

Antisocial personality disorder

Costing report
Implementing NICE guidance

January 2009

NICE clinical guideline 77



This costing report accompanies the clinical guideline: 'Antisocial personality disorder: treatment, management and prevention' (available online at www.nice.org.uk/CG77).

Issue date: January 2009

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 guideline 'Antisocial personality disorder: treatment, management and prevention' 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.

Supporting implementation

The NICE clinical guideline on antisocial personality disorder is supported by a range of implementation tools available on our website at www.nice.org.uk/CG77 and detailed in the main body of this report.

Significant resource-impact recommendations

Because of the breadth and complexity of the guideline, this report focuses on the recommendations that are considered to have the greatest resource impact. These are not covered in earlier NICE guidance and may require the most additional resources to implement, or may generate the greatest savings. They are:

- Training staff to develop open and trusting relationships with patients with antisocial personality disorder.
- Introduction of cognitive behavioural therapy (CBT) for young people aged 12 –17 with conduct problems.
- Introduction of parent-training programmes for parents of young people aged 12 –17 with conduct problems (see section 2.3.7).
- Introduction of functional family therapy for the families of young people aged 12–17 with conduct problems.
- Introduction of brief strategic family therapy for the families of young people aged 12-17 with conduct problems.
- Introduction of multi-systemic therapy for young people aged 12-17 with severe conduct problems.

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- Introduction of multidimensional treatment foster care for young people aged 12-17 with severe conduct problems.
- Introduction of CBT and behavioural interventions for adults in community, institutional or custodial care.
- Introduction of a standardised measure of severity for use in assessment of the condition.

Total cost impact

Non-recurrent costs

The bulk of non-recurrent costs will be made up of training costs for the provision of several therapies such as functional family therapy, brief strategic family therapy and multidimensional therapy. This is because several of the therapies are new, and new therapists will be required to provide this therapy (based on discussion with experts about current staffing levels). Most of these costs will be in the early stages of implementation, but there will be some recurrent costs as new staff undertake training and staff who have already been trained undertake continuing professional development.

Further analysis needs to be carried out into the level of resources currently available in the prison service, and if extra resources are required (including possible additional support or security staff). The additional cost of providing a personality disorder treatment service in prison is about £36,000 per person per year. However, this only covers providing treatment and excludes additional security. The cost of prison treatment has been determined through discussion with the Department of Health's national personality disorder/dangerous and severe personality disorder programme and the National Offender Management Service.

There may also be start-up costs associated with creating an antisocial personality disorder network. These cannot be quantified but again will be predominantly staff costs, and may be encompassed within the broader aim of creating personality disorder networks.

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Recurrent costs

Table 1. Total annual recurrent costs

Area costed	Costs based on national population (£000's)
Provision of CBT	3,378
Provision of parent training programmes	1,280
Brief strategic family therapy	1,301
Functional family therapy	1,039
Multisystemic therapy	6,062
Multidimensional treatment foster care therapy	10,850
Total for children and young people	23,910
Cost of introducing CBT in community settings	1,644
Cost of introducing CBT in prisons	318
Total for adults	1,962
Total recurrent cost of guideline	25,872

Most recurrent costs (excluding the cost of providing the treatment) will be concerned with the continuous training requirements. Considerable problems have been reported in finding and training the right quality of staff to work with people with personality disorders, because of the high levels of awareness and skills needed. The annual cost of a regional training programme for 80–100 students has been estimated to be around £750,000 (based on figures provided by the Department of Health). This training is not specifically for the treatment of antisocial personality disorder and will benefit the treatment all types of personality disorder.

The use of a structured test such as PCL-R will also incur licensing and training costs

Benefits and savings

Implementing the clinical guideline may bring several benefits. Layard et al. (2007) estimate that the cost of implementing additional mental health services would be recouped by the government within 2 years, through reductions in incapacity benefits payments, and the increase in taxes

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received. This is across all mental services. The following potential savings are directly related to antisocial personality disorder: reduction in injuries to family members and to victims of antisocial acts:

- reduction in costs in the emergency health services, education system and social care authorities
- higher levels of staff retention following increase in quality of staff training programmes
- reduction in number of criminal offences committed
- reduced policing and imprisonment costs
- reduction in costs associated with lost employment opportunities, family disruption and relationship breakdown
- reduction in costs associated with alcohol and substance misuse.

Because many people with antisocial disorder have comorbid conditions, it is difficult to determine exactly what the current treatment costs of antisocial personality disorder are.

The average cost of a violent crime involving wounding in the UK is £19,000 per incident (Brand and Price 2000), so any reduction in the number of crimes will also help to balance cost of providing increased mental health services.

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 the NHS could incur total additional costs of £50,000 for a population of 100,000. PCTs that are responsible for the provision of treatment in prisons would incur approximately £8,000 per year.

