidance into practice: a guide to implementation for organisations' is also available to download from the NICE website. It includes advice on establishing organisational level implementation processes as well as detailed steps for people working to implement different types of guidance on the ground.

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

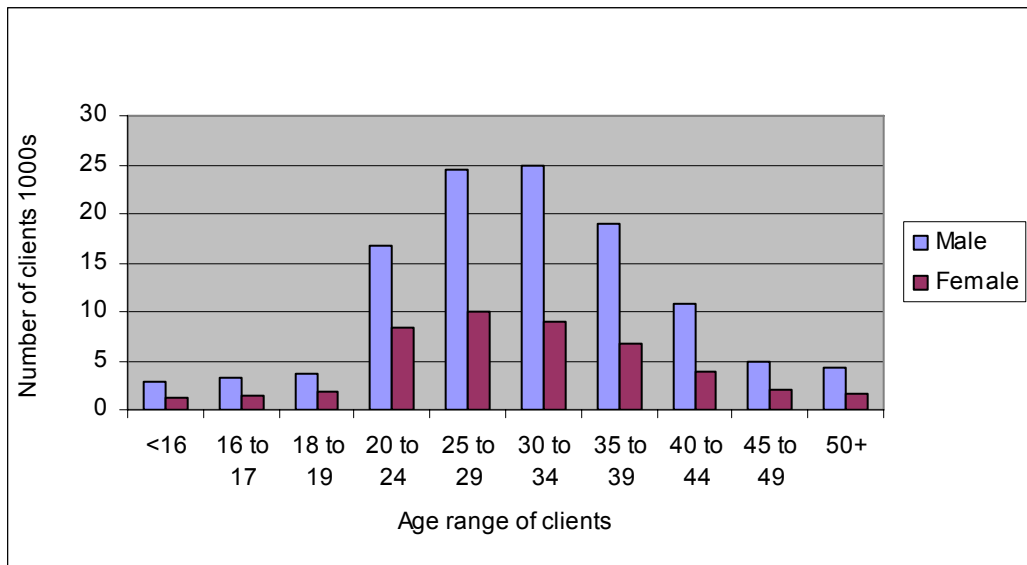
- 1.2.1 This report provides estimates of the national cost impact arising from implementation of guidance on drug misuse in England. These estimates are based on assumptions made about current practice and predictions of how current practice might change following implementation.
- 1.2.2 This report aims to help organisations plan for the financial implications of implementing NICE guidance.
- 1.2.3 This report does not reproduce the NICE guidelines on drug misuse and should be read in conjunction with them (see [www.nice.org.uk/CG051](http://www.nice.org.uk/CG051) and [www.nice.org.uk/CG052](http://www.nice.org.uk/CG052)).
- 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. NICE clinical guidelines are developmental standards in the Department of Health's document '[Standards for better health](#)'. The costing template may help inform local action plans demonstrating how implementation of the guideline will be achieved.

## **1.3 *Epidemiology of drug misuse***

- 1.3.1 In the UK, it has been estimated that around 4 million people use illicit drugs each year. Cannabis is by far the most commonly used, followed by cocaine and ecstasy (Roe and Man 2006). Opioid misuse occurs on a much smaller scale, but is associated with greater rates of harm than either cocaine or cannabis use.
- 1.3.2 For many people, initiation into drug use does not inevitably lead to regular and problematic misuse. There are different patterns of drug use, from intermittent 'recreational' use to dependent injection of heroin.

- 1.3.3 The large majority of people who misuse drugs do not present to drug treatment services, but they may present to acute medical services, the criminal justice system and social care agencies, often as a consequence of their drug misuse.
- 1.3.4 Recent estimates indicate that around 327,000 people can be defined as 'problem' drug users in the UK (that is, they misuse opioids and/or crack cocaine); of these, 280,000 misuse opioids (Hay et al. 2006).
- 1.3.5 Analysis of data for 2005/06 from the National Drug Treatment Monitoring System (NDTMS; [www.ndtms.net](http://www.ndtms.net)) indicates that 181,475 people were in contact with drug treatment services during that period, with about 61% of these receiving treatment for opioid misuse.
- 1.3.6 Figure 1 shows the age and gender of NDTMS clients in 2004/05. Over 70% of clients undergoing treatment were males.

**Figure 1 Age and gender distribution of NDTMS clients in treatment 2004/05**



- 1.3.7 In this costing report, the prevalence of problematic drug misuse in the population has been estimated using NDTMS output data for 2005/06. The NDTMS also identifies the main drug of misuse at

triage (table 1), and these data have also been used in the costing work. We have based the costing work on the population of people who misuse drugs who are known to treatment services, since basing it on the total number of people who misuse drugs, including those not known to treatment services, would result in an overestimation of implementation costs.

**Table 1 Main drug of misuse by age at triage for NDTMS clients 2005/06**

Drug	Aged under 18 years at triage		Aged 18 years or over at triage		Total clients	
	n	%	n	%	n	%
Heroin	686	5.9%	110,605	65.1%	111,291	61.3%
Methadone	15	0.1%	10,300	6.1%	10,315	5.7%
Other opioids	21	0.2%	4,701	2.8%	4,722	2.6%
Amphetamines	298	2.6%	5,183	3.1%	5,481	3.0%
Cannabis	8,894	76.2%	12,979	7.6%	21,873	12.1%
Cocaine	447	3.8%	8,213	4.8%	8,660	4.8%
Crack	193	1.7%	9,616	5.7%	9,809	5.4%
Other drugs	1,120	9.6%	8,194	4.8%	9,314	5.1%
Total	11,674	100%	169,791	100%	181,465	100%

1.3.8 The NICE guidelines do not specifically cover people younger than 16 years, although including them in the calculations is unlikely to make any material difference to the budget impact. Assuming that a similar number of NDTMS clients were under 16 in 2005/06 as in 2004/05, the potential overestimate would be about 3900 clients out of a total of 181,465 individuals (2%).

