

Putting NICE guidance into practice

Resource impact report: Hearing loss in adults: assessment and management (NG98)

Published: June 2018

Summary

This report focuses on the recommendation from NICE's guideline on [Hearing loss](#) that we think will have the greatest resource impact nationally (for England), and will need the most additional resources to implement. It is:

- Refer adults who present with hearing difficulties for a hearing assessment.

Implementing the guideline is expected to lead to the following additional costs:

- Hearing assessments, for people not currently referred to audiology.
- Additional hearing aids, including fitting and follow up.

The estimated annual cost of implementing this guideline per 100,000 population based on the resource impact assumptions is shown in table 1. For England, this is equivalent to costs in the first 5 years of £2.6m (2018/19), £5.2m (2019/20), £10.3m (2020/21), £15.5m (2021/22) and £20.7m (2022/23).

Table 1 Estimated annual cost of implementing the guideline for a population of 100,000

	2018/19 (£)	2019/20 (£)	2020/21 (£)	2021/22 (£)	2022/23 (£)
Cost impact each year of implementing the hearing loss guideline	4,713	9,425	18,851	28,276	37,702

This report is supported by a [resource impact template](#) which may be used to calculate the resource impact of implementing the guidance by amending the variables.

Services for people with hearing loss are commissioned by clinical commissioning groups (CCGs). Providers are NHS hospital trusts, community providers (in some parts of England this is through the Any Qualified Provider (AQP) scheme) and primary care.

1 Introduction

- 1.1 The guideline offers best practice advice on hearing loss in adults.
- 1.2 This report discusses the resource impact of implementing our guideline on Hearing loss in adults: assessment and management in England. It aims to help organisations plan for the financial implications of implementing this NICE guideline.
- 1.3 A resource impact template accompanies this report to help with assessing the resource impact at a local level in England, Wales or Northern Ireland.
- 1.4 We have considered direct costs and savings to the NHS and not those for the individual, the private sector or the not-for-profit sector.
- 1.5 Services for people with hearing loss are commissioned by clinical commissioning groups (CCGs). Providers are NHS hospital trusts, community providers (in some parts of England this is through the Any Qualified Provider (AQP) scheme) and primary care.

2 Background

- 2.1 Hearing loss affects over 9 million adults in England. The [NHS England Action plan on hearing loss](#) identifies the need for improved early identification of hearing loss and early treatment. It is estimated in [the Hearing Matters paper from Action on Hearing Loss](#) that 5.6 million adults in England would benefit from having a hearing aid. There are estimated to be around 3 million adults in England who already have hearing aids.
- 2.2 There are 2 population groups where there is a potential resource impact: people with hearing difficulties presenting to healthcare professionals for the first time who are not currently referred to audiology services and people in the general population who have

hearing loss, who have not previously been referred (for hearing aids).

Section 3.1 of this report and the resource impact template focus on people presenting to services for the first time. People in the general population with hearing loss who have not been referred (for hearing aids) are addressed in the sensitivity analysis since the potential resource impact is less certain.

3 Significant resource impact recommendation

3.1 Recommendation 1.1.1

For adults who present for the first time with hearing difficulties, or in whom you suspect hearing difficulties:

- exclude impacted wax and acute infections such as otitis externa, **then**
- arrange an audiological assessment (for more information on audiological assessment see [recommendation 1.5.1](#)) **and**
- refer for additional diagnostic assessment if needed (see recommendations 1.1.2 to 1.1.7 on sudden or rapid onset of hearing loss and hearing loss with specific additional symptoms or signs).

Background

3.1.1 There are around 896 people per 100,000 population who present to healthcare professionals with hearing difficulties, not explained by impacted wax and acute infection, each year. This is equivalent to around 491,000 people in England. Currently only 73% of these people go on to have hearing assessments. This recommendation will increase the number of people being referred for a hearing assessment.

3.1.2 There are a significant number of people who currently have hearing loss and have not presented to healthcare professionals

with hearing difficulties. The potential resource impact of some of these people being identified and referred is assessed in the sensitivity analysis.