1 Introduction

1.1 *Supporting implementation*

1.1.1 The NICE clinical guideline on antisocial personality disorder is supported by the following implementation tools available on our website www.nice.org.uk/CG077:

- 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
- audit support.

1.1.2 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 antisocial personality disorder 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 antisocial personality disorder and should be read in conjunction with it (see www.nice.org.uk/CG77).

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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 antisocial personality disorder*

1.3.1 In the UK, about 3% of males and 1% of females in the general population have antisocial personality disorder. Higher rates are found in urban areas, and amongst black and minority ethnic groups. Studies also estimate that almost 50% of prisoners in the UK have the disorder. Ongoing studies indicate that the prevalence increases with the severity of the offence, but the results of these studies are not yet available.

1.3.2 Antisocial personality disorder is not formally diagnosed before the age of 18, but the features of the disorder can manifest earlier as conduct disorder. Prevalence of this is estimated to be 8% in males, and 5% in females (Green, McGinnity et al 2004).

1.3.3 In the past, there have been obstacles to diagnosing and treating antisocial personality disorder. Only 17% of PCTs (NIMHE 2003) provide dedicated personality disorder services. Because of the high levels of comorbidity associated with antisocial personality disorder, people who have it are often diagnosed with other mental disorders.

Table 2 Number of people aged 12–17 with conduct disorder

	Population in England (000s)	Prevalence of conduct disorder (%)	Number of people with conduct disorder (000s)
Boys aged 12-17 years	1,675	8.1%	136
Girls aged 12-17 years	1,586	5.1%	81
Total	3,261	6.6%	217

Note: Population figures are taken from mid-2006 England population estimates. Prevalence figures are taken from 'Mental health of children and young people in Great Britain' (Office for National Statistics 2004).

Table 3 Number of people with antisocial personality disorder in the criminal justice system each year

	Annual number convicted of a criminal offence (000s)	Prevalence of antisocial personality disorder among prisoners (%)	Number of people with antisocial personality disorder who are convicted (000s)
Adults sentenced to a community service punishment or a custodial sentence of 12 months or less	261	47%	123
Adults sentenced to a custodial sentence of 12 months or more	26	47%	12
Total	287	47%	135

Note: Prison figures are taken from Ministry of Justice Sentencing statistics 2006. Prevalence of ASPD is taken from Fazel and Danesh (2002).

1.3.4 There is a significant comorbidity between antisocial personality disorder and other axis I mental illnesses. Swanson et al. (1994) estimate that 90.4% of people with antisocial personality disorder also suffer from an additional mental disorder. For this reason, it is important that an extensive and efficient personality disorder network is in place.

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- 1.3.5 Estimating the prevalence of antisocial personality disorder as a method of establishing service need is challenging and subject to uncertainty. Discussions with clinical experts suggest that people with antisocial personality disorder do not actively seek treatments so basing the costing on prevalence data would overestimate the number of people likely to be offered interventions.

1.4 Models of care

- 1.4.1 Currently there is not a uniform model of care for the diagnosis and treatment of antisocial personality.
- 1.4.2 Ideally the diagnosis of conduct disorder and antisocial personality disorder in children, young people and adults should be made in secondary care by a specialist psychiatrist, paediatrician or other appropriately qualified healthcare professional.
- 1.4.3 The treatment of children, young people and adults with conduct disorder or antisocial personality disorder should begin in secondary care and continue in a primary, secondary, tertiary, community or institutional setting.
- 1.4.4 In addition to the problems of detection, misdiagnosis can also be a concern for young people. Because of the stigma of being diagnosed with conduct disorder, some young people may be incorrectly diagnosed with similar conditions, for example, challenging behaviour.
- 1.4.5 The proposed introduction of a formal test (such as PCL-R) and increased training for working with people with antisocial personality disorder and conduct disorders may provide a framework for mental health workers. The creation of an antisocial personality disorder network will provide a patient pathway. Linking this to other personality disorder networks will provide support for any coexisting conditions.

2 Costing methodology

2.1 Process

- 2.1.1 We use a structured approach for costing clinical guidelines (see appendix A).
- 2.1.2 Little information has been systematically collected about antisocial personality disorder, which led to problems in building a comprehensive bottom–up model for costing (a costing methodology where the unit cost of individual elements and number of units are estimated and added together to provide a total cost). 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 guideline offers best practice advice on the care of adults who are suspected of having, or are diagnosed with, antisocial personality disorder.
- 2.2.2 The guidance covers:
- The treatment and management of adults with a diagnosis of antisocial personality disorder in the NHS and prison system (including dangerous and severe personality disorder).
 - Preventative interventions with children and adolescents at significant risk of developing antisocial personality disorder.
 - The treatment and management of common comorbidities in people with antisocial personality disorder as far as these conditions affect the treatment of the antisocial personality disorder.

2.2.3 The guidance does not cover:

- The separate management of comorbid conditions.
- The management of criminal and antisocial behaviour in the absence of a diagnosis of antisocial personality disorder.

