

Surgical management of OME

Costing report

Implementing NICE guidance

February 2008

NICE clinical guideline 60



This costing report accompanies the clinical guideline: 'Surgical management of otitis media with effusion in children' (available online at www.nice.org.uk/CG060).

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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 by NICE to have an 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.

National Institute for Health and Clinical Excellence

MidCity Place
71 High Holborn
London WC1V 6NA

www.nice.org.uk

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Executive summary

This costing report looks at the resource impact of implementing the NICE guideline 'Surgical management of otitis media with effusion in children' 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 the surgical management of otitis media with effusion (OME) is supported by a range of implementation tools available on our website www.nice.org.uk/CG060 and detailed in the main body of this report.

Resource-impact recommendations

This report focuses on the recommendations that are considered to have the greatest resource impact, and therefore require additional resources for their implementation, or those which can potentially generate savings. They are:

- adjuvant adenoidectomy is not recommended for the routine surgical management of OME in the absence of persistent and/or frequent upper respiratory tract symptoms
- antibiotics are not recommended for the management of OME.

Total cost impact

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

Recurrent costs	National cost £000s
Reduction in the number of adjuvant adenoidectomies performed	-154.4
Reduction in antibiotic use	-232.3
Total change in resources	-386.6

This represents a reduction of 1.9% in resources required for the surgical management of OME. This reduction may not be uniform across England, as there exists significant variation in current practice in both surgery and in the use of antibiotics.

The guideline will not lead to a significant change in practice in some areas and so it can be implemented without delay. In other areas, changes in practice may be more substantial and therefore take longer to implement. There are no processes involved in the implementation of this guideline that have very long timescales – for example, changes in surgical training.

Surgical management of OME in children falls within the scope of 'Payment by results'. The prescribing of antibiotics is likely to take place within primary care, and hence will not fall within the scope of 'Payment by results'.

The prescription of antibiotics falls into programme budgeting category 1X (infectious diseases), while surgical management falls into category 9 (hearing problems).

Benefits and savings

Implementing the clinical guideline will bring the following benefits:

- reductions in adjuvant adenoidectomies in the absence of persistent and/or frequent upper respiratory tract symptoms and in the use of antibiotics, where these are used inappropriately
- a possible increase in the acceptance of hearing aids, which may result in a reduction in the number of children undergoing surgery, which then may result in consequent savings (see section 2.2.7)
- uniformity of practice in the management of OME, particularly the surgical management of OME
- compliance with NICE guidance is one of the criteria indicating good risk reduction strategies, and in combination with meeting other criteria could lead to a discount on contributions to the NHS Litigation Authority schemes, including CNST.

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.

The costing template also allows organisations to adjust the rate at which they perform insertion of ventilation tubes in children under 12 years of age. Any additional costs or savings arising from the provision of hearing aids as an alternative to surgical procedures can also be calculated using the template.

A sample calculation using this template showed that savings of £800 could be made for a population of 100,000.

1 Introduction

1.1 *Supporting implementation*

1.1.1 The NICE clinical guideline on the surgical management of OME is supported by the following implementation tools available on our website www.nice.org.uk/CG060:

- 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 the surgical management of OME 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 the surgical management of OME and should be read in conjunction with it (see www.nice.org.uk/CG060).

- 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 OME*

- 1.3.1 OME is a condition characterised by the accumulation of fluid within the middle ear without signs of acute inflammation. It is most common in young children, with a bimodal peak at 2 and 5 years of age.
- 1.3.2 Eighty percent of children will have had at least one episode of OME by the age of 10 years. The mean duration of effusions is 8–10 weeks, but some cases are more persistent.
- 1.3.3 Williamson et al. (2006) identified patients presenting with OME at a sample of GP practices between 1991 and 2001. They reported annual incidence rates of OME in 2001 as 29.4 per 1000 per year for children under 2 years, 16.7 per 1000 per year for children aged 2–10 years and 4.6 per 1000 per year for children aged 11–16 years.
- 1.3.4 Not all children with OME will access treatment through a GP. Clinical opinion is that 25–35% of children with OME will access treatment through another route – for example, through a health visitor or a school nurse.

