NICE National Institute for Health and Care Excellence

Costing report

Stroke rehabilitation

Published: June 2013

http://guidance.nice.org.uk/CG162

This costing report accompanies the clinical guideline: 'Stroke rehabilitation' (available online at http://guidance.nice.org.uk/CG162).

Issue date: June 2013

This report is written in the following context

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

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

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

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Executive summary

This costing report looks at the resource impact of implementing the NICE guideline 'Stroke rehabilitation' in England.

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

Significant[1] resource-impact recommendations

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

- early supported discharge [1.1.8]
- therapy intensity [1.2.16]
- return to work [1.10.5]

The report suggests commissioners should review the following recommendations at a local level:

- neuropsychological presentation [1.5.1]
- cost delivering rehabilitation in nursing homes and care homes [1.1.14]
- cost of rehabilitation equipment in nursing homes and care homes. [1.1.10]

Net resource impact

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

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

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The estimated annual impact of implementing these recommendations for a population of 100,000

	Current practice	Future practice	Change in costs
Costs	£,000s	£,000s	£,000s
Early supported discharge	62	164	102
Therapy intensity	61	85	24
Return to work	1	10	9
Clinical psychologists specialising in neuropsychology	Assess locally	Assess locally	Assess locally
Support for rehabilitation in care homes and nursing homes	Assess locally	Assess locally	Assess locally
Savings			
Early supported discharge	0	98	98
Estimated total resource impact of guidance	**124**	**161**	**37**

Other considerations

Organisations should be aware for stroke rehabilitation services to work effectively a good interface between health and social care services is required.

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.

1 Introduction

1.1 Supporting implementation

1.1.1 The NICE clinical guideline on stroke rehabilitation is supported by the following implementation tools available on our website www.nice.org.uk//guidance/CG162:

- costing tools
  - a costing report; this document
  - a local costing template; a spreadsheet that can be used to estimate the local cost of implementation
- practice-based implementation advice
- baseline assessment tool.

1.2 What is the aim of this report?

1.2.1 This report provides estimates of the cost impact for a population of 100,000 arising from implementation of guidance on stroke rehabilitation 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 stroke rehabilitation and should be read in conjunction with it (see www.nice.org.uk/guidance/CG162) and implementation advice 'Support for education and learning: putting the stroke rehabilitation guideline into practice.'

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

1.3 Epidemiology of stroke rehabilitation

There were estimated to be around 130,000 strokes per annum in England[2]. Stroke mortality rates in the UK have been falling steadily since the late 1960s, but despite improvements in mortality and morbidity, people with stroke still need access to effective rehabilitation services. More than 900,000 people in England are living with the effects of stroke.

1.4 Current service provision

1.4.1 Many people have a high burden of disability after stroke and much of post-stroke care relies on rehabilitation interventions. Patients are given an initial rehabilitation assessment soon after a stroke, once they have stabilised. Evidence shows that starting rehabilitation early is associated with reduced disability and improved prognosis. Assessment is multidisciplinary, involving a range of healthcare professionals including physicians, physiotherapists, occupational therapists, clinical psychologists and speech and language therapists.

2 Costing methodology

2.1 Process

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

2.1.2 We have to make assumptions in the costing model. These are tested for reasonableness with members of the Guideline Development Group (GDG) and key clinical practitioners in the NHS.

[2] Stroke Association (2013) Stroke statistics. [online].

2.1.3 Local users can assess local cost impact, using the costing template as a starting point, and update assumptions to reflect local circumstances.

2.2 Scope of the cost-impact analysis

2.2.1 The guideline offers best practice advice on stroke rehabilitation.

2.2.2 The guidance does not cover:

- infants and children under 16 years
- people who have had a transient ischaemic attack.

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

2.2.3 We worked with the GDG and other professionals to identify the recommendations that would have the most significant resource impact (see table 1). Costing work has focused on these recommendations.