2.2.4 Due to the breadth and complexity of the guideline, we worked with the GDG and other professionals to identify the recommendations that would have the most significant resource impact (see table 4). Costing work has focused on these recommendations.

Table 4 Recommendations with a significant resource impact

High-cost recommendations	Recommendation number	Key priority?
<p>Healthcare professionals in forensic/specialist personality disorder services should consider, as part of a structured clinical assessment, routinely using:</p> <ul style="list-style-type: none"> – a standardised measure of the severity of antisocial personality disorder, for example the Psychopathy Checklist–Revised (PCL-R) or the Psychopathy Checklist–Screening Version (PCL-SV) – a formal assessment tool such as the Historical, Clinical, Risk Management-20 (HCR-20) in order to develop a risk management strategy. 	1.3.2.7	✓
<p>Cognitive problem-solving skills should be considered for children aged 8 years and over if:</p> <ul style="list-style-type: none"> – the child’s family is unwilling or unable to engage with a parent-training programme – additional factors, such as callous and unemotional traits in the child, may reduce the likelihood of the child benefiting from parent-training programmes alone. 	1.2.6.1	✓
<p>For parents of young people aged between 12 and 17 years with conduct problems, consider parent-training programmes.</p>	1.2.7.4	
<p>If the parents are unable to or choose not to engage with parent training programmes, or the young person’s conduct problems are so severe that they will be less likely to benefit from parent training programmes, consider:</p> <ul style="list-style-type: none"> – brief strategic family therapy for young people with predominantly drug-related problems – functional family therapy for young people with predominantly a history of offending. 	1.2.7.5	
<p>For young people aged 12–17 years with severe conduct problems, a history of offending and who are at risk of being placed in care or excluded from the family, consider multisystemic therapy.</p>	1.2.7.6	

For young people aged 12–17 years with conduct problems at risk of long-term out of home care, consider multidimensional treatment foster care.	1.2.7.7	
For people with antisocial personality disorder, including those with substance misuse problems, in community and mental health services, consider offering group-based cognitive and behavioural interventions, in order to address problems such as impulsivity, interpersonal difficulties and antisocial behaviour.	1.4.2.1	
For people with antisocial personality with a history of offending behaviour who are in community and institutional care, consider offering group-based cognitive and behavioural interventions (for example, programmes such as ‘reasoning and rehabilitation’) focused on reducing offending and other antisocial behaviour).	1.4.2.2	✓
For young offenders aged 17 years or younger with a history of offending behaviour who are in institutional care, offer group-based cognitive and behavioural interventions aimed at young offenders and that are focused on reducing offending and other antisocial behaviour.	1.4.2.3	
Services should consider establishing antisocial personality disorder networks, where possible linked to other personality disorder networks. These networks should be multi-agency, actively involve people with antisocial personality disorder and should: <ul style="list-style-type: none"> – take a significant role in training staff, including those in primary care, general and specialist mental health services, and in the criminal justice system – have resources to provide specialist support and supervision for staff – take a central role in the development of standards for and the coordination of clinical pathways – monitor the effective operation of clinical pathways. 	1.6.1.2	✓

2.2.5 Seven of the recommendations in the guideline have been identified as key priorities for implementation, four of which are also among the 11 recommendations considered to have significant resource impact.

2.2.6 The key priorities that have not been included are:

- Recommendation 1.1.1.11 - Developing an optimistic and trusting relationship
This has not been included as this is a behavioral recommendation, and the training costs associated with it are included in 1.6.1.2.
- Recommendation 1.4.1.1 – treatment of comorbid disorders.
This has not been included as these costs may have been accounted for within the relevant NICE guidance.
- Recommendation 1.6.1.1 – creation of a clear pathway has not been included as the costs of this are also included in 1.6.1.2.

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.

2.3 *General assumptions made*

2.3.1 The model is based on annual incidence and population estimates (see tables 2 and 3 in section 1.3).

2.3.2 In the costing template we have used expert opinion to identify the most accurate cost of providing the guidance. The costs of CBT are taken from NICE guidance on attention deficit hyperactivity disorder (NICE clinical guideline 72) in the absence of reliable cost

estimates. Parent-training costs have also been taken from the same source,

- 2.3.3 Multisystemic therapy costs are based on expert opinion in combination with the Department of Health.
- 2.3.4 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.
- 2.3.5 Where no organisation currently provides the service, costs have been generated using the volume of resources required.
- 2.3.6 All conviction and sentencing statistics quoted are taken from the Ministry of Justice sentencing statistics for 2006.
- 2.3.7 The population figures used are for young people aged between 13 and 17, as we have assumed that children aged 12 and younger who have conduct disorder are already being treated using the recommendations contained in 'Conduct disorder in children: parent-training /education programmes' (NICE technology appraisal guidance 102; TA102). We have excluded them from this costing work to avoid double counting. We have assumed that 18-year-olds are dealt with as part of the adult population.