1.4 *Models of care*

- 1.4.1 The guideline recommends that children with persistent bilateral OME documented over a period of 3 months with a hearing level in the better ear of 25–30 dBHL or worse averaged at 0.5, 1, 2 and 4 kHz should be considered for surgical intervention.

- 1.4.2 Research indicates that this criterion is currently used to identify patients eligible for surgical intervention in the majority of cases, and therefore there is unlikely to be a significant change in the number of children requiring surgery for OME.
- 1.4.3 However, local organisations may have intervention rates different from the national average. These rates may increase or decrease following implementation of the guidance.
- 1.4.4 Figure 1 shows finished consultant episode (FCE)-based standardised admission ratios for each local authority area in England for incision of eardrum in children aged under 15 years (1998/99 to 2002/03), from the South East Public Health Observatory (SEPHO) atlas of intervention rates (Goldacre et al. 2005). The darker the shade, the higher the intervention rate. This shows there is a significant variation in intervention rates across England.
- 1.4.5 Local organisations should assess their existing intervention rate and how this will change following implementation of this guideline.

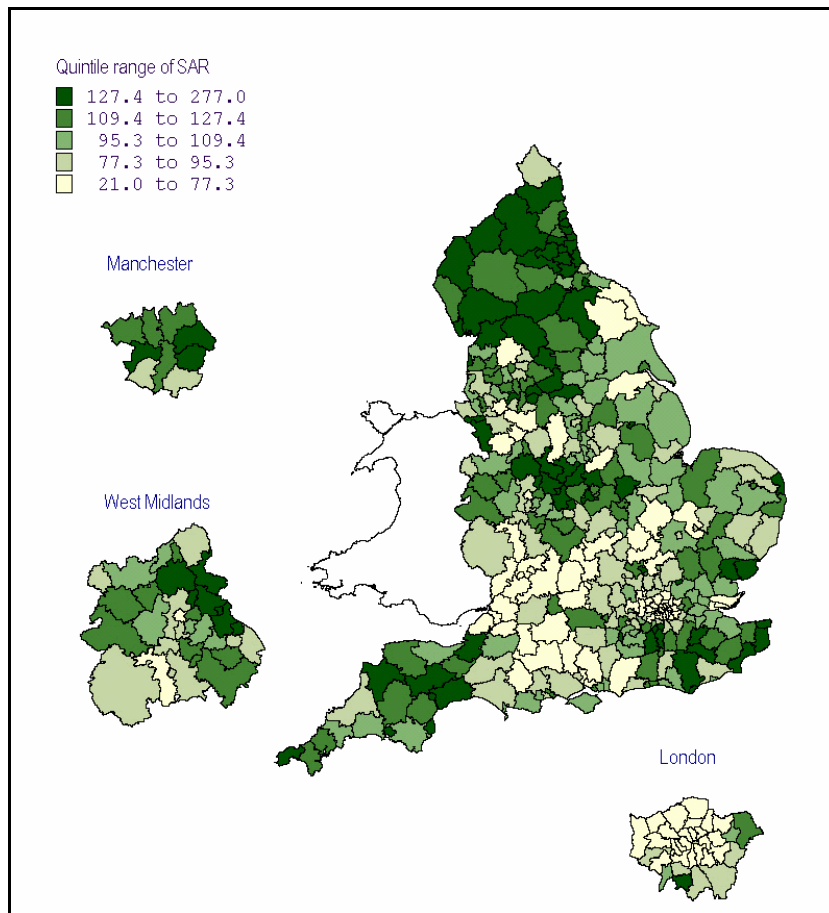


Figure 1 Intervention rates for incision of eardrum in children aged under 15 years in England, 1998/99 to 2002/03

Copyright © UHCE Oxford University. SAR, standardised admission ratio. The graph is based on data provided by EDINA UKBORDERS with the support of the Economic and Social Research Council (ESRC) and the Joint Information Systems Committee (JISC) and uses boundary material which is copyright of the Crown. Source: 2001 Census Output Area Boundaries. Crown copyright 2003. Crown copyright material is reproduced with the permission of the Controller of HMSO

- 1.4.6 Antibiotics are still frequently used in the treatment of OME, although not usually at the first episode. It is expected that the guideline will reduce the use of antibiotics for childhood OME, although this reduction may take time to be realised.