1.3.9 For 76% of clients under 18, the main drug of misuse is recorded as cannabis; this compares with 7.6% for clients aged 18 and over. Conversely, heroin is recorded as the main drug of misuse for only 5.9% of individuals under 18, compared with 65% of those aged 18 and over.

1.3.10 Drug misuse in England and Wales shows significant regional variation. In England, drug problems are most common within

vulnerable and disadvantaged communities (Healthcare Commission and National Treatment Agency for Substance Misuse 2006). The costing template that accompanies this report allows local users to tailor the costing work to local circumstances.

## **1.4 Models of care**

1.4.1 Detoxification from opioids can take place in a variety of settings, including the community, inpatient units, residential units and prisons. Inpatient detoxification is expensive to provide; this has led in a reduction in its availability, which in some areas of England is very limited.

## **2 Costing methodology**

### **2.1 Process**

2.1.1 We use a structured approach for costing clinical guidelines (see appendix A).

2.1.2 Information that has been systematically collected about the treatment received by clients in the NDTMS, which is maintained and collected by the National Treatment Agency for Substance Misuse (NTA), has been used wherever possible in this report and in the costing model. Where data have not been routinely collected or are not available from other sources, this led to problems in building a comprehensive bottom-up model for costing. To overcome this limitation, we had to make assumptions in the costing model. We developed these assumptions and tested them for reasonableness with members of the Guideline Development Group (GDG) and key clinical practitioners in the NHS.

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

2.2.1      The guidelines offer best practice advice on the care of adults who misuse drugs and receive psychosocial interventions or undergo opioid detoxification.

2.2.2      Due to the breadth and complexity of the guidelines, 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.

2.2.3      The recommendations relating to contingency management have not been included in the costing work. The guidance recommends that a number of demonstration sites are initially established. Implementing the contingency management recommendations in between four and six sites is unlikely to have material resource implications.

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

<b>High-cost recommendation</b>	<b>Guideline</b>	<b>Recommendation number in NICE guideline</b>	<b>Key priority?</b>
Behavioural couples therapy should be considered for people who are in close contact with a non-drug-misusing partner and who present for treatment of stimulant or opioid misuse.	Psychosocial	1.4.4.1	No
Evidence-based psychological treatments (in particular, cognitive behavioural therapy) should be considered for the treatment of comorbid depression and anxiety disorders for people who misuse cannabis or stimulants, and for those who have achieved abstinence or are stabilised on opioid maintenance treatment.	Psychosocial	1.4.6.2	No
For people in prison who have drug misuse problems, treatment options should be comparable to those available in the community. Healthcare professionals should take into account additional considerations specific to the prison setting, which include: - the length of sentence or remand period, and the possibility of unplanned release - risks of self harm, death or post-release overdose.	Psychosocial	1.5.2.2	No
Staff should routinely offer a community-based programme to all service users considering opioid detoxification. Exceptions to this may include service users who: - have not benefited from previous formal community-based detoxification - need medical and/or nursing care because of significant comorbid physical or mental health problems - require complex polydrug detoxification, for example concurrent detoxification from alcohol or benzodiazepines - are experiencing considerable	Detoxification	1.4.1.1	Yes

social problems that may significantly limit the benefit of community-based detoxification.			
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- 2.2.4 Five of the recommendations in the detoxification guideline and seven in the psychosocial guideline have been identified as key priorities for implementation.
- 2.2.5 It is assumed that providing brief interventions focused on motivation to people in limited contact with drug services, as recommended in the psychosocial interventions guideline, will not have material costs associated with implementation. The associated cost would only be the additional staff time, as the actual initial attendance would already be taking place. Providing information about self-help groups is also likely to have minimal costs associated with implementation.
- 2.2.6 The cost impact of the recommendation about the choice of medication in the detoxification guideline has not been investigated, as it is understood that the recommendation reflects current practice. Following discussions with clinicians, it is also concluded that ultra-rapid detoxification is currently not undertaken in the NHS, so no savings are realisable through disinvestment.
- 2.2.7 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. Where applicable, any realisable cost savings arising from a change in practice have been offset against the cost of implementing the change.

## **Contingency management**

- 2.2.8 Contingency management is a set of techniques that focus on changing specified behaviours. In drug misuse, it involves offering incentives for positive behaviours such as abstinence or a reduction in illicit drug use, and participation in health-promoting interventions.
- 2.2.9 A variety of incentives have proved effective in contingency management programmes, including vouchers (which can be exchanged for goods or services of the service user's choice), privileges (for example, take-home methadone doses) and modest financial incentives.
- 2.2.10 The current costing work has not looked at the implementation costs associated with contingency management. The psychosocial interventions guideline recommends that initially a number of demonstration sites are established. It is unlikely that establishing between four and six demonstration sites will have material cost implications.
- 2.2.11 Successful implementation of contingency management with the aim of increasing the uptake of interventions to improve physical health could produce financial savings.

## **2.3 *General assumptions made***

- 2.3.1 The model is based on the number of people who misuse drugs who receive treatment for their drug problem (see table 1).

## **2.4 *Basis of unit costs***

- 2.4.1 The unit costs for providing drug treatment services, where available, have been provided by the NTA.