3 Cost of significant resource-impact recommendations

3.1 *CBT for children aged 8 years and older*

Recommendation

3.1.1 Cognitive problem-solving skills training should be considered for children aged 8 years and older with conduct problems if:

- the child's family is unwilling or unable to engage with a parent-training programme

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- additional factors, such as callous and unemotional traits in the child, may reduce the likelihood of the child benefiting from parent-training programmes alone. [recommendation 1.2.6.1]

Background

- 3.1.2 Although conduct disorder in childhood and adolescence does not indicate that the child will definitely develop antisocial personality disorder, evidence suggests that between 40% and 70% of young people with conduct disorder will eventually develop antisocial personality disorder (NICE guidance). As the average cost per year of a child with conduct disorder is £6,000 (Knapp et al. 2007) the impact of this condition is significant.
- 3.1.3 CBT has typically been shown to reduce both occurrence levels and severity. Its use has resulted in improvements in communication and problem solving, promoting positive behaviour and reducing inappropriate behaviour.
- 3.1.4 The emphasis should be placed on thought processes in which the child engages to guide responses to interpersonal situations. These include:
- teaching a step-by-step approach to solving interpersonal problems
 - structured tasks such as games and stories to aid the development of skills
 - combining several approaches, including modelling and practice, role playing and reinforcement.
- 3.1.5 CBT was also recommended in the NICE clinical guideline on ADHD, and some children and young people may have both conditions. This cannot accurately be quantified; however, we recognise that the issue exists.

- 3.1.6 Please note that the provision of CBT for children with Conduct Disorder aged 12 years and younger has been covered in the relevant NICE guidance

Assumptions made

- 3.1.7 As part of our methodology, we have assumed that the point at which the condition is recognised is when a person undergoes a psychiatric assessment following a criminal offence.
- 3.1.8 CBT class sizes are based on clinical opinion reported in the NICE clinical guideline on ADHD.
- 3.1.9 Unit costs have been calculated using the recommended number of therapist hours required to carry out the therapy (16 weeks x 1 hour per week x two therapists) and multiplying this by £67 which is the BNF figure for 1 hour of a therapist's time.
- 3.1.10 We have assumed current usage rates based on the effectiveness of parent training and expert opinion.
- 3.1.11 The expected future usage rates are derived by calculating the percentage of people with conduct disorder who have been convicted of committing a crime. We have then assumed that 47% of these people will develop antisocial personality disorder in the future (Fazel and Danesh 2002).

Cost summary

- 3.1.12 The key cost element of this recommendation is the cost of providing suitably trained staff to offer the treatment.
- 3.1.13 The net cost of introducing CBT for children aged 12 years and older is summarised in table 2.

Table 5 Cost of providing CBT for children aged 8 and over

	Unit cost	Current		Proposed		Change	
		Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Totals	£2,000	4,332	868	21,227	4,246	17,367	3,378

Other considerations

3.1.14 There may be additional costs from implementing this recommendation relating to the need to provide a suitable environment for the treatment, because of possible behavioural and safety considerations. These costs should be dealt with on a local basis, according to the standard of facility available in that area.

3.1.15 The number of therapists needed to provide this scale of treatment must also be considered. Expert opinion is that resources are already stretched, so taking on additional workload may prove to be problematic.

3.2 *Parent training for parents of young people aged 12–17 with conduct problems*

Recommendation

3.2.1 For parents of young people aged between 12 and 17 years with conduct problems, consider parent-training programmes.
[recommendation 1.2.7.4]

Background

3.2.2 The main goals of parent training programmes are to teach the principles of child behaviour management, to increase parental competence and confidence in raising children and to improve the parent/carer–child relationship by using good communication and positive attention to aid the child’s development.

Assumptions made

3.2.3 The percentages in the costing template are estimates based on the current model of patient care and monitoring. For example, parent training is not currently offered to parents of children with conduct disorder on the basis that they may develop antisocial personality disorder.

3.2.4 The costs have come from the NICE technology appraisal guidance on parent training for children with conduct disorder (TA102).

Cost summary

3.2.5 The net cost of introducing parent-training programmes is summarised in table 6.

Table 6. Parent training

		Current		Proposed		Change	
	Unit cost	Numbers of children and young people	Cost (£000s)	Numbers of children and young people	Cost (£000s)	Numbers of children and young people	Cost (£000s)
Totals	£1,973	4,332	856	10,830	2,137	6,498	1,280

Other considerations

3.2.6 As discussed in the CBT recommendation, there will be costs associated with providing a suitable environment in which to give this therapy. In addition, attendance levels will also affect the number of classes that will need to be offered.