2 Costing methodology

2.1 *Process*

- 2.1.1 We use a structured approach for costing clinical guidelines (see appendix A).
- 2.1.2 Although some research has been carried out into OME in children, little information is available on the use of adjuvant adenoidectomies, or on symptoms of upper respiratory tract infection in conjunction with OME.
- 2.1.3 This 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 children under 12 years who are suspected of having, or are diagnosed with, OME.
- 2.2.2 It includes children with Down's syndrome and children with cleft palate.
- 2.2.3 The guidance does not cover children with other syndromal disorders, such as craniofacial dysmorphism or polysaccharide storage disease, or children with multiple complex needs. Therefore, these issues are outside the scope of the costing work.
- 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 greatest resource impact (see table 1). Costing work has focused on these recommendations.

Table 1 Recommendations with greatest resource impact

High-cost recommendations	Recommendation number	Key priority?
Once a decision has been taken to offer surgical intervention for OME in children, the insertion of ventilation tubes is recommended. Adjuvant adenoidectomy is not recommended in the absence of persistent and/or frequent upper respiratory tract symptoms.	1.5.1	✓
<p>The following treatments are not recommended for the management of OME:</p> <ul style="list-style-type: none"> • antibiotics • topical or systemic antihistamines • topical or systemic decongestants • topical or systemic steroids • homeopathy • cranial osteopathy • acupuncture • dietary modification, including probiotics • immunostimulants • massage. 	1.6.1	✓

2.2.5 Eight of the recommendations in the guideline have been identified as key priorities for implementation, and two of these are the two recommendations considered to have the greatest resource impact.

2.2.6 Three of the key recommendations (assessment of a child with OME, criteria for referral for surgical intervention, and hearing aids normally offered to children with Down's syndrome and OME with hearing loss) are not believed to differ from current practice, and so are not considered to have a resource impact nationally.

- 2.2.7 Two of the key recommendations relating to cleft palate (the need for careful otological and audiological assessment before the insertion of ventilation tubes at primary closure of the cleft palate, and the insertion of ventilation tubes as an alternative to hearing aids in children with cleft palate and OME with hearing loss) are not believed to differ from current practice, and so are not considered to have a resource impact nationally.
- 2.2.8 Local referral rates for surgical intervention may change following implementation of the guideline. This can be reflected in the local template, and any change in resources identified.
- 2.2.9 One recommendation, on offering hearing aids to children with persistent bilateral OME and hearing loss as an alternative to surgical intervention where surgery is contraindicated or not acceptable, is not believed to have any resource impact nationally. If more children (or their carers) choose hearing aids in preference to surgical intervention, the savings for this guideline will increase. Conversely, if hearing aids are accepted and a surgical intervention is undertaken later, the savings for this guideline will decrease.
- 2.2.10 No significant change in the number of hearing aids provided nationally is expected as hearing aids are only recommended where surgery is contraindicated or not acceptable. There may, however, be an increase in hearing aids accepted at a local level. This can be reflected in the local template, and any change in resources identified.
- 2.2.11 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 table 2 and section 1.3.3).

Table 2 Annual incidence of children with OME presenting to GP practices

Age of children	Annual incidence	Number of children
Under 2 years	2.9%	30,800
2–10 years	1.7%	91,500
11 years	0.5%	2,900
Total under 12 years		125,200

- 2.3.2 We increase these figures to allow for children who do not access their GP (see table 3).