- 2.4.2 For new or developing services, where there is no national average unit cost, organisations already undertaking this activity have been asked their current unit cost.
- 2.4.3 It is assumed that behavioural couples therapy will be provided by a clinical psychologist, with a unit cost per clinical session ranging from £50 to £134; for the purpose of this report, the midpoint value of £92 has been used.
- 2.4.4 The cost per episode of inpatient detoxification has been supplied by the NTA, and ranges from £3000 to £4500. In the costing work the mean value of £4100 has been used; upper and lower costs were investigated in the sensitivity analysis.
- 2.4.5 Inpatient detoxification costs are for a total package of care, and so will represent fully absorbed costs, including staffing and the intensive support that is associated with this care.

### **3 Cost of significant resource-impact recommendations: psychosocial interventions**

#### **3.1 *Behavioural couples therapy***

##### **Background**

- 3.1.1 Behavioural couples therapy should be considered for people who are in close contact with a non-drug-misusing partner and who present for treatment of stimulant or opioid misuse (including those who continue to use illicit drugs while receiving opioid maintenance treatment or after completing opioid detoxification). The intervention should:

- focus on the service user's drug misuse

- consist of at least 12 weekly sessions.

3.1.2 Couples interventions involve the spouse or partner expressing active support for the person who misuses drugs in reducing their drug misuse. Couples are helped to improve their relationship through more effective communication skills.

### **Assumptions made**

3.1.3 The number of people who misuse drugs who present for treatment for stimulant or opioid misuse has been taken from the NDTMS, as outlined in table 3.

**Table 3 Main drug of misuse at triage**

Drug of misuse at triage	Number of clients
Heroin	111,291
Methadone	10,315
Other opioids	4,722
Amphetamines	5,481
Cocaine	8,660
Crack	9,809
Total	150,278

3.1.4 Of the 150,278 people identified, not all will be in contact with a non-drug-misusing partner: a significant number will be single, and some will have partners who also misuse illicit drugs.

3.1.5 The proportion of people who misuse drugs and who are married or living with a partner is estimated at 28%. Of this group, 45% have a partner who is currently misusing drugs (Gossop et al. 2001).

3.1.6 Of those couples who are potentially eligible, a significant number may not benefit from behavioural couples therapy and therefore would not be considered for this treatment. Estimating the percentage of couples who would benefit was subject to a significant degree of uncertainty, and estimates ranged from 20%

to 60%; the midpoint value of 40% has been used in the costing model.

3.1.7 Discussions with clinicians suggest that not all people who misuse drugs and/or their partners would accept the offer of behavioural couples therapy. Estimates of the number who would accept the offer of therapy ranged from 10% to 30%; the midpoint value of 20% has been used in the model.

**Table 4 Estimated number of couples who would receive behavioural couples therapy**

Total number of people who misuse drugs	% in contact with a non-drug-misusing partner	Estimated % of couples who would benefit	% of couples who would accept offer of therapy	Proposed number to receive therapy
150,278	15%	40%	20%	1803

3.1.8 It is estimated that a significant number of the 1803 couples identified in table 4 will drop out of therapy. For the purpose of this report it is assumed that between 20% and 40% of the couples identified will drop out of treatment after around three sessions; the midpoint value of 30% has been used in the costing model.

**Table 5 Drop-out rate for behavioural couples therapy**

Number of couples	% dropping out after 3 sessions	Number dropping out after 3 sessions	Number receiving 12 sessions
1803	30%	541	1262

3.1.9 The unit cost for behavioural couples therapy has been taken from the economic model that accompanies the guideline and costs provided by the NTA, and ranged from £49 to £134 per session. The midpoint value of £92 has been used in the costing work.

## Cost summary

**Table 6 Resource impact of behavioural couples therapy**

	Number of couples	Number of sessions	Cost per session	Total cost £000s
	541	3	£92	149
	1262	12	£92	1393
Total	1803			1542

3.1.10 The estimated budget impact of implementing this recommendation is £1.5 million, as outlined in table 6.

### Other considerations

3.1.11 On the basis of discussions with clinicians, it is assumed that behavioural couples therapy for drug misuse is not currently widely used in England. Therefore no costs have been offset to allow for the current use of this intervention.

3.1.12 The sensitivity analysis included in the accompanying costing template investigates the financial effect of increased uptake and reduced dropout rates.

## **3.2 *Therapy for anxiety and depression***

### **Background**

3.2.1 Evidence-based psychological treatments (in particular, cognitive behavioural therapy) should be considered for the treatment of comorbid depression and anxiety disorders in line with existing NICE guidance for people who misuse cannabis or stimulants, and for those who have achieved abstinence or are stabilised on opioid maintenance treatment.

3.2.2 Significant rates of comorbidity between substance use disorders and mood and anxiety problems have been found in large multi-site community studies (Reiger et al. 1990).

### **Assumptions made**

- 3.2.3 Community studies of mood disorder and substance misuse found that the lifetime prevalence of major depression among people who misuse substances was much higher (24.3%) than that in the general population (5.8%) (Reiger et al. 1990).
- 3.2.4 An American study looking at depression and decision making among people who inject drugs, based on Beck Inventory Clinical cutoff scores, reported that 83% of the sample population showed some depression, with 23% being severely depressed, 39% moderately depressed and 21% mildly depressed (Joe et al. 1991).
- 3.2.5 A New Zealand study with a sample population of 1000 people aged 18–25 years found that of those respondents who admitted cannabis use, 22% reported panic attacks or anxiety (Thomas 1996).
- 3.2.6 Troisi et al. (1998) tested Italian army draftees to identify men who used cannabis but no other illicit drugs. All individuals with a pre-existing psychosis or severe personality disorder were excluded, and major depression was found in 14% of the remaining cannabis users.
- 3.2.7 Limited data are available on the incidence of depression among people who misuse stimulants, although the figure of 24.3% reported by Reiger et al. (1990) could be used as a proxy.
- 3.2.8 Costing work undertaken for NICE clinical guidelines 22 'Anxiety: management of anxiety (panic disorder, with or without agoraphobia, and generalised anxiety disorder) in adults in primary, secondary and community care' (published 2004; amended 2007; available from [www.nice.org.uk/CG022](http://www.nice.org.uk/CG022)) and 23 'Depression: management of depression in primary and secondary care' (published 2004; amended 2007; available from [www.nice.org.uk/CG023](http://www.nice.org.uk/CG023)) quantified the budget impact of

implementing these guidelines. The costing work did not look at the cost of implementation within prison populations.