Table 1 Recommendations with a significant resource impact

Recommendation	Recommendation number	Guideline key priority?
Offer early supported discharge to people with stroke who are able to transfer from bed to chair independently or with assistance, as long as a safe and secure environment can be provided.	1.1.8	✓
Offer initially at least 45 minutes of each relevant stroke rehabilitation therapy for a minimum of 5 days per week to people who have the ability to participate, and where functional goals can be achieved. If more rehabilitation is needed at a later stage, tailor the intensity to the person's needs at that time[1].	1.2.16	✓
Assess emotional functioning in the context of cognitive difficulties in people after stroke. Any intervention chosen should take into consideration the type or complexity of the person's neuropsychological presentation and relevant personal history.	1.5.1	
Ensure that people with stroke who are transferred from hospital to care homes receive assessment and treatment from stroke rehabilitation and social care services to the same standards as they would receive in their own homes.	1.1.14	
Hospitals should have systems in place to ensure that: • people after stroke and their families and carers (as appropriate) are involved in planning for transfer of care, and carers receive training in care (for example, in moving and handling and helping with dressing) • people after stroke and their families and carers feel adequately informed, prepared and supported • GPs and other appropriate people are informed before transfer of care • an agreed health and social care plan is in place, and the person knows whom to contact if difficulties arise • appropriate equipment (including specialist seating and a wheelchair if needed) is in place at the person's residence, regardless of setting.	1.1.10	
Return-to-work issues should be identified as soon as possible after the person's stroke,	1.10.5	✓

reviewed regularly and managed actively. Active management should include: • identifying the physical, cognitive, communication and psychological demands of the job (for example, multi-tasking by answering emails and telephone calls in a busy office) • identifying any impairments on work performance (for example, physical limitations, anxiety, fatigue preventing attendance for a full day at work, cognitive impairments preventing multi-tasking, and communication deficits) • tailoring an intervention (for example, teaching strategies to support multi-tasking or memory difficulties, teaching the use of voice-activated software for people with difficulty typing, and delivery of work simulations) • educating about the Equality Act 2010[3] and support available (for example, an access to work scheme) • workplace visits and liaison with employers to establish reasonable accommodations, such as provision of equipment and graded return to work.		
[1] Intensity of therapy for dysphagia, provided as part of speech and language therapy, is addressed in recommendation 1.7.2		

2.2.4 Eleven of the recommendations in the guideline have been identified as key priorities for implementation, and 3 of these are also among the 6 recommendations considered to have a significant resource impact.

2.2.5 The remaining 8 recommendations in the guideline that have been identified as key priorities for implementation are not anticipated to have a significant resource impact for the following reasons.

[3] HM Government (2010) Equality Act [online]

Stroke units

People with disability after stroke should receive rehabilitation in a dedicated stroke inpatient unit and subsequently from a specialist stroke team within the community. [1.1.1]

The National sentinel stroke audit[4] indicated that 88% of patients were admitted to a stroke unit at some point in their stay and about two thirds of patients spent 90% of their hospital stay on a stroke unit. The report highlighted that 'it is disappointing that only 36% of patients are admitted directly to a stroke unit.' It noted that a small majority of patients (57%) are still initially admitted to a general assessment unit.

Implementing this recommendation is more likely to require commissioners and providers to review and redesign admission procedures than to have a significant cost. Commissioners and providers are encouraged to review their local circumstances.

The core multidisciplinary stroke team

A core multidisciplinary stroke rehabilitation team should comprise the following professionals with expertise in stroke rehabilitation:

- consultant physicians
- nurses
- physiotherapists
- occupational therapists
- speech and language therapists
- clinical psychologists
- rehabilitation assistants
- social workers. [1.1.3]

[4]Intercollegiate Stroke Working Party (2011). National sentinel stroke clinical audit 2010 (round 7): public report for England, Wales and Northern Ireland. London: Royal College of Physicians.

The National sentinel stroke audit[5] indicated that hospitals are performing better in respect of multidisciplinary working, but noted that access to social workers and occupational therapists could be improved.

There may be additional costs at a local level if access to social workers and occupational therapy are to be improved. These costs would fall to both health and social care.

Expert opinion suggests that clinical psychologist support is below average and there may not be sufficient healthcare professionals within organisations to carry out this function effectively. Paragraph 4.2 suggests clinical psychologist staffing levels should be reviewed at a local level. The costing template allows commissioners and providers to calculate any additional costs for clinical psychologists. It is anticipated that any other shortfalls in healthcare professionals will be corrected by fully implementing recommendation 1.1.6. This is discussed in paragraph 3.2.

Fully implementing this recommendation may not have a significant cost. Commissioners and providers are encouraged to review their local circumstances.