Table 3 Total annual incidence of OME in children under 12 years

Description	Proportion	Number of children
Children accessing GP	70%	125,200
Children accessing other healthcare professionals	30%	53,700
Total		178,900

2.4 *Basis of unit costs*

- 2.4.1 The way the NHS is funded has undergone reform with the introduction of 'Payment by results', based on a national tariff. The national tariff will be applied to all activity for which Healthcare Resource Groups (HRGs) or other appropriate case-mix measures are available. Where a national tariff price or indicative price exists for an activity this has been used as the unit cost; this has then been inflated by the national average market forces factor (MFF).
- 2.4.2 Using these prices ensures that the costs in the report are the cost to the primary care trust (PCT) of commissioning predicted changes in activity at the tariff price, but may not represent the actual cost to individual trusts of delivering the activity.

3 Cost of resource-impact recommendations

3.1 *Avoidance of adjuvant adenoidectomies*

Background

- 3.1.1 Once a decision has been taken to offer surgical intervention for OME in children, insertion of ventilation tubes is recommended. Adjuvant adenoidectomy is not recommended in the absence of persistent and/or frequent upper respiratory tract symptoms (recommendation 1.5.1).
- 3.1.2 Once a decision is taken to offer surgery following the period of active observation, it is important that there is a minimum of delay in performing it (Introduction to NICE guideline).

Assumptions made

- 3.1.3 The number of finished consultant episodes in 2006/07 for children aged 14 years and under where the primary procedure is the insertion of ventilation tubes is 22,400; this number was obtained from Hospital Episode Statistics (HES) (Information Centre) (OPCS code D15.1, drainage of middle ear, insertion of ventilation tube through tympanic membrane).
- 3.1.4 It is assumed that the above number represents uncomplicated cases – that is, where insertion is not part of more complicated and relatively rare surgery – for example, for cleft palate.
- 3.1.5 The rate of ventilation tube insertion in children aged 12–14 years was assumed to be the same as that for adults, and was estimated to result in approximately 400 cases of ventilation tube insertion in 2006/07 in children aged 12–14 years, which are outside the scope of this guideline and hence of this costing work.
- 3.1.6 The total number of primary procedures for uncomplicated cases of the insertion of ventilation tubes is then assumed to be approximately 22,000 for children aged under 12 years.

- 3.1.7 Analysis of HES data gives an estimated rate of adjuvant adenoidectomies of 25%, which is broadly consistent with previously published surveys.
- 3.1.8 Following publication of this guideline, it is assumed that the number of cases of insertion of ventilation tubes involving adjuvant adenoidectomies will be reduced to 15% of primary procedures for the insertion of ventilation tubes, in line with clinical opinion.
- 3.1.9 There is, as discussed previously, considerable variation in practice across England and part of the aim of this guideline is to encourage uniformity in practice. Although there is expected to be a small reduction in the number of adjuvant adenoidectomies nationally, there may be no reduction locally, depending on existing practice.
- 3.1.10 Not all adenoidectomies are performed with the insertion of ventilation tubes. The expected relative 40% (absolute 10%) decrease in the total number of adjuvant adenoidectomies performed (that is, from absolute 25% to 10%) applies solely in those performed adjuvant to the insertion of ventilation tubes.
- 3.1.11 The insertion of ventilation tubes alone falls in HRG C55, minor ear procedures.
- 3.1.12 The insertion of ventilation tubes with adjuvant adenoidectomy falls in HRG C58, intermediate mouth or throat procedures.
- 3.1.13 The 2008/09 national tariff for an elective admission for C55, uplifted for national average MFF of 1.1249, is £818.
- 3.1.14 The 2008/09 national tariff for an elective admission for C58, uplifted for national average MFF of 1.1249, is £888.

Cost summary

- 3.1.15 Based on these assumptions, we expect a decrease in the insertion of ventilation tubes with adjuvant adenoidectomy of 2,200. We

assume that these 2,200 cases will have ventilation tubes inserted without adjuvant adenoidectomy.

- 3.1.16 The net savings of the avoidance of adjuvant adenoidectomy in the absence of persistent and/or frequent upper respiratory tract symptoms is summarised in table 4.

