

Hearing Loss

Search strategies appendix

NICE guideline

Appendices

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Draft

*Commissioned by the National Institute for
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Disclaimer

Healthcare professionals are expected to take NICE guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and, where appropriate, their guardian or carer.

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Appendix A: Literature search strategies

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Search strategies used for the Hearing loss guideline are outlined below and were run in accordance with the methodology in the NICE guidelines manual 2014, available from <https://www.nice.org.uk/article/pmg20/>. All search cut off dates were between 3 October 2016 and 21 June 2017, please see section A.4 for specific dates. Any studies added to the databases after these date (even those published prior to this date) were not included unless specifically stated in the text. Where possible searches were limited to retrieve material published in English.

Searches for the **clinical reviews** were run in Medline (OVID), Embase (OVID) and the Cochrane Library (Wiley). Additional searches were run in CINAHL, Current Nursing and Allied Health Literature (EBSCO) and PsycINFO (ProQuest), see Table 1.

Searches for **intervention and diagnostic studies** were usually constructed using a PICO format where population (P) terms were combined with Intervention (I) and sometimes Comparison (C) terms. An intervention can be a drug, a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search filters were also added to the search where appropriate.

Searches for **patient views** were run in Medline, Embase, CINAHL and PsycINFO. Searches were constructed by adding a patient views search filter to the population terms.

Table 1: Databases searched

Question	Question number	Databases
Aftercare	A.4.17	Medline, Embase, the Cochrane Library, CINAHL and PsycINFO
Assistive listening devices	A.4.16	Medline, Embase and the Cochrane Library
Communication needs	A.4.6	Medline, Embase and the Cochrane Library
Early versus delayed management	A.4.3	Medline, Embase and the Cochrane Library
Earwax	Error! Reference source not found.	Medline, Embase and the Cochrane Library
Idiopathic sudden sensorineural hearing loss	A.4.14	Medline, Embase and the Cochrane Library
Information, support and advice	A.4.12	Medline, Embase, CINAHL and PsycINFO
Microphones	A.4.10	Medline, Embase and the Cochrane Library
Monitoring	A.4.15	Medline, Embase and the Cochrane Library
MRI imaging	A.4.7	Medline, Embase and the Cochrane

Question	Question number	Databases
		Library
Noise reduction	A.4.11	Medline, Embase and the Cochrane Library
Patient-centred decision tools	A.4.9	Medline, Embase and the Cochrane Library
Settings	A.4.4	Medline, Embase and the Cochrane Library
Signs and symptoms (red flags)	A.4.2	Medline, Embase and the Cochrane Library
Signs and symptoms for non-urgent referral	A.4.5	Medline, Embase and the Cochrane Library
Suspected hearing loss	Error! Reference source not found.	Medline, Embase and the Cochrane Library
Unilateral versus bilateral hearing aids	A.4.13	Medline, Embase and the Cochrane Library

Searches for the health economic reviews were run in Medline, Embase, the NHS Economic Evaluations Database (NHS EED) and the Health Technology Assessment (HTA) database. NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). NHS EED ceased to be updated after March 2015.

For Medline and Embase an economic filter (instead of a study type filter) was added to the same clinical search strategy. Searches in NHSEED and HTA were constructed using population terms only.

A.2 Population search strategies

A.2.1 Standard Hearing Loss population

The standard population was used for all questions except the following:

Intervention only terms were used: **Error! Reference source not found.**, A.4.10 and A.4.11

A children only filter was applied: A.4.4

An alternative population for sudden onset hearing loss was used: A.4.14

Medline search terms

1.	exp hearing loss/
2.	(hearing adj2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral)).ti,ab.
3.	deaf*.ti,ab.
4.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*).ti,ab.
5.	persons with hearing impairments/
6.	or/1-5
7.	limit 6 to English language

Embase search terms

1.	exp *hearing impairment/
2.	(hearing adj2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral)).ti,ab.
3.	deaf*.ti,ab.

4.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*).ti,ab.
5.	or/1-4
6.	limit 5 to English language

Cochrane search terms

#1.	[mh "hearing loss"]
#2.	(hearing near/2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral)):ti,ab
#3.	deaf*:ti,ab
#4.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*):ti,ab
#5.	[mh ^"persons with hearing impairments"]
#6.	(or #1-#5)

CINAHL search terms

S1.	(mh "hearing disorders+")
S2.	deaf*
S3.	(hearing n2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral))
S4.	hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*
S5.	S1 or S2 or S3 or S4
	Limiters: English language, exclude Medline records