- 3.2.9 Including additional calculations for the non-prison population would potentially cause a 'double count' of the costing work completed for the depression guideline ([CG23](#))

### **Cost summary**

- 3.2.10 See section 3.3 below for estimates of the cost of implementing this recommendation for prison populations.

## **3.3 *Prison care***

### **Background**

- 3.3.1 For people in prison who have drug misuse problems, treatment options should be comparable to those available in the community. Healthcare professionals should take into account additional considerations specific to the prison setting, which include:
- the length of sentence or remand period, and the possibility of unplanned release
  - risks of self-harm, death or post-release overdose. (1.5.2.2)
- 3.3.2 The transfer of prison health services in public sector prisons to the NHS was completed in April 2006.
- 3.3.3 Prisons contain a high concentration of people who have problems with drug misuse. It has been estimated that around 49,000 people who misuse drugs are in prison at any one time in the UK (National Treatment Agency for Substance Misuse 2006).
- 3.3.4 Discussions with clinicians responsible for the care of people who misuse drugs in prisons confirmed the opinion that psychosocial interventions are currently not widely available in this setting.

## **Assumptions**

- 3.3.5 It is likely that cognitive behavioural therapy (CBT) programmes will only be suitable for those prisoners serving longer sentences; for the purpose of this report a cut-off point of 6 months has been used.
- 3.3.6 In 2002, 95,000 people in total were given a prison sentence; of those, 53,000 were sentenced to 6 months or less. Assuming that of the total 49,000 people in prison who misuse drugs, about 50% were sentenced for less than 6 months, it can be estimated that approximately 24,500 prisoners would be suitable to receive CBT.
- 3.3.7 The costs of providing therapy for anxiety and depression and behavioural couples therapy for the estimated 49,000 people who misuse drugs in prison have been estimated.

## **Therapy for anxiety and depression**

- 3.3.8 The prevalence of severe depression and anxiety associated with drug misuse among the prison population has been estimated at 23% (Joe et al. 1991).
- 3.3.9 Following discussions with clinicians, it has been assumed that not all of the potential population would benefit from treatment. Estimates ranged from 20% to 60%; for the purpose of this report the midpoint value of 40% has been used, with the upper and lower figures being investigated in the sensitivity analysis (see costing template).
- 3.3.10 Of those prisoners who would benefit from CBT for their depression and/or anxiety, it is assumed that a significant number would not accept the offer of therapy. It is estimated that between 30% and 50% would accept CBT; the midpoint value of 40% has been used in the costing work.

**Table 7 Number of prisoners who would receive therapy for anxiety and/or depression**

Number of people in prison who misuse drugs	% serving less than 6 months	Prevalence of anxiety/depression due to drug misuse	Estimated % who would benefit from therapy	Estimated % who would accept offer of therapy	Number of prisoners to receive CBT
49,000	50%	23%	40%	40%	902

3.3.11 No calculations have been carried out for prisoners who do not attend or who drop out of therapy. This could be done at a local level if data or estimates are available.

3.3.12 It is assumed that the 902 prisoners receiving therapy will receive 12 sessions of CBT with a clinical psychologist. Limited cost data are available for providing therapy to prisoners; therefore the cost of providing 12 sessions outside prison has been used, which is £1104.

**Cost summary**

**Table 8 Cost of providing CBT for anxiety and depression in the prison population**

Number to receive therapy	Lower cost of 12 sessions	Upper cost of 12 sessions	Midpoint	Total cost of providing therapy £000s
902	£600	£1608	£1104	£995

3.3.13 The cost of providing CBT for anxiety and/or depression among people who misuse drugs in prison is estimated to be approximately £1 million (see table 8).

**Other considerations**

3.3.14 Providing increased psychosocial care within prisons may reduce the number of overdoses that occur following release from prison.

**Behavioural couples therapy**

3.3.15 Behavioural couples therapy may also be implemented in prisons for those prisoners and their partners who would benefit. For the

purpose of this report it is assumed that of the 49,000 people who misuse drugs in prison, about 50% would be serving sentences of less than 6 months and would therefore not be suitable for behavioural couples therapy.

- 3.3.16 The percentage of prisoners with non-drug-misusing partners has been estimated at about 13% (Gossop et al. 2001).
- 3.3.17 It is assumed that not all prisoners with non-drug-misusing partners would be suitable for behavioural couples therapy. For the purpose of this report it is assumed that about 40% would benefit from this intervention.
- 3.3.18 Of those eligible, not all will wish to participate, as behavioural couples therapy requires both partners to attend. It is assumed that only about 30% of those potentially eligible would receive behavioural couples therapy.

**Table 9 Number of prisoners who would receive behavioural couples therapy**

Number of people in prison who misuse drugs	% serving less than 6 months	% in contact with partner	Estimated % who would benefit from therapy	Estimated % who would accept offer of therapy	Proposed number to receive behavioural couples therapy
49,000	50%	13%	40%	30%	382

- 3.3.19 No adjustments have been made for prisoners who do not attend or who drop out of therapy. This could be done at a local level if data are available.