Table 4 Net cost of surgical interventions in children under 12 years

	Unit cost	Current		Proposed		Change	
		Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Insertion of ventilation tubes with adjuvant adenoidectomy	£888	5,500	4,894.7	3,300	2,936.6	-2,200	-1,958.1
Insertion of ventilation tubes without adjuvant adenoidectomy	£818	16,500	13,524.8	18,700	15,328.5	2,200	1,803.7
Totals		22,000	18,419.5	22,000	18,265.1	0	-154.4

3.2 *Antibiotics for treatment of OME*

Background

- 3.2.1 The following treatments are not recommended for the management of OME:

- antibiotics
- topical or systemic antihistamines
- topical or systemic decongestants
- topical or systemic steroids
- homeopathy
- cranial osteopathy
- acupuncture
- dietary modification, including probiotics
- immunostimulants
- massage (recommendation 1.6.1).

Assumptions made

- 3.2.2 Of the non-surgical treatments not recommended for the treatment of OME listed above, it is assumed that, with the exception of antibiotics, they do not currently use significant NHS resources.
- 3.2.3 Approximately 62% of children attending a GP surgery for OME receive antibiotics (Williamson et al. 2006). These are high levels given the low clinical benefit for most cases of OME, which has been known for some time. There has been difficulty reducing antibiotic prescription for OME and related respiratory infection by GPs.
- 3.2.4 It is assumed that no children accessing another healthcare professional for treatment will receive antibiotics.
- 3.2.5 This equates to approximately 77,700 courses of antibiotics currently per year.
- 3.2.6 It is assumed that the antibiotic treatment will be, or will be equivalent to, a 7-day course of amoxicillin.
- 3.2.7 The 'British national formulary' ('BNF' 54) advises 40 mg/kg daily in three divided doses for the treatment of otitis media.
- 3.2.8 The costing template assumes that 125 mg three times per day are prescribed for 7 days.
- 3.2.9 For children aged under 2 years, it is assumed that Amoxil paediatric suspension is prescribed, at a cost of £17.75 per course.
- 3.2.10 For children aged 2 years and over, it is assumed that non-proprietary amoxicillin suspension is prescribed, at a cost of £2.15 per course.
- 3.2.11 It is unknown how many of these courses of antibiotics would be avoided, as is the timescale of any change on practice. Clinical opinion is that antibiotic levels may reduce to 50% of current levels,

but differing values are explored in the sensitivity analysis. We then assume that 31% of children attending a GP surgery for OME receive antibiotics. This equates to approximately 38,800 courses of antibiotics per year in the future.

- 3.2.12 The future prescribing level will vary locally depending on current prescribing practice.

Cost summary

- 3.2.13 Currently, the use of antibiotics for OME is estimated to cost £464,600.
- 3.2.14 Following publication of this guidance, antibiotics for OME are estimated to cost £232,300.
- 3.2.15 The net savings from such a reduction in antibiotic prescribing for OME is summarised in table 5.

Table 5 Reduction in antibiotic prescribing for OME in children under 12 years

		Current		Proposed		Change	
	Unit cost	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)	Numbers of patients	Cost (£000s)
Antibiotic use for OME in children aged under 2 years	£17.75	19,100	338.5	9,500	169.3	-9,600	-169.2
Antibiotic use for OME in children aged 2 years or over	£2.15	58,600	126.1	29,300	63.0	-29,300	-63.1
Totals		77,700	464.6	38,800	232.3	-38,900	-232.3

4 Sensitivity analysis

4.1 Methodology

- 4.1.1 There are a number of assumptions in the model for which no direct 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 MFF 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, 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.

4.2 *Impact of sensitivity analysis on costs*

Cost of surgical procedures

- 4.2.1 The cost of insertion of ventilation tubes and insertion of ventilation tubes with adjuvant adenoidectomy was varied between the 25th and 75th percentiles from 2005/06 reference costs for day cases, uplifted by inflation to 2008/09 prices.
- 4.2.2 Varying the cost of surgical procedures between these limits alters the change in resources between a saving of £1,012,000 and an additional cost of £502,000, a variance of £1.5 million.
- 4.2.3 The costing work takes the commissioner perspective, and so uses the national tariff to estimate resource impact for the NHS. The cost

to the provider will be different from this. As the relative cost of each procedure has the largest impact on change in resources, organisations need to assess the cost of each procedure locally.