PsycINFO search terms

1.	su.exact.explode("hearing disorders") or ti,ab(deaf*) or ti,ab(hypoacus* or sociocus* or presbycus* or presbyacus* or nosocus* or anacus*) or ti,ab(hearing n/2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one-side* or unilateral))
----	--

CRD search terms

#1.	MeSH descriptor hearing loss explode all trees in NHSEED, HTA
#2.	((hearing adj2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral))) in nhseed, hta
#3.	(deaf*) in nhseed, hta
#4.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*) in nhseed, hta
#5.	MeSH descriptor persons with hearing impairments in NHSEED, HTA
#6.	#1 or #2 or #3 or #4 or #5

A.3 Study filter search terms

A.3.1 Excluded study designs and publication types

The following study designs and publication types were removed from retrieved results using the NOT operator.

Medline search terms

1.	letter/
2.	editorial/
3.	news/
4.	exp historical article/

5.	anecdotes as topic/
6.	comment/
7.	case report/
8.	(letter or comment*).ti.
9.	or/1-8
10.	randomized controlled trial/ or random*.ti,ab.
11.	9 not 10
12.	animals/ not humans/
13.	exp animals, laboratory/
14.	exp animal experimentation/
15.	exp models, animal/
16.	exp rodentia/
17.	(rat or rats or mouse or mice).ti.
18.	or/11-17

Embase search terms

1.	letter.pt. or letter/
2.	note.pt.
3.	editorial.pt.
4.	case report/ or case study/
5.	(letter or comment*).ti.
6.	or/1-5
7.	randomized controlled trial/ or random*.ti,ab.
8.	6 not 7
9.	animal/ not human/
10.	nonhuman/
11.	exp animal experiment/
12.	exp experimental animal/
13.	animal model/
14.	exp rodent/
15.	(rat or rats or mouse or mice).ti.
16.	or/8-15

CINAHL search terms

S1.	pt anecdote or pt audiovisual or pt bibliography or pt biography or pt book or pt book review or pt brief item or pt cartoon or pt commentary or pt computer program or pt editorial or pt games or pt glossary or pt historical material or pt interview or pt letter or pt listservs or pt masters thesis or pt obituary or pt pamphlet or pt pamphlet chapter or pt pictorial or pt poetry or pt proceedings or pt "questions and answers" or pt response or pt software or pt teaching materials or pt website
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A.3.2 Randomised controlled trials (RCT)

Medline search terms

(Based on the sensitivity and precision maximising version reported in the Cochrane Handbook (<http://handbook.cochrane.org/>)).

1.	randomized controlled trial.pt.
2.	controlled clinical trial.pt.
3.	randomi#ed.ti,ab.
4.	placebo.ab.
5.	randomly.ab.ti
6.	clinical trials as topic.sh.
7.	trial.ti.
8.	or/1-7

Embase search terms

1.	random*.ti,ab.
2.	factorial*.ti,ab.
3.	(crossover* or cross over*).ti,ab.
4.	((doubl* or singl*) adj blind*).ti,ab.
5.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
6.	crossover procedure/
7.	double blind procedure/
8.	single blind procedure/
9.	randomized controlled trial/
10.	or/1-9

PsycINFO search terms

1.	(su.exact.explode("clinical trials") or ti,ab((clinical or control*) near/3 trial*) or ti,ab((singl* or doubl* or trebl* or tripl*) near/5 (blind* or mask*)) or ti,ab(volunteer* or control-group or controls) or su.exact("placebo") or ti,ab(placebo*))
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A.3.3 Systematic reviews (SR)

Medline search terms

1.	meta-analysis/
2.	meta-analysis as topic/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.
4.	((systematic* or evidence*) adj3 (review* or overview*).ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	cochrane.jw.
10.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
11.	or/1-10

Embase search terms

1.	systematic review/
2.	meta-analysis/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.
4.	((systematic or evidence) adj3 (review* or overview*).ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.

6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	cochrane.jw.
10.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
11.	or/1-10

PsycINFO search terms

1.	((su.exact("literature review") or rtype(review) or ti(review) or me(literature review)) and (ti,ab(systematic or evidence or methodol* or quantitative*))) or (su.exact("meta analysis") or ti,ab(meta-analys* or metanalys* or metaanalys* or meta analys*) or ti,ab((systematic or evidence* or methodol* or quantitative*) near/3 (review* or overview*)) or ti,ab((pool* or combined or combining) near/2 (data or trials or studies or results)) or rtype(systematic or meta*) or me(meta analysis or systematic review))
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A.3.4 Health economic studies (HE)