## **Cost summary**

**Table 10 Cost impact of behavioural couples therapy in prison**

Number to receive therapy	Lower cost of 12 sessions	Upper cost of 12 sessions	Midpoint	Cost of providing therapy £000s
382	£600	£1608	£1104	421

3.3.20 The cost of providing behavioural couples therapy for people in prison who misuse drugs has been estimated to be £0.42 million.

### ***Other considerations***

3.3.21 Costs additional to those identified may be incurred by the prison service in implementing this recommendation. An increase in staffing may be needed to monitor therapy sessions with prisoners and their partners. This potential cost would sit outside the NHS and so has not been included in this report.

## **4 Cost of significant resource-impact recommendations: opioid detoxification**

### ***4.1 Detoxification should be a readily available treatment option and the choice of setting for detoxification***

#### **Background**

4.1.1 Detoxification should be a readily available treatment option for people who are opioid dependent and have expressed an informed choice to become abstinent. (1.1.1.1)

4.1.2 Staff should routinely offer a community-based programme to all service users considering opioid detoxification. Exceptions to this may include service users who:

- have not benefited from previous formal community-based detoxification
- need medical and/or nursing care because of significant comorbid physical or mental health problems
- require complex polydrug detoxification, for example concurrent detoxification from alcohol or benzodiazepines
- are experiencing considerable social problems that will limit the benefit of community based detoxification. (1.4.1.1)

4.1.3 The choice of setting for opioid detoxification has major resource implications. Inpatient treatment is substantially more expensive than community-based detoxification, due to costs of hospitalisation and a more intensive pharmacological regime.

4.1.4 The majority of people who misuse opioids and who want to become abstinent are offered community detoxification as the first-line treatment, with inpatient detoxification usually only offered after community treatment has repeatedly failed (SCAN 2006).

4.1.5 Each drug membership partnership area may only send a relatively small number of clients to tier 4 treatment (defined as inpatient and residential rehabilitation substance misuse services) each year. As a proportion of its treatment population this may be as low as 5–10%.

4.1.6 The relatively small number of clients entering tier 4 treatments may reflect the fact that people who misuse opioids generally only begin formal detoxification following a period of stabilisation on a substitute opioid (such as methadone or buprenorphine) rather than a lack of service provision.

4.1.7 A large proportion of service users entering treatment are likely to be misusing more than one type of illicit drug. The NTORS (Gossop et al. 2001) reported that 81% of clients had used two or more of the main types of illicit drugs in the 3 months before uptake of treatment.

- 4.1.8 A significant proportion of clients are also likely to have an alcohol misuse problem: in the NTORS, 30% reported drinking levels classified as being problematic or high problematic.

### **Assumptions made**

- 4.1.9 Day et al. (2005) investigated the number of dedicated inpatient beds available for treatment of drug misuse. Their survey concluded that there are approximately 800 beds available nationally for drug detoxification, with approximately 10,700 admissions per year.
- 4.1.10 Day et al. (2005) reported that there are insufficient beds available for treating people who misuse drugs, particularly as 20% of the services only offered detoxification if the service user was entering a longer-term rehabilitation programme. Additionally, nearly 20% of the responders offering services were commercial organisations.
- 4.1.11 A study completed for the NTA in June 2005 also concluded that there is 'insufficient supply of Tier 4 provision (especially for inpatient detoxification) which fails to meet demand and varies sharply in regional availability' (Best et al. 2005).
- 4.1.12 The NTA report 'Tier 4 drug treatment in England: Summary of inpatient provision and needs assessment' estimated that the future provision of tier 4 services would need to increase from the 10,700 episodes of inpatient care identified by Day et al. (2005) to approximately 16,390 episodes, an increase of 5,690.

**Table 11 Increase in provision of inpatient detoxification episodes**

Current provision	Proposed	Change
10,700	16,390	5,690

- 4.1.13 Inpatient opioid detoxification currently takes place in a number of settings ranging from specialist inpatient units to more non-specialist settings (such as general medical/psychiatric wards). The

unit price per episode is likely to vary significantly depending on where the service is delivered.

### Cost summary

**Table 12 Resource impact of increased inpatient opioid detoxification**

		Proposed increase	
	Unit cost per episode	Number of episodes	Cost £000s
Inpatient detoxification	£4,100	5,690	23,329
Total			23,329

4.1.14 It is reasonable to assume that the increase in inpatient detoxification would be reflected by a reduction in community detoxification; that is, the additional 5690 inpatient episodes would be offset by a reduction of at least 5690 community detoxification episodes.

**Table 13 Resource impact of decreased community detoxification**

		Proposed decrease	
	Unit cost per episode	Number of episodes	Cost £000s
Community detoxification	£2,264	5,690	12,882
Total			12,882

4.1.15 The assumption that each episode of inpatient detoxification 'avoids' one community detoxification is a conservative estimate. The actual number of community detoxification episodes avoided could be much higher, with perhaps two episodes of community detoxification being avoided per episode of inpatient detoxification. This should be investigated further at a local level.

**Table 14 Net resource impact of increased use of inpatient detoxification**

	Proposed increase in inpatient detoxification £000s	Disinvestment in community detoxification £000s	Resource impact £000s
Detoxification	23,329	-12,882	10,447

4.1.16 The budget impact of providing additional inpatient detoxification is estimated as being £10.4 million, as calculated in table 14.

### **Other considerations**

4.1.17 The estimated cost of providing increased inpatient detoxification assumes that the service will be provided in specialist inpatient units. Providing some of this service in psychiatric or medical wards would lower the cost of implementation.