Health and social care interface

Health and social care professionals should work collaboratively to ensure a social care assessment is carried out promptly, where needed, before the person with stroke is transferred from hospital to the community. The assessment should:

- identify any on-going needs of the person and their family or carer for example, access to benefits, care needs, housing, community participation, return to work, transport and access to voluntary services

[5] Intercollegiate Stroke Working Party (2011). National sentinel stroke clinical audit 2010 (round 7): public report for England, Wales and Northern Ireland. London: Royal College of Physicians.

- be documented and all needs recorded in the person's health and social care plan, with a copy provided to the person with stroke. [1.1.6]

The implementation advice 'Support for education and learning: putting the stroke rehabilitation guideline into practice' gives an example of the benefits of effective interface between health and social care. This states: "Where this has been implemented in practice, significant time has been saved by the health and social services staff, saving repetition and rewriting from health records into social care assessments and records and has improved the quality of the more holistic information in the assessment documentation".

Fully implementing this recommendation is not anticipated to have a significant cost and may provide benefits to both health and social care. Commissioners and providers are encouraged to review their local circumstances.

Setting goals for rehabilitation

Ensure that goal-setting meetings during stroke rehabilitation:

- are timetabled into the working week
- involve the person with stroke and, where appropriate, their family or carer in the discussion. [1.2.9]

Fully implementing this recommendation is not anticipated to have a significant cost as services are in place in most organisations. For those organisations where services are not in place or fully developed, expert opinion estimates this would take two band 6 members of staff 1 hour per week. This is estimated to cost £2,300 per intervention per annum at mid-point of band 6 payscale. Commissioners and providers are encouraged to review their local circumstances.

Cognitive functioning

Screen people after stroke for cognitive deficits. Where a cognitive deficit is identified, carry out a detailed assessment using valid, reliable and responsive tools before designing a treatment programme. [1.4.1]

The National sentinel stroke audit[6] indicated that 85% of people have their cognitive status assessed. Implementing this recommendation is not anticipated to have a significant cost. Expert opinion does however suggest that whilst assessments are undertaken, there is insufficient time to assess people in detail and where further interventions are required this does not always happen. Where services are not in place or fully developed, expert opinion estimates this would take a band 6/7 member of staff 3–4 hours per week for an assessment and a further hour to design a programme. This is estimated to cost between £4,600 and £6,800 per intervention per annum at mid-point of band 6/7 payscale. Commissioners and providers are encouraged to review their local circumstances.

Emotional functioning

Assess emotional functioning in the context of cognitive difficulties in people after stroke. Any intervention chosen should take into consideration the type or complexity of the person's neuropsychological presentation and relevant personal history. [1.5.1]

The National sentinel stroke audit[5] indicated that mood is assessed in 80% of people. Implementing this recommendation is not anticipated to have a significant cost. Costs associated with daily living may fall to local authorities following this assessment. These

[6] Intercollegiate Stroke Working Party (2011) National sentinel stroke clinical audit 2010 (round 7): public report for England, Wales and Northern Ireland. London: Royal College of Physicians.

should be considered at a local level. Commissioners and providers are encouraged to review their local circumstances.

Swallowing

Offer swallowing therapy at least 3 times a week to people with dysphagia after stroke who are able to participate, for as long as they continue to make functional gains. Swallowing therapy could include compensatory strategies, exercises and postural advice. [1.7.2]

The National sentinel stroke audit[6] indicated that in 86% of people swallowing is assessed within 72 hours of admission. Implementing this recommendation is not anticipated to have a significant cost. Commissioners and providers are encouraged to review their local circumstances.

Long-term health and social support

Review the health and social care needs of people after stroke and the needs of their carers at 6 months and annually thereafter. These reviews should cover participation and community roles to ensure that people's goals are addressed. [1.11.5]

Expert opinion suggests this may not be universally in place and would involve more clinic slots or new roles to deliver this service. The implementation advice 'Support for education and learning: putting the stroke rehabilitation guideline into practice' gives advice and examples to help implement this recommendation and highlights that there may be a need for specialist training for stroke social workers. There may also be long-term costs associated with daily living which may fall to local authorities. Where necessary these costs should be calculated locally. Fully implementing this recommendation is may not have a significant cost. Commissioners and providers are encouraged to review their local circumstances.

2.2.6 We have limited the consideration of costs and savings to direct costs to the health and social care that will arise from

implementation. We have not included consequences for the individual, the private sector or the not-for-profit sector. If applicable, any realisable cost savings arising from a change in practice have been offset against the cost of implementing the change.