Medline search terms

1.	economics/
2.	value of life/
3.	exp "costs and cost analysis"/
4.	exp economics, hospital/
5.	exp economics, medical/
6.	economics, nursing/
7.	economics, pharmaceutical/
8.	exp "fees and charges"/
9.	exp budgets/
10.	budget*.ti,ab.
11.	cost*.ti.
12.	(economic* or pharmaco?economic*).ti.
13.	(price* or pricing*).ti,ab.
14.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15.	(financ* or fee or fees).ti,ab.
16.	(value adj2 (money or monetary)).ti,ab.
17.	or/1-16

Embase search terms

1.	health economics/
2.	exp economic evaluation/
3.	exp health care cost/
4.	exp fee/
5.	budget/
6.	funding/
7.	budget*.ti,ab.
8.	cost*.ti.
9.	(economic* or pharmaco?economic*).ti.
10.	(price* or pricing*).ti,ab.

11.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
12.	(financ* or fee or fees).ti,ab.
13.	(value adj2 (money or monetary)).ti,ab.
14.	or/1-13

A.3.5 Quality of life studies (QoL)

Medline search terms

1.	quality-adjusted life years/
2.	sickness impact profile/
3.	(quality adj2 (wellbeing or well-being)).ti,ab.
4.	sickness impact profile.ti,ab.
5.	disability adjusted life.ti,ab.
6.	(qal* or qtime* or qwb* or daly*).ti,ab.
7.	(euroqol* or eq5d* or eq 5d*).ti,ab.
8.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9.	(health utility* or utility score* or disutilit*).ti,ab.
10.	(hui or hui1 or hui2 or hui3).ti,ab.
11.	health* year* equivalent*.ti,ab.
12.	(hye or hyes).ti,ab.
13.	rosser.ti,ab.
14.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
16.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
18.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
19.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
20.	or/1-19

Embase search terms

1.	quality adjusted life year/
2.	"quality of life index"/
3.	short form 12/ or short form 20/ or short form 36/ or short form 8/
4.	sickness impact profile/
5.	(quality adj2 (wellbeing or well-being)).ti,ab.
6.	sickness impact profile.ti,ab.
7.	disability adjusted life.ti,ab.
8.	(qal* or qtime* or qwb* or daly*).ti,ab.
9.	(euroqol* or eq5d* or eq 5d*).ti,ab.
10.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11.	(health utility* or utility score* or disutilit*).ti,ab.
12.	(hui or hui1 or hui2 or hui3).ti,ab.
13.	health* year* equivalent*.ti,ab.
14.	(hye or hyes).ti,ab.
15.	rosser.ti,ab.
16.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.

17.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
18.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
20.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
21.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
22.	or/1-21

A.3.6 Economic Modelling (MOD)

Embase search terms

1.	statistical model/
2.	exp economic aspect/
3.	24 and 25
4.	*theoretical model/
5.	*nonbiological model/
6.	stochastic model/
7.	decision theory/
8.	decision tree/
9.	monte carlo method/
10.	(markov* or monte carlo).ti,ab.
11.	econom* model*.ti,ab.
12.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
13.	or/1-12

Medline search terms

1.	exp models, economic/
2.	*models, theoretical/
3.	*models, organizational/
4.	markov chains/
5.	monte carlo method/
6.	exp decision theory/
7.	(markov* or monte carlo).ti,ab.
8.	econom* model*.ti,ab.
9.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
10.	or/1-9

A.3.7 Diagnostic test accuracy studies (DIAG)

Medline search terms

14.	exp "sensitivity and specificity"/
15.	(sensitivity or specificity).ti,ab.
16.	((pre test or pretest or post test) adj probability).ti,ab.
17.	(predictive value* or ppv or npv).ti,ab.
18.	likelihood ratio*.ti,ab.
19.	likelihood function/
20.	(roc curve* or auc).ti,ab.
21.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or

	effectiveness)).ti,ab.
22.	gold standard.ab.
23.	or/1-9

Embase search terms

11.	exp "sensitivity and specificity"/
12.	(sensitivity or specificity).ti,ab.
13.	((pre test or pretest or post test) adj probability).ti,ab.
14.	(predictive value* or ppv or npv).ti,ab.
15.	likelihood ratio*.ti,ab.
16.	(roc curve* or auc).ti,ab.
17.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
18.	diagnostic accuracy/
19.	diagnostic test accuracy study/
20.	gold standard.ab.
21.	or/1-10

A.3.8 Observational studies (OBS)

Medline search terms

1.	epidemiologic studies/
2.	observational study/
3.	exp cohort studies/
4.	(cohort adj (study or studies or analys* or data)).ti,ab.
5.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
6.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
7.	controlled before-after studies/
8.	historically controlled study/
9.	interrupted time series analysis/
10.	(before adj2 after adj2 (study or studies or data)).ti,ab.
11.	or/1-10
12.	exp case control study/
13.	case control*.ti,ab.
14.	or/12-13
15.	cross-sectional studies/
16.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
17.	or/15-16
18.	11 or 14 or 17