3.3 *Brief strategic or functional family therapy for young people aged 12–17 with conduct problems*

Recommendation

3.3.1 If the parents are unable to or choose not to engage with parent training programmes, or the severity of the young person's conduct

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problems is such that they will be less likely to benefit from parent training programmes consider:

- brief strategic family therapy for those with predominantly drug-related problems
- functional family therapy for those with predominantly a history of offending. [recommendation 1.2.7.5]

Background

3.3.2 Family therapy is predominantly based around trying to help family members find constructive ways to help one another. It can take place in a family home, or more commonly in a hospital or clinic. The therapists may be psychologists, psychiatrists, social workers, nurses or simply people who have been trained in the use of one or more types of family therapy.

3.3.3 Brief strategic family therapy is a structured, problem-focused, directive and practical approach to the treatment of conduct problems, associations with antisocial peers, early substance misuse and the accompanying maladaptive family interactions, which are recognised risk factors for substance abuse.

3.3.4 Functional family therapy is a family intervention for young people who are either at-risk or are already involved with the juvenile justice system.

3.3.5 Functional family therapy can be provided in a range of contexts, including schools, child welfare, probation, aftercare, mental health, and as way to help the young person remain at home.

Assumptions made

3.3.6 The percentages in the costing template are estimates based on the current model of patient care and monitoring. For example, family therapy is not currently offered to parents of children with

conduct disorder specifically on the basis that they may develop antisocial personality disorder.

- 3.3.7 Providing this therapy depends on therapists having access to suitable training programmes. These will have costs associated with them (predominantly in the first years) but they currently cannot be reliably quantified.
- 3.3.8 The costs of functional family therapy have been taken from the economic analysis for this guideline which can be seen at <http://www.nice.org.uk/Guidance/CG77>. This is based on average hourly therapist rates and the recommended number of hours to carry out the treatment.
- 3.3.9 Brief strategic family therapy costs have been estimated as double those of functional family therapy as the time required to deal with substance abuse is reckoned to be around twice that of functional family therapy.
- 3.3.10 Current uptake for functional family therapy has been calculated based on a low number of institutions offering the treatment, and a low likelihood of it being offered for treatment of conduct disorder.
- 3.3.11 We have estimated that the provision of functional family therapy will grow five-fold as it costs significantly less than multisystemic therapy, and it is hoped that it will prove more cost-effective. It is also recommended earlier in the care pathway than multisystemic therapy.
- 3.3.12 We have estimated current brief systemic therapy uptake as zero because the therapy is still relatively new in the UK and the likelihood of a young person having conduct disorder, a drug problem and being offered the treatment is low.
- 3.3.13 Future uptake for brief systemic therapy has been estimated using the number of under 18s who receive drug treatment, and National costing report: Antisocial personality disorder (January 2009)

estimating how many have conduct disorder (based on the national average of 6.6%).

Cost summary

3.3.14 The net cost of functional and brief strategic family therapy is summarised in table 7

Table 7. Functional and brief strategic family therapy

	Unit cost	Current		Proposed		Change	
		Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Brief systemic therapy	£2,400	0	0	541	1,300	541	1,301
Functional family therapy	£1,200	217	260	1,083	1,300	866	1,039
Totals		217	260	1,624	2,600	1,407	2,340

Other considerations

The volume of resource required by this recommendation should also be considered. Because of the number of staff required to provide this, the number of places available is likely to be low. As mentioned above, the provision of training will be key for effective implementation.

3.4 *Multisystemic therapy for young people aged 12–17 years with severe conduct problems*

Recommendation

3.4.1 For young people aged between 12 and 17 years with severe conduct problems, a history of offending and who are at risk of

being placed in care or excluded from the family, consider multi-systemic therapy. [recommendation 1.2.7.6]

Background

3.4.2 Multisystemic therapy lasts for 3–5 months and involves the young person and their family or carer. Multisystemic therapy is based on the belief that the best way to reduce chances of antisocial behaviour is by advising parents or carers with specific and practical advice and guidance about how to set and put into effect rules aimed at improving different aspects of the young person's behaviour.

3.4.3 The multisystemic therapy worker will usually go to the family home twice or three times a week and will also telephone regularly. They will also attempt to support the family or carer as part of the therapy.

Assumptions made

3.4.4 The percentages in the costing template are estimates based on the current model of patient care and monitoring. For example, multisystemic therapy is not currently offered to parents of children with conduct disorder on the basis that they may develop antisocial personality disorder.

3.4.5 In calculating current and future usage, we have taken the current number of offenders in this age range, and applied the national average prevalence of conduct disorder (6.6%). From this we have assumed that current use of multisystemic therapy is very low, but that the introduction of the guideline will increase usage by 500%.

3.4.6 The costs of multi-systemic therapy have been estimated following discussion with experts, and are based on the costs provided by the Department of Health personality disorder/dangerous or severe personality disorder programme.

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Cost summary

3.4.7 The net cost of introducing multisystemic therapy is summarised in table 8

Table 8. Multisystemic therapy

		Current		Proposed		Change	
	Unit cost	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Totals	£7,000	217	1,519	1,063	7,581	846	6,062

Other considerations

3.4.8 The costs of implementing this recommendation are a key consideration. Because of the costs of providing specialist teams to carry out the therapy, the number of places available is likely to be low.