Change in proportion of adjuvant adenoidectomies performed

- 4.2.4 The costing work assumes a reduction in the proportion of ventilation tube insertions accompanied by adjuvant adenoidectomies of 10 percentage points.
- 4.2.5 Varying this absolute percentage point reduction between 5 and 15 percentage points results in a cost variance of £154,000.
- 4.2.6 As there is little data available on the change in the proportion of adjuvant adenoidectomies likely following implementation of this guideline, this should be regarded as having the most inherent uncertainty. The assumption about savings should therefore also be regarded as having high uncertainty.

Reduction in prescribing rates for antibiotics

- 4.2.7 Williamson et al. (2006) give an estimated antibiotic prescribing rate by GPs of 62% of consultations for OME. This rate is based on data from 2000.
- 4.2.8 Prescribing of antibiotics generally has been declining in primary care in recent years, although the trend from 1996 to 2000 showed an increasing prescribing rate for OME (Williamson et al. 2006).
- 4.2.9 We assume that prescribing of antibiotics will reduce following implementation of the guideline. The size of this reduction will depend on the appropriateness of current prescribing, and the ability of commissioners to influence prescribing in GPs.
- 4.2.10 The proportionate reduction in prescribing rates was varied from 20% to 70%. The resulting cost variance was £233,000.
- 4.2.11 Local organisations need to assess the existing prescribing baseline, as well as the size of any potential reduction.

5 Impact of guidance for commissioners

- 5.1.1 Surgical management of OME falls within the scope of 'Payment by results'. The prescribing of antibiotics is likely to take place within primary care, and hence will not fall within the scope of 'Payment by results'.
- 5.1.2 The prescription of antibiotics falls into programme budgeting category 1X (infectious diseases) and the surgical treatment falls into category 9 (hearing problems).

6 Conclusion

6.1 *Total national cost for England*

- 6.1.1 Using the 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 a saving of £484,500. Table 6 shows the breakdown of cost of each resource-impact recommendation.

Table 6 Summary of resource impact of implementing the guideline on OME

Recurrent costs	National cost £000s
Reduction in the number of adjuvant adenoidectomies performed	-154.4
Reduction in antibiotic use	-232.3
Total change in resources	-386.6