Embase search terms

1.	clinical study/
2.	observational study/
3.	family study/
4.	longitudinal study/

5.	retrospective study/
6.	prospective study/
7.	cohort analysis/
8.	follow-up/
9.	cohort*.ti,ab.
10.	8 and 9
11.	(cohort adj (study or studies or analys* or data)).ti,ab.
12.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
13.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
14.	(before adj2 after adj2 (study or studies or data)).ti,ab.
15.	or/1-7,10-14
16.	exp case control study/
17.	case control*.ti,ab.
18.	or/16-17
19.	cross-sectional study/
20.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
21.	or/19-20
22.	15 or 18 or 21

A.3.9 Qualitative reviews (QUAL)

Medline search terms

1.	qualitative research/ or narration/ or exp interviews as topic/ or exp questionnaires/ or health care surveys/
2.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
3.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
4.	or/1-3

Embase search terms

1.	health survey/ or exp questionnaire/ or exp interview/ or qualitative research/ or narrative/
2.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
3.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
4.	or/1-3

CINAHL search terms

S1.	(mh "qualitative studies+")
S2.	(mh "qualitative validity+")
S3.	(mh "interviews+") or (mh "focus groups") or (mh "surveys") or (mh "questionnaires+")
S4.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*)

S5.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*)
S6.	S1 or S2 or S3 or S4 or S5

PsycINFO search terms

1.	((su.exact.explode("qualitative research") or su.exact("narratives") or su.exact.explode("questionnaires") or su.exact.explode("interviews") or su.exact.explode("health care services") or ti,ab(qualitative or interview* or focus group* or theme* or questionnaire* or survey*) or ti,ab(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* near/3 analys*) or theoretical-sampl* or purposive-sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*))
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A.4 Searches for specific questions

A.4.1 Suspected hearing loss

- Which groups of people are more likely than the general population to miss having a diagnosis of hearing loss?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	exp dementia/
6.	exp alzheimer disease/
7.	exp primary progressive aphasia/
8.	exp dementia, vascular/
9.	lewy body disease/
10.	(alzeim* or biswanger* or cadasil or cerad or dement*).ti,ab.
11.	(ftld or ftd*).ti,ab.
12.	((fronto?temporal or cortico?basal or fronto temporal or cortico basal or frontal lobe) adj5 (degenerat*4 or dysfunction*).ti,ab.
13.	(kluver adj5 bucy).ti,ab.
14.	((lew*2 adj5 bod*3) or dlbd).ti,ab.
15.	((lobar or lobe*) adj5 atroph*3 adj5 (brain or cerebr*2)).ti,ab.
16.	(mesulam adj5 syndrome*).ti,ab.
17.	(pick*2 adj5 (disease*1 or complex)).ti,ab.
18.	posterior cortic* atroph*.ti,ab.
19.	((primary or progressive) adj5 aphasi*).ti,ab.
20.	(sdat or sivid).ti,ab.
21.	((subcortic*3 or sub?cortic*3) adj5 (encephalopath*3 or leukoencephalopath*3)).ti,ab.
22.	(amentia or senil* or presenil*).ti,ab.
23.	cognitive dysfunctions/

24.	exp cognition disorders/
25.	exp memory disorders/
26.	((cognit* or memory* or mental*) adj2 (declin* or defect* or impair* or los* or deteriorat*)).ti,ab.
27.	((cognit* or behavio?r*) adj3 symptom*).ti,ab.
28.	(cognit* adj2 (abnormal* or disorder*)).ti,ab.
29.	(mci*1 or cind*1).ti,ab.
30.	exp learning disorders/
31.	developmental disabilities/
32.	(learn* adj3 (deficien* or difficult* or disab* or disorder* or handicap* or impair* or incapacit* or handicap* or sub?average or sub?norm*)).ti,ab.
33.	((subaverage or sub\$1 average or subnormal or sub*1 normal*) adj3 (cognit* or intel*)).ti,ab.
34.	((develop* or neurodevelopment*) adj (deficien* or difficult* or disab* or disorder* or handicap* or impair* or incapacit* or handicap* or sub?average or sub?norm*)).ti,ab.
35.	or/5-34
36.	4 and 35
	Date parameters: 1946 - 12 July 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	exp *dementia/
6.	exp *alzheimers disease/
7.	exp *aphasia primary progressive/
8.	exp *vascular dementia/
9.	*lewy body/
10.	*delirium dementia amnestic cognitive disorders/
11.	(alzhem* or biswanger* or cadasil or cerad or dement*).ti,ab.
12.	(ftld or ftd*).ti,ab.
13.	((fronto?temporal or cortico?basal or fronto temporal or cortico basal or frontal lobe) adj5 (degenerat*4 or dysfunction*)).ti,ab.
14.	(kluver adj5 bucy).ti,ab.
15.	((lew*2 adj5 bod*3) or dlbd).ti,ab.
16.	((lobar or lobe*) adj5 atroph*3 adj5 (brain or cerebr*2)).ti,ab.
17.	(mesulam adj5 syndrome*).ti,ab.
18.	(pick*2 adj5 (disease*1 or complex)).ti,ab.
19.	posterior cortic* atroph*.ti,ab.
20.	((primary or progressive) adj5 aphasi*).ti,ab.
21.	(sdat or sivr).ti,ab.
22.	((subcortic*3 or sub?cortic*3) adj5 (encephalopath*3 or leukoencephalopath*3)).ti,ab.
23.	(ementia or senil* or presenil*).ti,ab.
24.	exp *intellectual impairment/
25.	exp *cognitive defect/
26.	exp *memory disorder/