Young people aged 12–17 years: multidimensional treatment foster care

Recommendations

3.4.9 Multidimensional treatment foster care should be provided over 6 months by a team of health and social care professionals able to provide case management, individual therapy and family therapy. This intervention should include:

- training foster care families in behaviour management and providing a supportive family environment
- the opportunity for the young person to earn privileges (such as time on the computer and extra telephone time with friends) when engaging in positive living and social skills (for example, making their bed and being polite) and good behaviour at school
- individual problem-solving skills training for the young person

- family therapy for the birth parents to provide a supportive environment for the young person to return to after treatment.
[Recommendation 1.2.8.4]

Background

3.4.10 Referrals for multidimensional treatment foster care are received from youth courts, probation officers, mental health and child welfare caseworkers. Youths are referred between the ages of 12 and 17 and are in need of an out-of-home placement because of severe delinquency or antisocial behaviour. They may have been involved in serious offending behaviour and may have complex comorbid conditions. Most of these youths have been involved in numerous treatment efforts before referral, and most have experienced at least one failed out-of-home placement.

Assumptions made

- 3.4.11 In generating a baseline we used the current number of young people in temporary foster care (6 months or less), and estimated how many are likely to have a conduct disorder. We then evaluated this number in line with the very high costs of running a programme, and the low number of places currently available.
- 3.4.12 The costs of multidimensional treatment foster care have been taken from government publications, and represent the additional cost of providing this therapy in comparison with 'normal' foster care. This cost will need to be broken down between NHS and other services.

Cost summary

- 3.4.13 The net cost of multidimensional treatment foster care is summarised in table 9.

Table 9. Multidimensional treatment foster care

		Current		Proposed		Change	
	Unit cost	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Totals	£50,000	217	10,850	433	21,700	216	10,850

Other considerations

3.4.14 The costs of implementing this recommendation are a key consideration. Because of the number of staff required to provide this and the funding required, the number of places available is likely to be low.

3.5 *CBT for people with antisocial personality disorder with a history of offending behaviour in community and prison settings*

Recommendations

3.5.1 For people with antisocial personality disorder with a history of offending behaviour who are in community and institutional care, consider offering group-based cognitive and behavioural interventions (for example, programmes such as ‘reasoning and rehabilitation’) focused on reducing offending and other antisocial behaviour. [recommendation 1.4.2.2]

3.5.2 For young offenders aged 17 years or younger with a history of offending behaviour who are in institutional care, offer group-based cognitive and behavioural interventions aimed at young offenders and that are focused on reducing offending and other antisocial behaviour. [recommendation 1.4.2.3]

Background

- 3.5.3 Both psychological and pharmacological interventions for people with antisocial personality disorder are poorly researched and direct evidence on the treatment of this population is scarce.
- 3.5.4 Clear guidance on how to treat adults who have antisocial personality disorder is necessary because of the large numbers of people (estimated to be as high as 60%), who should or will be treated each year in the criminal justice system.
- 3.5.5 According to the severity of their disorder, offenders can be sent to either a medium level security unit, a high security prison unit, or a high security mental health unit. These will all have different costs and so the usage distribution will be crucial.

Assumptions made

- 3.5.6 We have applied the overall percentage of offenders judged to have antisocial personality disorder and applied this to the criminal justice statistics for 2006 [Ministry of Justice Sentencing statistics (2006)] We are aware that the prevalence will vary according to the severity of the offence, but it is not possible to quantify this reliably.
- 3.5.7 We have assumed that offenders in prison have been sentenced for a period of more than 12 months. We assume that offenders sentenced to 12 months or less will be treated in the community.
- 3.5.8 We have estimated that CBT is not currently offered to people receiving care in community settings.
- 3.5.9 We have assumed that 10% of all people with antisocial personality disorder in the community will be treated.
- 3.5.10 We have suggested that 25% of people with antisocial personality disorder in prison will be offered treatment.

- 3.5.11 We have proposed a lower figure for community settings than for prison settings, on the assumption that if someone has been convicted of an offence that does not require a prison sentence they are less likely to have antisocial personality disorder of sufficient severity that it requires therapy.
- 3.5.12 The costs of community therapy are based on those used for providing CBT for young people.
- 3.5.13 The costs of providing therapy in a prison setting are assumed to be lower as the necessary facilities will be available.

Cost summary

- 3.5.14 The net cost of introducing CBT in community settings and in prisons is summarised in table 10.