Assumptions made

- 3.1.3 It is estimated that each year around 896 people per 100,000 present to healthcare professionals with hearing difficulties, not explained by impacted wax and acute infection. This is extrapolated from the [NHS reference costs activity 2016/17](#) for hearing assessments of adults in audiology services, including community health services.
- 3.1.4 Of people who present to a healthcare professional with hearing difficulties, 73% are currently referred for a hearing assessment ([Benova, L. et al 2015](#)).
- 3.1.5 When this guideline is fully implemented, it is anticipated that the 27% of people who present to a healthcare professional with hearing difficulties, but are currently not referred for hearing assessment, will be referred. This is based on clinical expert opinion.
- 3.1.6 Of the people with hearing difficulties who are referred following the implementation of this guideline, and who previously would not have been referred, 95% will attend the hearing assessment, based on clinical expert opinion.
- 3.1.7 Around 56% of people who have a hearing assessment will be recommended a hearing aid. This is the same in the template for both current and future practice.
- 3.1.8 Around 90% of people who have hearing loss and would benefit from hearing aids will go on to have hearing aids. People decline hearing aids, following assessment, in around 10% of cases, based on clinical expert opinion.

- 3.1.9 People who are fitted with hearing aids are fitted with 2 hearing aids in around 85% of cases ([NHS England commissioning framework](#)). The other 15% will have one hearing aid fitted.
- 3.1.10 By 2022/23 80% of the 27% of people who present each year to healthcare professionals, currently not being referred, will be referred for hearing assessments, based on clinical expert opinion, as shown in table 2.
- 3.1.11 The costs over time are estimated on the basis of the guideline uptake over the first 5 years, as shown in table 2.

Table 2 Rate of implementation of the guideline in the first 5 years

Year	2018/19	2019/20	2020/21	2021/22	2022/23
Rate of implementation	10%	20%	40%	60%	80%

- 3.1.12 There may be additional activity from community services that is not recorded and captured in this analysis. It is not anticipated that there will be an additional resource impact relating to this activity as a result of implementing the guideline.

Costs

- 3.1.13 The resource impact of this recommendation is due to the additional cost of people who present with hearing difficulties being referred for a hearing assessment and more people having hearing aids fitted. The unit costs of assessments, fitting, device and follow up are based on the [2016/17 non mandatory national tariff](#), details are shown in table 3.

Table 3 Costs of hearing assessment, hearing aid fitting, device and follow up

Description	Cost (£)
Hearing aid assessment only	53
Pathway for assessment, fitting 1 hearing aid device, cost of 1 hearing aid device and first follow up	268
Pathway for assessment, fitting 2 hearing aid devices, cost of 2 hearing aid devices first follow up	370

3.1.14 The net cost of referring adults who present with hearing difficulties for hearing assessment and hearing aid fitting is summarised in table 4.

Table 4 Estimated annual incremental cost of referring adults who present with hearing difficulties for hearing assessment and hearing aid fitting and the number of people affected per 100,000 population

	2018/19	2019/20	2020/21	2021/22	2022/23
Number of people who have a hearing assessment only	336	347	370	393	416
Number of people who have a hearing assessment and have hearing aids fitted	341	353	376	399	422
Cost impact each year for additional people needing hearing assessment only (£)	604	1,208	2,417	3,625	4,833
Cost impact each year for additional people having a hearing assessment and having hearing aids fitted, including testing and follow up (£)	4,109	8,217	16,434	24,651	32,869
Total resource impact (£)	4,713	9,425	18,851	28,276	37,702

Benefits and savings

3.1.15 Research shows that hearing loss doubles the risk of developing depression and increases the risk of anxiety and other mental health

issues. Research also suggests that use of hearing aids reduces these risks.

- 3.1.16 Action on Hearing Loss's [Access all areas](#) report estimates that 1 in 7 people with hearing loss have missed a healthcare appointment while being in the waiting room. Implementing the guideline should reduce the number of these missed appointments, improving services' efficiency.
- 3.1.17 Hearing loss has a significant impact on individuals, leading to difficulty with communication at work, socially and at home. This can affect family relationships, employment or educational opportunities, enjoyment of leisure pursuits and independence. Hearing loss can cause feelings of isolation and low self-esteem and can lead to a significant reduction in people's quality of life. Hearing aids can improve communication for these people.
- 3.1.18 There is an association between hearing loss and cognitive performance as well as dementia. This association is more marked with severe hearing loss.
- 3.1.19 Implementing the guideline should help people with hearing aids have more success using their hearing aids. This may reduce the number of audiology appointments that they need.