27.	((cognit* or memory* or mental*) adj2 (declin* or defect* or impair* or los* or deteriorat*)).ti,ab.
28.	((cognit* or behavio?r*) adj3 symptom*).ti,ab.
29.	(cognit* adj2 (abnormal* or disorder*)).ti,ab.
30.	(mci*1 or cind*1).ti,ab.
31.	exp *learning disorder/
32.	*developmental disorder/
33.	(learn* adj3 (deficien* or difficult* or disab* or disorder* or handicap* or impair* or incapacit* or handicap* or sub?average or sub?norm*)).ti,ab.
34.	((subaverage or sub\$1 average or subnormal or sub*1 normal*) adj3 (cognit* or intel*)).ti,ab.
35.	((develop* or neurodevelopment*) adj (deficien* or difficult* or disab* or disorder* or handicap* or impair* or incapacit* or handicap* or sub?average or sub?norm*)).ti,ab.
36.	or/5-35
37.	4 and 36
	Date parameters: 1974 - 12 July 2016

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	MeSH descriptor: [dementia] explode all trees
#3.	MeSH descriptor: [alzheimer disease] explode all trees
#4.	MeSH descriptor: [aphasia, primary progressive] explode all trees
#5.	MeSH descriptor: [dementia, vascular] explode all trees
#6.	MeSH descriptor: [lewy body disease] explode all trees
#7.	(alzhem* or biswanger* or cadasil or cerad or dement*):ti,ab
#8.	(ftld or ftd*):ti,ab
#9.	((frontotemporal or corticobasal or fronto temporal or cortico basal or frontal lobe) near/5 (degenerat* or dysfunction*)):ti,ab
#10.	(kluver near/5 bucy):ti,ab
#11.	((lew* near/5 bod*) or dlbd):ti,ab
#12.	((lobar or lobe*) near/5 atroph* near/5 (brain or cerebr*)):ti,ab
#13.	(mesulam near/5 syndrome*):ti,ab
#14.	(pick* near/5 (disease* or complex)):ti,ab
#15.	posterior cortic* atroph*):ti,ab
#16.	((primary or progressive) near/5 aphasi*):ti,ab
#17.	(sdat or sivd):ti,ab
#18.	((subcortic*) near/5 (encephalopath* or leukoencephalopath*)):ti,ab
#19.	(amentia or senil* or presenil*):ti,ab
#20.	MeSH descriptor: [cognitive dysfunction] explode all trees
#21.	MeSH descriptor: [cognition disorders] explode all trees
#22.	MeSH descriptor: [memory disorders] explode all trees
#23.	((cognit* or memory* or mental*) near/2 (declin* or defect* or impair* or los* or deteriorat*)):ti,ab
#24.	((cognit* or behaviour* or behavior) near/3 symptom*):ti,ab
#25.	(cognit* near/2 (abnormal* or disorder*)):ti,ab
#26.	(mci* or cind*) ti,ab
#27.	MeSH descriptor: [learning disorders] explode all trees
#28.	MeSH descriptor: [developmental disabilities] explode all trees

#29.	(learn* near/3 (deficien* or difficult* or disab* or disorder* or handicap* or impair* or incapacit* or handicap* or subaverage or sub average or subnorm* or sub norm*)):ti,ab
#30.	((subaverage or sub average or subnormal or sub normal*) near/3 (cognit* or intel*)):ti,ab
#31.	(or #2-#30)
#32.	#1 and #31
	Date parameters: Inception – 12 July 2016