2.3 General assumptions made

2.3.1 The model is based on an annual incidence of 317 strokes per 100,000 population or 0.32% of adult population. This indicates around 128,000 stokes a year in England.

2.3.2 For each recommendation for which a resource implication is anticipated, current and future practices have been estimated. When this is not possible, the opportunity for a local estimate has been created.

2.4 Basis of unit costs

2.4.1 Implementation of this guideline requires additional clinical time. Therefore the unit costs are based upon 2013/14 salary costs. If a national tariff price or indicative price exists for an activity, this has been used as the unit cost.

2.4.2 Using these prices ensures that commissioners can work with providers to calculate whether the additional costs are within the existing national tariff or outside the current scope of payment by results.

3 Significant resource-impact recommendations

3.1 Early supported discharge

Recommendation

Offer early supported discharge to people with stroke who are able to transfer from bed to chair independently or with assistance, as long as a safe and secure environment can be provided. [1.1.8]

Background

3.1.1 Implementation of stroke early supported discharge services was recommended in the National Stroke Strategy (2007) and the National Clinical Guideline for Stroke (Royal College of Physicians, 2008) .Trials have shown that early supported discharge can reduce long-term dependency and admission to institutional care, as well as the length of hospital stay.

Assumptions made

3.1.2 For a notional hundred patients per annum[7], an early supported discharge team is assumed to consist of staffing as set out in table 2.

Table 2 Early supported discharge team per 100 patients per annum

Early supported discharge team per 100 patients per annum	WTE
Physiotherapist – AFC band 7	1.00
Occupational therapist – AFC band 7	1.00
Speech and language therapist – AFC band 7	0.40
Nurse – AFC band 7	0.60
Physician (1 consultant session)	0.10
Social worker(assumed cost equivalent to AFC band 7)	0.25
Coordinator – AFC band 3	1.00
Total	4.35
AFC, Agenda for Change; WTE, whole time equivalent	

3.1.3 The number of patients assumed to be eligible for early reported discharge is assumed to be 40% as per the accelerated stroke improvement target.

3.1.4 Current practice is assumed to be 36% of the eligible population as per the National sentinel stroke audit[8].

3.1.5 Future practice is assumed to be 95% of the eligible population.

[7] Fisher, R, Gaynor, K, Kerr, M et al. (2010) Stroke early supported discharge consensus activity.

[8] Intercollegiate Stroke Working Party (2011) National sentinel stroke clinical audit 2010 (round 7): public report for England, Wales and Northern Ireland. London: Royal College of Physicians.

3.1.6 Early supported discharge is associated with a reduction in inpatient length of stay of on average of 8 days[9].

Cost summary

3.1.7 The net cost of recommendation 1.1.8 is summarised in table 3 per 100,000 population.

Table 3 Estimated cost of early reported discharge for a population of a 100,000

	Current cost (£000s)	Predicted cost (£000s)	Change in cost (£000s)
Costs – early reported discharge team	62	164	102
Savings reduction in length of stay		(98)	(98)
Net cost/saving (–)	62	66	4

Other considerations

3.1.8 Commissioners and providers are encouraged to work together to establish an early reported discharge service and to review the timing of costs and savings.

3.2 Intensity of therapy

Recommendation

Offer initially at least 45 minutes of each relevant stroke rehabilitation therapy for a minimum of 5 days per week to people who have the ability to participate, and where functional goals can be achieved. If more rehabilitation is needed at a later stage, tailor the intensity to the person's needs at that time[10]. [1.2.16]

Background

3.2.1 NICE quality standard on stroke statement 7 says: "Patients with stroke are offered a minimum of 45 minutes of each active therapy

[9] Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust (2012) Stroke early supported discharge service – 6 months pilot review report.

that is required, for a minimum of 5 days a week, at a level that enables the patient to meet their rehabilitation goals for as long as they are continuing to benefit from the therapy and are able to tolerate it."

3.2.2 The National sentinel stroke audit supplementary report (March 2012)[11] on therapy intensity attempted for the first time to assess the percentage of patients for whom 45 minutes of therapy was considered appropriate.

Assumptions made

3.2.3 Based on The National sentinel stroke audit supplementary report (March 2012)[11]the percentage number of patients considered appropriate for 45 minutes of therapy is set out in table 4.