## **5 Benefits and savings**

### **5.1 Background**

5.1.1 It would seem reasonable to assume that increased expenditure on treatment for drug misuse would result in savings, although it should be highlighted that a large proportion of any savings achieved would sit outside the healthcare economy.

5.1.2 As highlighted in the full opioid detoxification guideline, the evidence base comparing detoxification in inpatient and community-based settings is limited, although there is some evidence suggesting that inpatient detoxification is more effective than community-based detoxification.

5.1.3 Gossop and Strang (2000) investigated the price, cost and value of opioid detoxification treatment in various settings. The study highlighted that although inpatient treatment is more expensive, the outcomes are better.

5.1.4 Detoxification outcome data taken from the study of Gossop et al. (1986) investigated detoxification completion rates for heroin-dependent service users. The outcome criterion measure was achieving a state of abstinence from opioids for a minimum period of 24 hours at the completion of the programme. Successful detoxification completion rates were 81% for people treated in an inpatient drug-dependence unit and 17% for people treated in an outpatient drug-dependence clinic.

## 5.2 *Assumptions made*

5.2.1 Neale et al. (2006) calculated the mean cost per person over a 6-month period for people who inject drugs; these were £931 in healthcare costs, £167 in social care costs, £693 in addiction service costs, and £4145 in criminal service costs. Thus the total cost to society was £5936 for 6 months, which equates to £11,872 per year.

5.2.2 Gordon et al. (2006) calculated the costs per year per 'problematic' drug user incurred by the health sector, by social care, and due to drug-related death and crime; these are shown in table 15

**Table 15 Summary of costs per year per problematic drug user**

Element	Cost per year per problematic drug user	Proportion of total cost per year
Total cost	£44,231	100%
Inpatient care	£531	1.2%
Inpatient mental health	£265	0.6%
A&E	£221	0.5%
Community mental health	£177	0.4%
Primary care – GP visits	£88	0.2%
Neonatal effects	£44	0.1%
Infectious diseases	£44	0.1%
Total health care costs	£1,371	3.1%
Drug related deaths	£2,654	6%
Social care	£177	0.4%
Drug related crime	£40,029	90.5%

5.2.3 For the purpose of this report, the midpoint value of the total costs and the midpoint value of the identified percentage representing healthcare costs from the papers of Neale et al. (2006) and Gordon et al. (2006) have been used, as calculated in table 16.

5.2.4 The annual cost associated with problem drug misuse is £26,000 per person, of which 9.5% or £2470 represents healthcare costs.

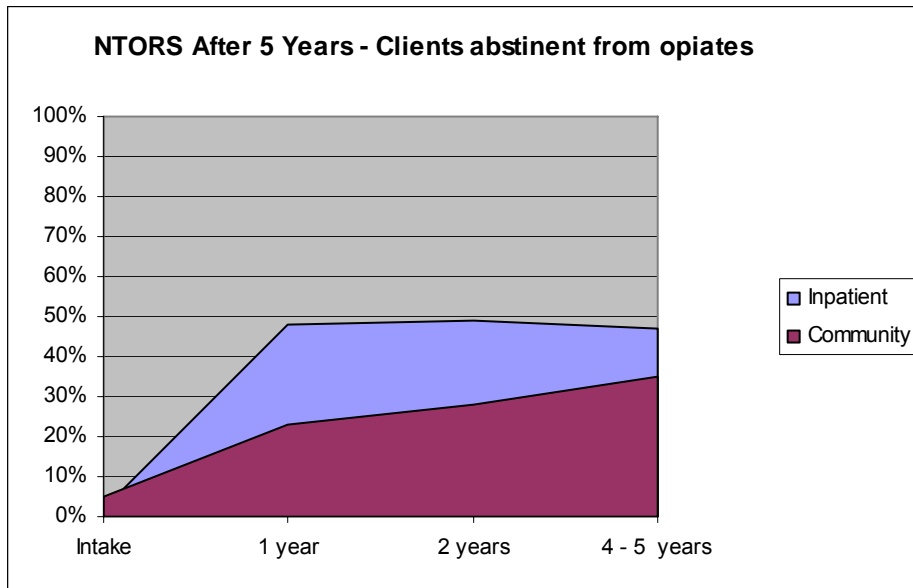
**Table 16 Annual costs per problematic drug user and the percentage that represents healthcare costs**

	Lowest estimate	Highest estimate	Midpoint
Annual costs per problematic drug user £000s	11.8	40	26
Percentage of costs relating to healthcare	3.1%	16%	9.5%

5.2.5 The NTORS after 5 years (Gossop et al. 2001) investigated outcomes for clients who received residential or community-based detoxification treatments. Significant differences were found in the number of people who were abstinent from opioids between residential and community-based detoxification programmes.

5.2.6 Figure 2 is taken from the NTORS, and illustrates the variation in the percentage of clients who were abstinent from opioids during a 4–5-year period after inpatient or community detoxification. It should be highlighted that the clients identified in the figure might still have been taking drugs other than opioids.

**Figure 2 Drug use outcomes: abstinence from opioids after residential or community-based detoxification**



5.2.7 Figure 2 shows that a greater proportion of clients who received inpatient detoxification were abstinent from opioids after 1 year compared with clients receiving community-based detoxification.

5.2.8 It was calculated above that an additional 5690 episodes of inpatient detoxification will be required to meet the demand for this method of detoxification.

5.2.9 Assuming that at present these episodes would be undertaken in a community setting, it can be estimated that after 1 year approximately 20% of clients receiving community detoxification would be abstinent from opioids.

5.2.10 Assuming that the detoxification was instead completed in a specialised inpatient (residential) setting, it can be estimated that approximately 48% of clients would be abstinent from opioids at 1 year.