A.4.2 Signs and symptoms for urgent referral (red flags)

- What are the signs and symptoms that allow early recognition of hearing loss needing urgent referral to a secondary care specialist?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	otitis externa/
6.	(malignan* or necrot*).ti,ab.
7.	5 and 6
8.	(otitis externa adj3 (malignan* or necrot*)):ti,ab.
9.	7 or 8
10.	exp otitis media/
11.	facial paralysis/
12.	facial nerve/
13.	otitis media.ti,ab.
14.	((facial or face) adj1 (nerve* or paralys* or palsy or swell* or swollen)).ti,ab.
15.	10 or 13
16.	11 or 12 or 14
17.	15 and 16
18.	nasopharyngeal neoplasms/
19.	((nasopharyn* or nasal-pharyn*) adj3 (cancer* or neoplasm* or carcinoma* or tumor* or tumour*)):ti,ab.
20.	18 or 19
21.	exp stroke/
22.	exp cerebral hemorrhage/
23.	(stroke or strokes or cva or apoplexy or "cerebrovascular accident").ti,ab.
24.	((cerebro* or brain or brainstem or cerebral*) adj3 (infarct* or accident*)):ti,ab.
25.	"brain attack".ti,ab.
26.	or/21-25
27.	exp autoimmune diseases/
28.	(autoimmun* or auto-immun* or autoantibod* or auto-antibod*).ti,ab.
29.	27 or 28
30.	hearing loss, sudden/
31.	(sudden* adj2 (onset or sensorineural or loss)).ti,ab.
32.	30 or 31
33.	exp cholesteatoma/

34.	cholesteatoma*.ti,ab.
35.	33 or 34
36.	exp neuroma, acoustic/
37.	(acoustic adj2 (neuroma* or neurilemmoma* or neurinoma* or tumor* or tumour*)).ti,ab.
38.	((acoustic or vestibular) adj2 schwannoma*).ti,ab.
39.	or/36-38
40.	exp brain neoplasms/
41.	((brain or intracranial) adj3 (cancer* or neoplasm* or tumor* or tumour* or carcinoma*)).ti,ab.
42.	40 or 41
43.	((neurological or nerve*) adj3 (damag* or impair*)).ti,ab.
44.	9 or 17 or 20 or 26 or 29 or 32 or 35 or 39 or 42 or 43
45.	4 and 44
46.	Study Filters SR(0) or OBS(A.3.8) or DIAG(A.3.6)
47.	45 and 46
	Date Parameters: 1946 – 17 January 2017

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	external otitis/
6.	(malignan* or necrot*).ti,ab.
7.	5 and 6
8.	(otitis externa adj3 (malignan* or necrot*)).ti,ab.
9.	7 or 8
10.	exp otitis media/
11.	otitis media.ti,ab.
12.	10 or 11
13.	exp facial nerve paralysis/
14.	exp *facial nerve/
15.	((facial or face) adj1 (nerve* or paralys* or palsy or swell* or swollen)).ti,ab.
16.	or/13-15
17.	12 and 16
18.	exp nasopharynx tumor/
19.	((nasopharyn* or nasal-pharyn*) adj3 (cancer* or neoplasm* or carcinoma* or tumor* or tumour*)).ti,ab.
20.	18 or 19
21.	exp stroke/
22.	exp cerebrovascular accident/
23.	exp brain infarction/
24.	exp intracerebral hemorrhage/
25.	(stroke or strokes or cva or apoplexy or "cerebrovascular accident").ti,ab.
26.	((cerebro* or brain or brainstem or cerebral*) adj3 (infarct* or accident*)).ti,ab.

27.	"brain attack*".ti,ab.
28.	or/21-27
29.	exp autoimmune disease/
30.	(autoimmun* or auto-immun* or autoantibod* or auto-antibod*).ti,ab.
31.	29 or 30
32.	sudden deafness/
33.	(sudden* adj2 (onset or sensorineural or loss)).ti,ab.
34.	32 or 33
35.	cholesteatoma/
36.	cholesteatoma*.ti,ab.
37.	35 or 36
38.	exp acoustic neurinoma/
39.	(acoustic adj2 (neuroma* or neurilemmoma* or neurinoma* or tumor* or tumour*)).ti,ab.
40.	((acoustic or vestibular) adj2 schwannoma*).ti,ab.
41.	or/38-40
42.	exp brain tumor/
43.	((brain or intracranial) adj3 (cancer* or neoplasm* or tumor* or tumour* or carcinoma*).ti,ab.
44.	42 or 43
45.	((neurological or nerve*) adj3 (damag* or impair*)).ti,ab.
46.	9 or 17 or 20 or 28 or 31 or 34 or 37 or 41 or 44 or 45
47.	4 and 46
48.	Study Filters SR(0) or OBS(A.3.8) or DIAG(A.3.6)
49.	47 and 48
	Date parameters: 1974 – 17 January 2017