Table 4 The percentage of patients considered appropriate for 45 minutes of therapy

Therapy	Patients considered appropriate %
Physiotherapy	70
Occupational therapy	67
Speech and language therapy	37

3.2.4 It assumed each patient receives on average 10 days of therapy.

3.2.5 Based on the National sentinel stroke audit supplementary report (March 2012)[11] current practice was estimated as set out in table 5. It has been assumed on average that patients not receiving the full 45 minutes receive on average half of this time (22.5 minutes).

[10] Intensity of therapy for dysphagia, provided as part of speech and language therapy, is addressed in recommendation 1.7.2

[11] Clinical standards Department, Royal College of Physicians, on behalf of the Intercollegiate Stroke Working Party (2011) National sentinel stroke clinical audit 2010 supplementary report on therapy intensity (March 2012) . London: Royal College of Physicians

Table 5 the estimated percentage number of patients receiving 22.5 and 45 minutes of therapy

Therapy	Estimated percentage of patients receiving 22.5 minutes of therapy %	Estimated percentage of patients receiving 45 minutes of therapy %
Physiotherapy	55	45
Occupational therapy	53	47
Speech and language therapy	63	37

3.2.6 Future practice is assumed to be 100% of eligible patients

Cost summary

3.2.7 The net cost of recommendation 1.2.16 is summarised in table 6 per 100,000 population.

Table 6 Estimated cost of 45 minutes of each relevant stroke rehabilitation therapy for a minimum of 5 days for people who have the ability to participate for a population of 100,000

	Current cost (£000s)	Predicted cost (£000s)	Change in cost (£000s)
Physiotherapy	25	34	9
Occupational therapy	24	33	9
Speech and Language therapy	12	18	6
Net cost/saving (–)	**61**	**85**	**24**

Other considerations

3.2.8 Commissioners and providers are encouraged to work together to review current therapy intensity and to review services to be delivery under payment by results.

3.3 Return to work

Recommendation

Return-to-work issues should be identified as soon as possible after the person's stroke, reviewed regularly and managed actively. [1.10.5]

Background

3.3.1 Getting back to work after an accident, illness or injury can be a challenge. With help from rehabilitation services people can return to work after a stroke.

3.3.2 Expert opinion suggests access to such services is poor, with as few as 10% of people accessing vocational rehabilitation services.

Assumptions

3.3.3 For costing purposes it is assumed that services are delivered for a population rather than an individual.

3.3.4 An example of a service delivered for a population of 790,000 has been used. This service had 1 occupational therapist and 1 technical instructor.

Cost summary

3.3.5 The estimated cost per 100,000 population based on the assumptions stated is £10,400.

Other considerations

3.3.6 Vocational rehabilitation services can be delivered in a number of areas, for example helping people return to work after accidents. So when considering establishing a vocational rehabilitation service consideration should be given to whether this should be wider than just stroke services.

3.3.7 There may be costs for local employers in vocational rehabilitation services and local authorities may also incur costs in promotion or establishment of such services .These should be considered locally.

4 Recommendations that may have a significant resource impact at a local level

The following recommendations may need to be reviewed at a local level because expert opinion suggests that services vary from area to area. The costing template produced alongside this report enables local data to be input into in order to assess the full cost of implementing this guideline.

Recommendation

Assess emotional functioning in the context of cognitive difficulties in people after stroke. Any intervention chosen should take into consideration the type or complexity of the person's neuropsychological presentation and relevant personal history. [1.5.1]

Background

4.1.1 Expert opinion suggests:

- There is fewer than 1 psychologist per 100 stroke beds
- Services vary across the country
- It is not reasonable to assume that cognition and mood will not affect cost because these require specialist skills (for example, even to train people at level 1 psychological support – which covers cognition and mood, not just mood) as well as appropriate staff (for example, clinical psychologists specialising in neuropsychology).

Assumptions

4.1.2 Because services differ across the country, the costing template allows local input of existing services provided by clinical psychologists specialising in neuropsychology. Commissioners and providers are encouraged to work together to agree appropriate service levels.