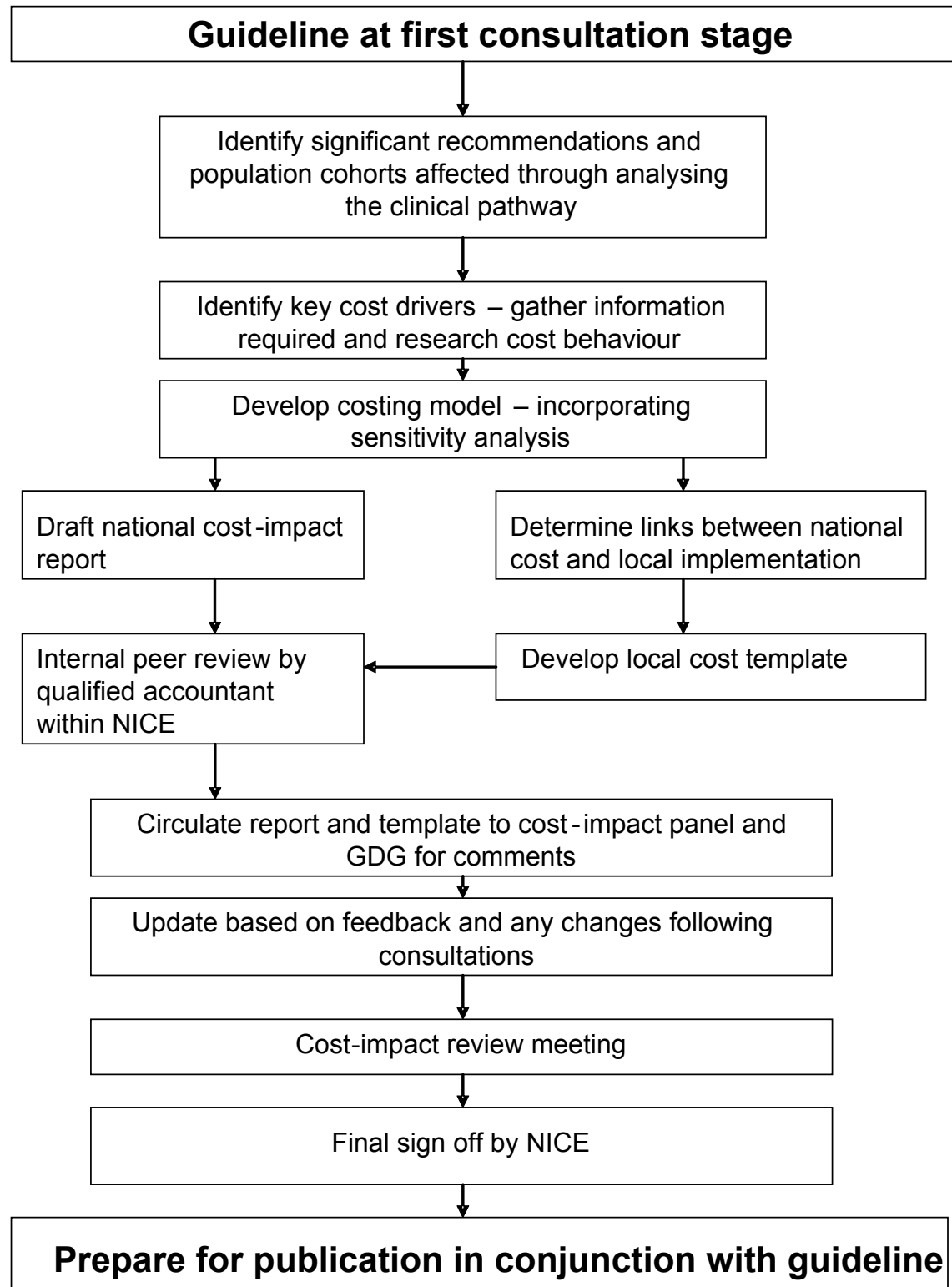
- 6.1.2 This represents a reduction of 1.9% in resources required for the surgical management of OME. This reduction may not be uniform across England, as there exists significant variation in current practice in both surgery and in the use of antibiotics. The high variation in current practice and small reduction nationally jointly imply that in some districts there will be increased costs.

- 6.1.3 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 regarding diagnosis and treatment paths and the time available. However, the costs presented are estimates and should not be taken as the full cost or saving from implementing the guideline.
- 6.1.4 The guideline will not lead to a significant change in practice in some areas and so it can be implemented without delay. In other areas, changes in practice may be more substantial and therefore take longer to implement. There are no processes involved in the implementation of this guideline that have very long timescales – for example, changes in surgical training.

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 make savings of £800. This template can be used to calculate the cost of implementing this guidance in any district.

Appendix A. Approach to costing guidelines



Appendix B. Results of sensitivity analysis

Parameter varied	Baseline value	Minimum value	Maximum value	Baseline costs £000s	Minimum costs £000s	Maximum costs £000s	Change £000s
Number of episodes of OME consulting GP	125,245	65,439	125,245	-387	-387	-242	167
Change in proportion of adjuvant adenoidectomies performed	10%	5%	15%	-387	-464	-310	154
Cost of insertion of ventilation tubes alone	£818	£535	£904	-387	-1,012	-197	815
Cost of insertion of ventilation tubes and adjuvant adenoidectomy	£888	£485	£930	-387	-479	502	981
Proportionate reduction in cases of OME receiving antibiotics	50%	20%	70%	-387	-480	-247	233
Cost of antibiotics in children aged 2 years and over	£2.15	£0.62	£2.15	-387	-432	-387	45

Appendix C. References

South East Public Health Observatory (SEPHO), 'SEPHO atlas of intervention rates' [online]. Available from www.sepho.org.uk

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