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"otitis externa"]
#3.	(malignan* or necrot*):ti,ab
#4.	#2 and #3
#5.	("otitis externa" near/3 (malignan* or necrot*)):ti,ab
#6.	#4 or #5
#7.	[mh "otitis media"]
#8.	otitis media:ti,ab
#9.	#7 or #8
#10.	[mh ^"facial paralysis"]
#11.	[mh ^"facial nerve"]
#12.	((facial or face) near/1 (nerve* or paralys* or palsy or swell* or swollen)) .ti,ab
#13.	#10 or #11 or #12
#14.	#9 and #13
#15.	[mh ^"nasopharyngeal neoplasms"]
#16.	((nasopharyn* or nasal-pharyn*) near/3 (cancer* or neoplasm* or carcinoma* or tumor* or tumour*) .ti,ab
#17.	#15 or #16
#18.	[mh stroke]

#19.	[mh "cerebral hemorrhage"]
#20.	(stroke or strokes or cva or apoplexy or "cerebrovascular accident"):ti,ab
#21.	((cerebro* or brain or brainstem or cerebral*) near/3 (infarct* or accident*)):ti,ab
#22.	(brain next attack*):ti,ab
#23.	#18 or #19 or #20 or #21 or #22
#24.	[mh "autoimmune diseases"]
#25.	(autoimmun* or auto-immun* or autoantibod* or auto-antibod*):ti,ab
#26.	#24 or #25
#27.	[mh ^"hearing loss, sudden"]
#28.	(sudden* near/2 (onset or sensorineural or loss)):ti,ab
#29.	#27 or #28
#30.	[mh cholesteatoma]
#31.	cholesteatoma*:ti,ab
#32.	#30 or #31
#33.	[mh "neuroma, acoustic"]
#34.	(acoustic near/2 (neuroma* or neurilemmoma* or neurinoma* or tumor* or tumour*)):ti,ab
#35.	((acoustic or vestibular) near/2 schwannoma*):ti,ab
#36.	#33 or #34 or #35
#37.	[mh "brain neoplasms"]
#38.	((brain or intracranial) near/3 (cancer* or neoplasm* or tumor* or tumour* or carcinoma*)):ti,ab
#39.	#37 or #38
#40.	((neurological or nerve*) near/3 (damag* or impair*)):ti,ab
#41.	#6 or #14 or #17 or #23 or #26 or #29 or #32 or #36 or #39 or #40
#42.	#1 and #41
	Date parameters: Inception – 17 January 2017

A.4.3 Early versus delayed management

- What is the clinical and cost effectiveness of early versus delayed management of hearing loss on patient outcomes?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	((early or earlier or late or later or time or timing or delay*) adj3 (present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif* or assess*)):ti,ab.
6.	((mild or moderate or minimal) adj3 (hear* or deaf* or symptom* or loss* or impair* or difficult*)):ti,ab.
7.	(present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif*):ti,ab.
8.	6 and 7
9.	5 or 8
10.	4 and 9
11.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle

	age/ or exp aged/)
12.	10 not 11
	Date parameters: 1946 – 2 November 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	early intervention/
6.	((early or earlier or late or later or time or timing or delay*) adj3 (present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif* or assess*)):ti,ab.
7.	((mild or moderate or minimal) adj3 (hear* or deaf* or symptom* or loss* or impair* or difficult*)):ti,ab.
8.	(present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif*):ti,ab.
9.	7 and 8
10.	5 or 6 or 9
11.	4 and 10
12.	(exp child/ or exp pediatrics/) not (exp adult/ or exp adolescent/)
13.	11 not 12
	Date parameters: 1974 – 2 November 2016

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	((early or earlier or late or later or time or timing or delay*) near/3 (present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif* or assess*)):ti,ab
#3.	((mild or moderate or minimal) near/3 (hear* or deaf* or symptom* or loss* or impair* or difficult*)):ti,ab
#4.	(present* or manag* or intervention* or treat* or therap* or rehab* or identif* or refer* or screen* or diagnos* or prescri* or amplif*):ti,ab
#5.	#3 and #4
#6.	#2 or #5
#7.	#1 and #6
	Date parameters: Inception – 2 November 2016

A.4.4 Settings

- What is the most clinically and cost-effective setting for the identification and treatment of earwax?