**Table 17 Increase in the number of clients achieving abstinence from opioids due to increased use of inpatient detoxification**

Episodes	% abstinent at 1 year: community	Number abstinent at 1 year: community	% abstinent at 1 year: inpatient	Number abstinent at 1 year: inpatient	Increase in number achieving abstinence
5690	20%	1138	48%	2731	1593

5.2.11 Based on the assumptions outlined above, it could reasonably be expected that an additional 1593 clients would be abstinent from opioids at 1 year if inpatient detoxification was used rather than community detoxification. This estimate of 1593 clients is the difference between the number achieving abstinence through community detoxification (1138) and the number achieving abstinence through inpatient detoxification (2731).

5.2.12 Estimating the potential financial savings associated with increased abstinence from opioids is subject to a significant degree of uncertainty. However, savings to the NHS and the criminal justice system should be realisable.

5.2.13 For the purpose of this report it is assumed that the average cost per problematic drug user over a 6-month period is £26,000, as calculated in table 18, with about 10% of this cost relating to healthcare.

**Table 18 Potential society and healthcare savings achievable through increased abstinence from opioids**

Increase in number of clients who remain abstinent	12-month costs associated with problematic drug users £000s	Total savings £000s	% relating to healthcare	Potential saving to healthcare services £000s
1,593	26	41,418	10%	£4,142

### **5.3 Savings summary**

5.3.1 The total savings through implementing the guideline attributable to healthcare have been estimated as being £4.1 million.

5.3.2 An additional £37.2 million of savings to society have been estimated but it should be highlighted that these savings will be outside of the NHS in the criminal justice system.

### **5.4 Other considerations**

5.4.1 The savings identified rely on a series of assumptions; the sensitivity analysis included in this report attempts to put the uncertainty caused by these assumptions into context.

5.4.2 A key assumption is that once a client is abstinent from opioids, costs associated with drug-related crime and healthcare costs related to their drug misuse reduce to zero.

## **6 Sensitivity analysis**

### **6.1 Methodology**

6.1.1 There are a number of assumptions in the model for which no empirical evidence exists. Because of the limited data, the model developed is based mainly on discussions of typical values and predictions of how things might change as a result of implementing the guidance, and is therefore subject to a degree of uncertainty.

6.1.2 As part of discussions with practitioners, we discussed possible minimum and maximum values of variables, and calculated their impact on costs across this range.

6.1.3 Wherever possible we have used the national tariff plus market forces factor to determine cost. We used the variation of costs for the 25th and 75th percentiles from reference costs compared with

the reference cost national average as a guide to inform the maximum and minimum range of costs.

- 6.1.4 It is not possible to arrive at an overall range for total cost because the minimum or maximum of individual lines would not 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.
- 6.1.5 Appendix B contains a table detailing all variables modified and the key conclusions drawn are discussed below.

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

### **Specialised inpatient opioid detoxification: proposed increase**

- 6.2.1 Adjusting the proposed increase in the provision of inpatient detoxification creates a significant degree of uncertainty within the costing model. It is assumed that an additional 5690 episodes of inpatient detoxification are required.
- 6.2.2 Varying the proposed increase in episodes from 10.97% to 14.97% results in implementation costs ranging from £5.8 million to £15 million

### **Specialised inpatient detoxification: unit cost per episode**

- 6.2.3 The cost of providing specialised inpatient detoxification ranges from £3000 to £4500. Varying the cost of detoxification results in implementation costs ranging from £4.1 million to £12.7 million.

### **Increase in abstinence from greater use of inpatient detoxification**

- 6.2.4 Estimating the increase in the number of people who will achieve abstinence from opioids following inpatient detoxification compared with community detoxification is subject to a significant degree of uncertainty.

6.2.5 Varying the increase in abstinence from 23% to 33% results in potential savings ranging from £34 million to in excess of £48 million.

### **Annual savings through abstinence**

6.2.6 The available data on the annual costs of problematic drug misuse identified costs ranging from £11,800 to £40,000 per person. This wide range also creates a significant degree of uncertainty when calculating potential savings.

6.2.7 Varying the annual cost, and therefore potential savings, from £11,800 to £40,000 per problematic drug user results in potential savings ranging from £19.0 million to £63.7 million

## **7 Impact of guidance for commissioners**

### **7.1 *Programme budgeting category***

7.1.1 Additional investment in treating drug misuse is assumed to fall into programme budgeting category 5a 'Substance abuse'.

## **8 Conclusion**

### **8.1 *Total national cost for England***

8.1.1 Using the significant resource-impact recommendations shown in table 2 and assumptions specified in sections 3 and 4, we have estimated the annual cost impact of fully implementing the guideline in England to be £13.4 million. Table 13 shows the breakdown of cost of each significant resource-impact recommendation.