4 Resource impact over time

- 4.1 The estimated annual cost of implementing this guideline per 100,000 population based on the uptake in the resource impact assumptions is shown in table 5. For England, this is equivalent to costs in the first 5 years of £2.6m (2018/19), £5.2m (2019/20), £10.3m (2020/21), £15.5m (2021/22) and £20.7m (2022/23).

Table 5 Resource impact of implementing the guideline using NICE assumptions for a population of 100,000

	2018/19 (£)	2019/20 (£)	2020/21 (£)	2021/22 (£)	2022/23 (£)
Cost impact each year of implementing the hearing loss guideline	4,713	9,425	18,851	28,276	37,702

5 Other considerations

5.1 Hearing aids are available in the private sector. There is the possibility that making hearing tests and hearing aids more available may result in additional costs for the NHS that are not captured in this report and template.

6 Implications for commissioners

6.1 Hearing loss falls under programme budgeting category 09X problems of hearing.

6.2 It is anticipated that there will be additional costs for commissioners as a result of the increase in hearing assessments and hearing aids fitted.

6.3 Prices for hearing assessment and hearing aid provision are agreed at a local level. Commissioners are advised to adjust the resource impact template to reflect local circumstances.

7 Sensitivity analysis

7.1 There are some assumptions in the model for which no empirical evidence exists, so we cannot be as certain about them. 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.

Appendix A is a table listing all variables modified for the people presenting to services for the first time. The key conclusions are discussed below.

- 7.2 The resource impact is very sensitive to the rate of uptake of the guideline. The rate of uptake is based on clinical expert opinion and will be dependent on local circumstances.
- 7.3 The number of people who accept hearing aids after being recommended them based on the results of a hearing test is based on clinical expert opinion. The resource impact is also sensitive to this variable.
- 7.4 It is assumed in the base case that there will be no uptake in the prevalent population (the general population with hearing loss, excluding those presenting to healthcare professionals with hearing difficulties). If there were to be some uptake in the prevalent population that have hearing difficulties and may need a hearing aid this would be an additional resource impact.
- 7.5 There are 2 additional scenarios that are explored in the sensitivity analysis. Both look at the general population who may benefit from a hearing aid but currently do not have one. The additional cost of hearing tests and hearing aids is highlighted in table 6.
- 7.6 Further information of the assumptions used for the general population can be found within the 'Prevalent sensitivity' worksheet in the resource impact template.

Table 6 Resource impact over time of uptake in the prevalent population who would benefit from a hearing aid but currently do not have one, per 100,000 population

	2018/19 (£)	2019/20 (£)	2020/21 (£)	2021/22 (£)	2022/23 (£)
5% uptake over 5 years in people in the general population who have hearing loss, who have not previously been referred for a hearing assessment	5,468	6,066	7,265	8,462	9,259
10% uptake over 5 years in people in the general population who have hearing loss, who have not previously been referred for a hearing assessment	10,843	11,946	14,154	16,361	18,455

7.7 Assuming there is 5% uptake in the general population with hearing loss over a 5 year period leads to an additional cost in 2022/23 of £9,259 per 100,000 population. This is equivalent to around £5.1 million for England.

7.8 Assuming there is 10% uptake in the general population with hearing loss over a 5 year period leads to an additional cost in 2022/23 of £18,455 per 100,000 population. This is equivalent to around £10.1 million for England.

Appendix A. Results of sensitivity analysis

				Recurrent resource impact			Change (£s)	Sensitivity ratio
	Baseline value	Minimum value	Maximum value	Baseline resource impact (£s)	Minimum resource impact (£s)	Maximum resource impact (£s)		
Uptake of recommendation at 2022/23	80.00%	70.00%	90.00%	37,702	33,593	41,811	8,218	0.87
People who are recommended a hearing aid	56.00%	41.00%	71.00%	37,702	30,213	45,191	14,978	0.74
People who accept a hearing aid following being recommended a hearing aid	90.00%	85.00%	95.00%	37,702	36,149	39,255	3,106	0.74
Proportion of people who are offered 2 hearing aids	85.00%	75.00%	95.00%	37,702	36,757	38,647	1,890	0.21

About this resource impact report

This resource impact report accompanies the NICE guideline on [Hearing loss in adults: assessment and management](#) and should be read in conjunction with it. See [terms and conditions](#) on the NICE website.

© NICE 2018. All rights reserved. See [Notice of rights](#).