The recommendations below relate to delivery of therapy services in nursing homes and care homes:

- Ensure that people with stroke who are transferred from hospital to care homes receive assessment and treatment from stroke rehabilitation and social care services to the same standards as they would receive in their own homes. [1.1.14]
- Hospitals should have systems in place to ensure that:
  - people after stroke and their families and carers (as appropriate) are involved in planning for transfer of care, and carers receive training in care (for example, in moving and handling and helping with dressing)
  - people after stroke and their families and carers feel adequately informed, prepared and supported
  - GPs and other appropriate people are informed before transfer of care
  - an agreed health and social care plan is in place, and the person knows whom to contact if difficulties arise
  - appropriate equipment (including specialist seating and a wheelchair if needed) is in place at the person's residence, regardless of setting. [1.1.10]

Assumptions

4.1.3 The costs in relating to this area are threefold

- The cost of equipment and adaptions to people place of residence. These costs would fall to local authorities
- The cost of establishing or improving therapy services
- Non repetitive costs relating to provision of equipment

Expert opinion suggests in many areas this may be a new service as they are outside the scope of many community services

4.1.4 The costing template allows input of required therapy levels for rehabilitation in nursing homes and care homes and associated equipment for the required service. The cost of equipment and adaptions to people place of residence can also be included here.

5 Sensitivity analysis

5.1 Methodology

5.1.1 There are a number of assumptions in the model for which no empirical evidence exists; these are therefore subject to a degree of uncertainty.

5.1.2 Appropriate minimum and maximum values of variables were used in the sensitivity analysis to assess which variables have the biggest impact on the net cost or saving. This enables users to identify the significant cost drivers.

5.1.3 It is not possible to arrive at an overall range for total cost because the minimum or maximum of individual lines are unlikely to occur simultaneously. We undertook one-way simple sensitivity analysis, altering each variable independently to identify those that have greatest impact on the calculated total cost.

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

5.1.5 The sensitivity analysis highlighted that the reduction in the length of stay and associated cost savings is the most sensitivity variable.

5.2 Impact of sensitivity analysis on costs

Reduction in length of stay due to early supported discharge

5.2.1 By varying the reduction in length of stay from baseline value of 8 days to 10 days and 4 days respectively. The change in the baseline value was £73,000.

People eligible for early supported discharge

5.2.2 By varying the people eligible for early supported discharge from baseline value of 40% to 30% and 50% respectively. The change in the baseline value was £2,000.

Therapy intensity

5.2.3 By varying therapy intensity by -/+5% from baseline values for each of the three therapies (physiotherapy, occupational therapy and speech and language therapy). The change in the baseline value was £4,000.

6 Impact of guidance for commissioners

6.1.1 This guidance will require commissioners and providers to work together to agree both appropriate service levels and also those service levels that should be provided under payment by results and those that are outside its current scope.

7 Conclusion

7.1 Estimated cost for a population of 100,000

7.1.1 Using the significant resource-impact recommendations shown in table 1 and assumptions specified in section 3 we have estimated the annual impact of implementing these recommendations in England to be a cost of £37,000. Table 7 shows the breakdown of cost of each significant resource-impact recommendation.

Table 7 The estimated annual impact of implementing these recommendations for a population of 100,000

	Current practice	Future practice	Change in costs
Costs	£,000s	£,000s	£,000s
Early supported discharge	62	164	102
Therapy intensity	61	85	24
Return to work	1	10	9
Clinical psychologists specialising in neuropsychology	Assess locally	Assess locally	Assess locally
Support for rehabilitation in Care homes & Nursing homes	Assess locally	Assess locally	Assess locally
Savings			
Early supported discharge	0	98	98
Estimated total resource impact of guidance	**124**	**161**	**37**