Table 10. CBT in community and prison situations

	Unit cost	Current		Proposed		Change	
		Numbers of patients	Cost (£000)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Community	£2,000	8,225	1,646	16,450	3,290	8,225	1,644
Prison	£1,000	0	0	3,174	318	3,174	318
Totals		8,225	1,646	19,624	3,608	11,399	1,962

3.6 *Antisocial personality disorder networks*

Recommendation

- 3.6.1 Services should consider establishing antisocial personality disorder networks, where possible linked to other personality disorder networks. (This may be organised at the level of primary care trusts, local authorities, strategic health authorities or government offices.) These networks should be multi-agency, should actively involve people with antisocial personality disorder and should:

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- take a significant role in training staff, including those in primary care, general, secondary and forensic mental health services, and in the criminal justice system
- have resources to provide specialist support and supervision for staff
- take a central role in the development of standards for and the coordination of clinical pathways. [recommendation 1.6.1.2]

Other considerations

3.6.2 Costs will vary considerably, depending on where the treatment is carried out, and how many people receive it.

3.7 *Benefits and savings*

3.7.1 It is hoped that, when this guideline is implemented fully, the savings will outweigh the costs of providing the treatment for people with antisocial personality disorder.

3.7.2 In most research, the key measure of success has been the reduction in the level of re-offending. As the rate decreases, so do costs such as those associated with making the arrest, conviction and prison sentences.

3.7.3 Savings can be expected in the NHS through reduced visits to A&E departments and primary care, and lower costs for secondary mental health services.

3.7.4 If the behaviour of people with antisocial personality disorder improves, this will also help them gain employment. This will have the double impact of reducing the amount of benefits claimed and increasing tax revenues.

3.7.5 Other effects that are not as quantifiable include the reduction in costs attributable to antisocial acts. These will be recognised

through people with antisocial personality disorder, their families and society as a whole.

3.7.6 The introduction of extensive training programmes will improve the standard of care available, and should generate savings through improved staff retention.

3.7.7 Because so many people are affected by this condition, the potential for cost savings is large. For example, in one study, more than a quarter of all incidents resulting in injury to others were carried out by people with antisocial personality disorder (Coid et al. 2006).

4 Sensitivity analysis

4.1 Methodology

4.1.1 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.

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

4.1.3 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.

4.1.4 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,

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altering each variable independently to identify those that have greatest impact on the calculated total cost.

4.1.5 Appendix B contains a table detailing all variables modified and the key conclusions drawn are discussed below.

4.1.6 The variable with the greatest possible impact is that of the provision of MTFT. This has the largest unit cost of all the recommendations. However the numbers of people likely to have this intervention are low so the total impact will be lower than it might have been.

4.2 *Impact of sensitivity analysis on costs*

4.2.1 Provision of CBT for young people aged 12 and over

4.2.2 Varying the percentage of young people receiving CBT between the minimum (8%) and the maximum (12%), results in the cost of implementation varying by £1.7m.

4.2.3 Provision of multidimensional treatment foster care

4.2.4 We have estimated that around 0.2% of young people with conduct disorder will use this treatment under this guidance. If we evaluate two extremes (0.15% and 0.3%), the cost of implementation varies by about £16m.

5 Impact of guidance for commissioners

5.1.1 The costs associated with implementing this guideline will be within primary care and mental health services and so are excluded from the scope of 'Payment by results'.

6 Conclusion

6.1 Total national cost for England

6.1.1 Using the significant resource-impact recommendations shown in table 1 and assumptions specified in section 3 we have estimated the annual cost impact of fully implementing the guideline in England to be £25,872,477. Table 1 shows the breakdown of cost of each significant resource-impact recommendation.

6.1.2 The figures provided by this report reinforce the message that the costs of prevention are significantly less than the costs of treating the effects of antisocial personality disorder. When evaluating the cost of training and treatment, the following figures should be considered:

- The average cost of holding someone in prison is £26,300 per year (figures from the Howard League for Penal Reform)
- 61% of all prisoners released reoffend within 2 years.

6.1.3 When these figures are taken into account, it becomes clear that preventative treatment is more cost effective than reactive treatment.

Table 1. Total cost impact

Area costed	Costs based on national population
Provision of CBT	£3,378
Provision of parent training	£1,280
Brief strategic family therapy	£1,301
Functional family therapy	£1,039
Multisystemic therapy	£6,062
Multidimensional treatment foster care	£10,850
Total for children and young people	£23,910
Cost of introducing CBT in community settings	£1,644
Cost of introducing CBT in prisons	£318
Total for adults	£1,962
Total recurrent cost of guideline	£25,872