**Table 19 Budget impact of implementing the identified recommendations**

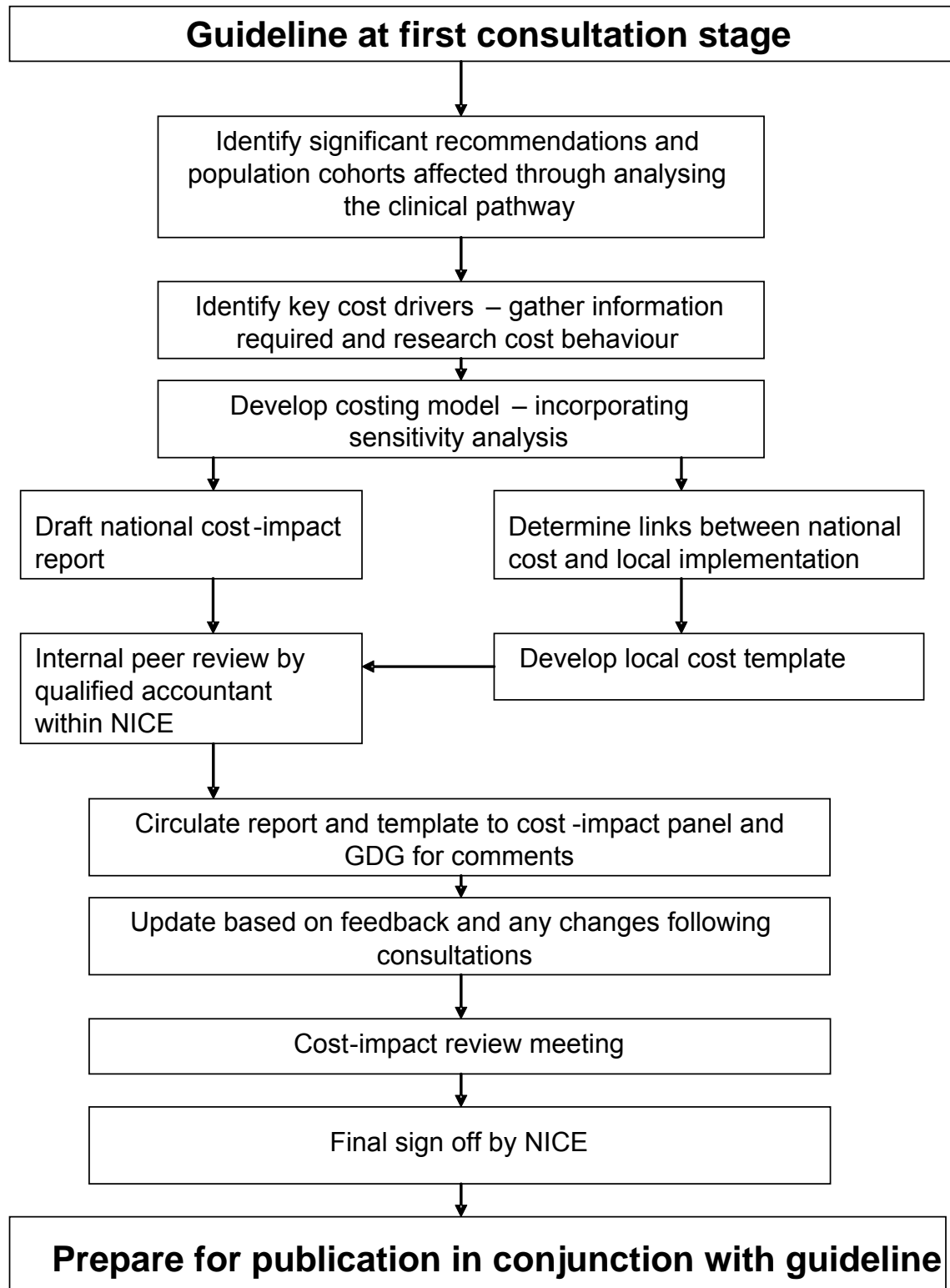
<b>Recommendation</b>	<b>Guideline</b>	<b>Budget impact £000s</b>
Behavioural couples therapy	Psychosocial	1,542
Prison care: anxiety and depression	Psychosocial	995
Prison care: behavioural couples therapy	Psychosocial	421
Total for psychosocial guideline		2,958
The choice of setting for detoxification	Detoxification	10,447
<b>Resource impact of implementation</b>		<b>13,405</b>
Savings attributable to healthcare		4,142

8.1.2 We applied reality tests against existing data wherever possible, but this was limited by the availability of detailed data. We consider this assessment to be reasonable, given the limited detailed data and the time available. However, the costs presented are estimates and should not be taken as the full cost of implementing the guidelines.

## **8.2 Next steps**

8.2.1 The local costing template produced to support this guideline enables organisations such as primary care trusts (PCTs), 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 £28,932. 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

Assessment of sensitivity of costs to a range of variables									
Parameter varied	Baseline value	Minimum value	Maximum value	Baseline costs £000s	Minimum costs £000s	Maximum costs £000s	Change £000s		
<b>Psychosocial interventions</b>									
Behavioural couples therapy – % potentially benefiting	40%	20%	60%	2,960	2,189	3,732	1,543		
Behavioural couples therapy – % accepting therapy	20%	10%	30%	2,960	2,189	3,732	1,543		
Behavioural couples therapy – % dropping out	30%	20%	40%	2,960	3,109	2,811	-298		
Behavioural couples therapy – unit costs per session	£92	£49	£134	2,960	2,239	3,664	1,425		
Prison care: anxiety and depression – prevalence of anxiety/depression	23%	23%	62%	2,960	2,960	4,647	1,687		
Prison care: anxiety and depression – % who would benefit	40%	20%	60%	2,960	2,462	3,457	995		
Prison care: anxiety and depression – % who would accept therapy	40%	30%	50%	2,960	2,711	3,209	498		
Prison care: anxiety and depression – unit costs per session	£92	£49	£134	2,960	2,495	3,415	920		
Prison care: anxiety and depression – number of sessions	12	12	18	2,960	2,960	3,458	498		
<b>Opioid detoxification</b>									
Specialised inpatient detoxification – proposed % to receive inpatient detoxification	12.97%	10.97%	14.97%	10,447	5,796	15,071	9,275		
Specialised inpatient detoxification – unit cost per episode	£4,100	£3,000	£4,500	10,447	4,183	12,707	8,524		
Increase in abstinence because of increased inpatient detoxification	28%	23%	33%	41,418	34,034	48,828	14,794		
Annual savings through increased abstinence	£26,000	£11,800	£40,000	41,418	18,979	63,720	44,741		

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