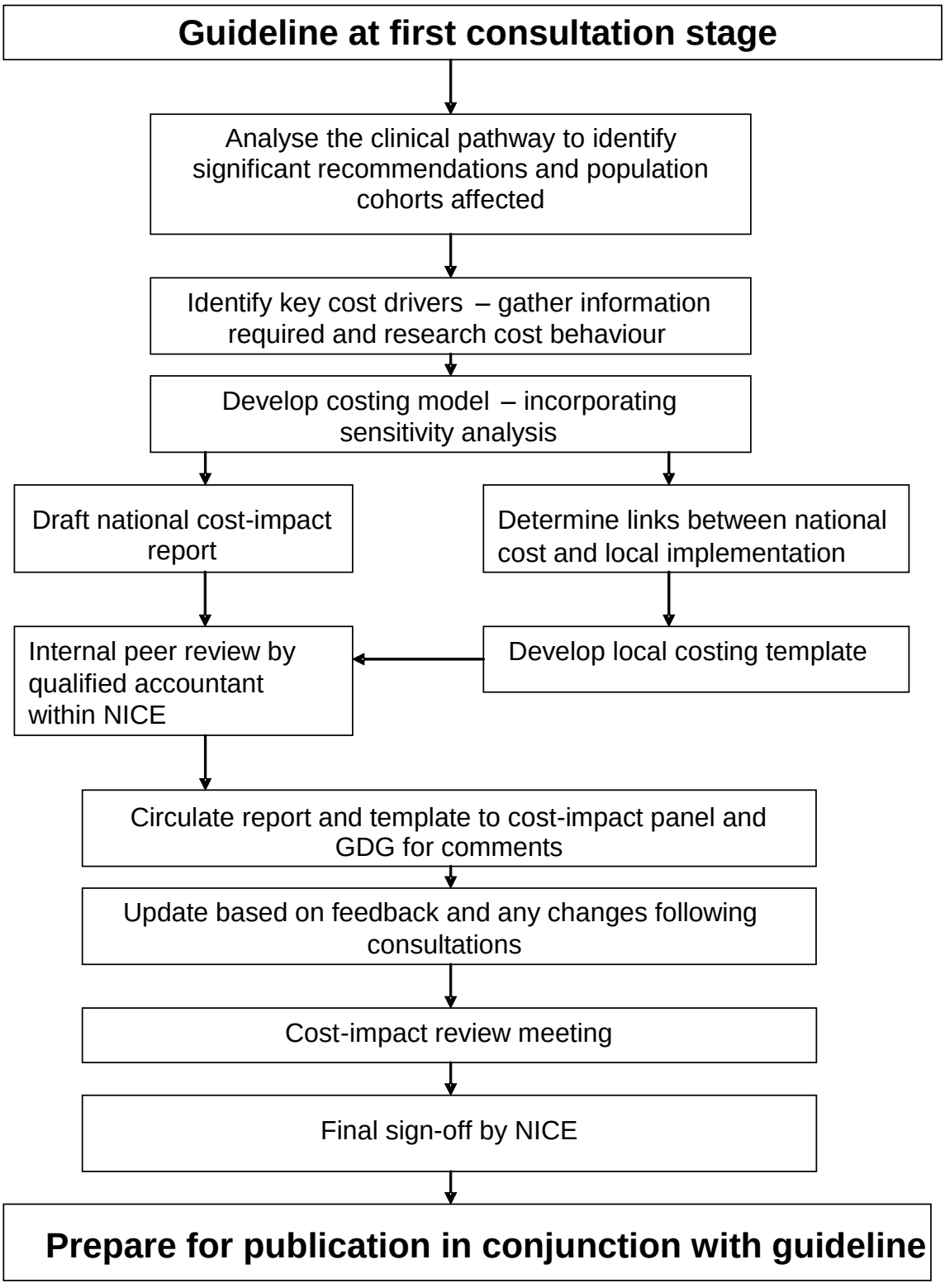
7.1.2 The costs presented are estimates and should not be taken as the full cost of implementing the guideline.

7.2 Next steps

7.2.1 The costing template produced to support this guideline enables Commissioners to estimate the impact locally and replace variables with ones that depict the current local position.

7.2.2 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

	Baseline value	Minimum value	Maximum value	Baseline costs (£000's)	Minimum costs (£000's)	Maximum costs (£000's)	Change (£000's)
Reduction in length of stay due to early supported discharge	8 days	10 days	4 days	37	13	86	73
People eligible for early supported discharge	40%	30%	50%	37	36	38	2
Therapy intensity(average)	58%	53%	63%	37	35	39	4

Appendix C. References

Fisher, R, Gaynor, K, Kerr, M, Walker, M. (2010) Stroke early supported discharge consensus activity. Collaboration for Leadership in Applied Health Research and Care (Nottinghamshire, Derbyshire and Lincolnshire), Stroke Rehabilitation Theme, University of Nottingham

Intercollegiate Stroke Working Party (2011) National sentinel stroke clinical audit 2010 (round 7): public report for England, Wales and Northern Ireland. London: Royal College of Physicians

Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust (2012) Stroke early supported discharge service – 6 months pilot review report