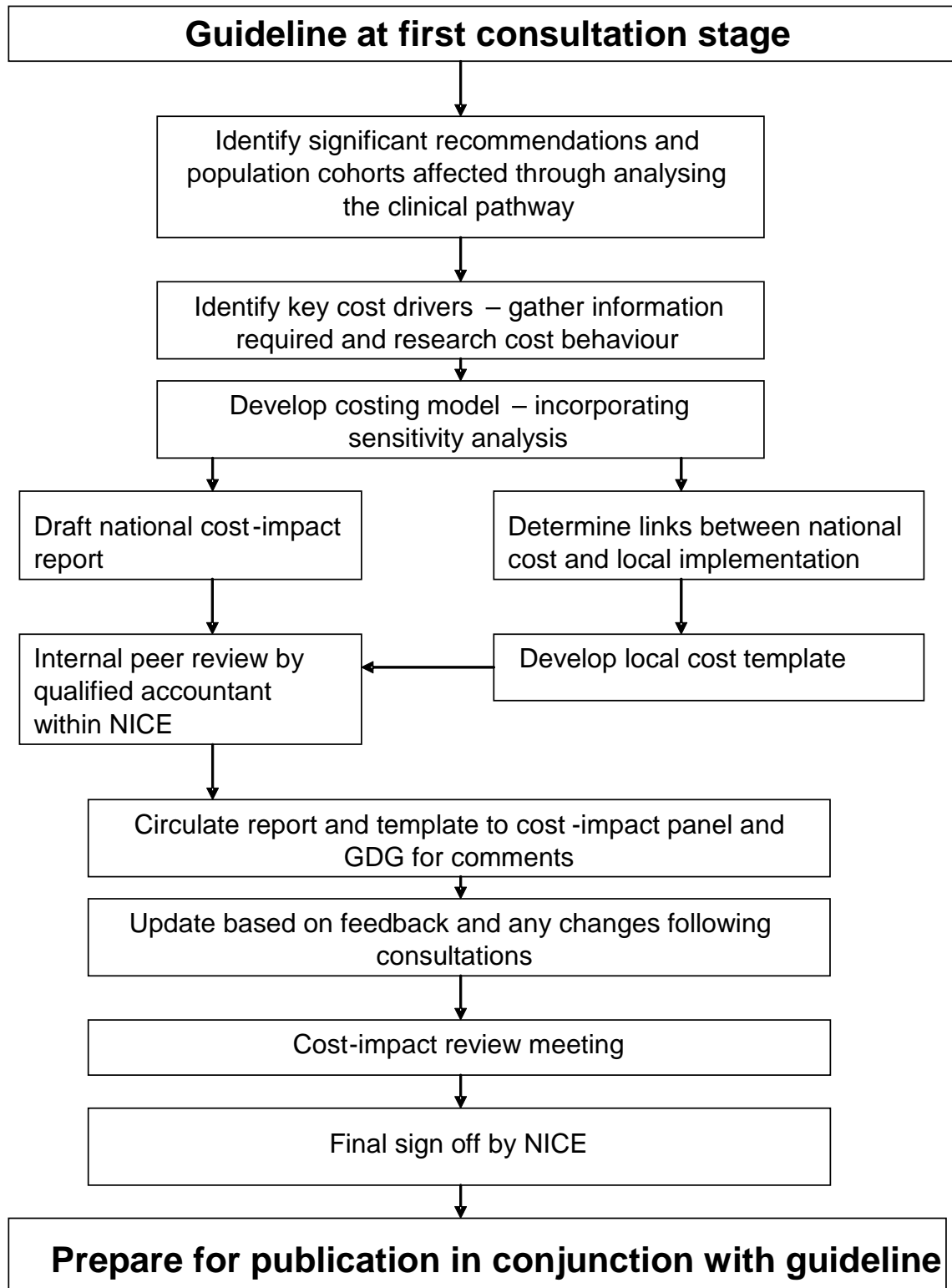
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- 6.1.4 We applied reality tests against existing data wherever possible. We consider this assessment to be reasonable, given the limited detailed data about diagnosis and treatment paths and the time available. However, the costs presented are estimates and should not be taken as the full cost of implementing the guideline.

6.2 *Next steps*

- 6.2.1 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 £50,000. 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 costs to a range of variables							
Parameter varied	Baseline value	Minimum value	Maximum value	Baseline costs (£000's)	Minimum costs (£000's)	Maximum costs (£000's)	Change (£000's)
Provision of CBT	9.8%	8.0%	12.0%	3,378	2,598	4,332	1,734
CBT Class Sizes	10 per class	8 per class	12 per class	3,378	2,670	4,440	1,770
Parent training class size	10 per class	8 per class	12 per class	1,280	925	1,815	890
Brief strategic family therapy	0.25%	0.1%	0.4%	1,300	521	2,081	1,560
Functional family therapy	0.5%	0.3%	0.7%	1,039	520	1,560	1,040
Multisystemic Therapy	7,000	5,000	9,000	6,062	3,896	8,228	4,332
Multidimensional treatment foster care	0.2%	0.15%	0.3%	10,850	5,400	21,650	16,250
CBT in community situations	2,000	1,500	3,000	1,644	822	3,288	2,466
CBT in prisons	25%	15%	35%	318	191	445	254

Appendix C. References

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Related NICE guidance

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Conduct disorder in children – parent training /education programmes. NICE technology appraisal 102 (2006). Available from www.nice.org.uk/TA102

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