Medline search terms

1.	cerumen/
2.	(cerumen or earwax or (ear* adj5 wax*)):ti,ab.
3.	1 or 2
4.	otitis media/
5.	otitis externa/
6.	(otitis adj (media or externa*)):ti,ab.

7.	myringitis.ti,ab.
8.	((ear or ears) adj3 infect*).ti,ab.
9.	or/4-8
10.	3 or 9
11.	limit 10 to English language
12.	audiology/
13.	audiolog*.ti,ab.
14.	12 or 13
15.	primary health care/
16.	practice patterns, physicians/
17.	exp general practice/
18.	general practitioners/ or physicians, family/ or physicians, primary care/
19.	(family practi* or family doctor* or family physician* or gp* or general practi*).ti,ab.
20.	((primary or communit*) adj5 care).ti,ab.
21.	or/15-20
22.	14 or 21
23.	11 and 22
24.	Excluded study designs and publication types [A.3.1]
25.	23 not 24
26.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
27.	25 not 26
28.	models, organizational/
29.	(commission* adj3 (support* or service* or model* or structur*).ti,ab.
30.	((model* or deliver* or strateg* or system* or structur* or design*) adj3 (care or organi*).ti,ab.
31.	(service* adj3 (deliver* or model* or structur* or design*).ti,ab.
32.	or/28-31
33.	11 and 32
34.	33 not 24
35.	34 not 26
36.	35 or 27
	Date parameters: 1946 – 25 April 2017

Embase search terms

1.	cerumen/ or cerumen impaction/
2.	(cerumen or earwax or (ear* adj5 wax*).ti,ab.
3.	1 or 2
4.	external otitis/ or exp otitis media/
5.	(otitis adj (media or externa*).ti,ab.
6.	myringitis.ti,ab.
7.	((ear or ears) adj3 infect*).ti,ab.
8.	or/4-7
9.	3 or 8
10.	limit 9 to English language
11.	audiology/

12.	audiologist/
13.	audiolog*.ti,ab.
14.	or/11-13
15.	exp primary health care/
16.	professional practice/ or general practice/
17.	general practitioner/
18.	(family practi* or family doctor* or family physician* or gp* or general practi*).ti,ab.
19.	((primary or communit*) adj5 care).ti,ab.
20.	or/15-19
21.	14 or 20
22.	10 and 21
23.	Excluded study designs and publication types [A.3.1]
24.	22 not 23
25.	(exp child/ or exp pediatrics/) not (exp adult/ or exp adolescent/)
26.	24 not 25
27.	*health care delivery/
28.	(commission* adj3 (support* or service* or model* or structur*).ti,ab.
29.	((model* or deliver* or strateg* or system* or structur* or design*) adj3 (care or organi*).ti,ab.
30.	(service* adj3 (deliver* or model* or structur* or design*).ti,ab.
31.	or/27-30
32.	10 and 31
33.	32 not 23
34.	33 not 25
35.	34 or 26
	Date parameters: 1974 – 25 April 2017

Cochrane search terms

#1.	[mh ^cerumen]
#2.	(cerumen or earwax or (ear* near/5 wax*)):ti,ab
#3.	#1 or #2
#4.	[mh ^"otitis media"]
#5.	[mh ^"otitis externa"]
#6.	(otitis next (media or externa*)):ti,ab
#7.	myringitis:ti,ab
#8.	((ear or ears) near/3 infect*):ti,ab
#9.	#4 or #5 or #6 or #7 or #8
#10.	#3 or #9
#11.	[mh ^audiology]
#12.	audiolog*:ti,ab
#13.	[mh ^"primary health care"]
#14.	[mh ^"practice patterns, physicians"]
#15.	[mh "general practice"]
#16.	[mh ^"general practitioners"]
#17.	[mh ^"physicians, family"]
#18.	[mh ^"physicians, primary care"]

#19.	(family next practi* or family next doctor* or family next physician* or gp* or general next practi*):ti,ab
#20.	((primary or communit*) near/5 care):ti,ab
#21.	(or #11-#20)
#22.	[mh ^"models, organizational"]
#23.	(commission* near/3 (support* or service* or model* or structur*)):ti,ab
#24.	((model* or deliver* or strateg* or system* or structur* or design*) near/3 (care or organi*)):ti,ab
#25.	(service* near/3 (deliver* or model* or structur* or design*)):ti,ab
#26.	#22 or #23 or #24 or #25
#27.	#10 and #26
#28.	#21 or #27
	Date parameters: Inception – 25 April 2017

A.4.5 Signs and symptoms for non-urgent referral

- Who should be routinely referred to audiovestibular medicine or ear, nose and throat (ENT) surgery for medical assessment?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance).ti,ab.
6.	((risk* adj3 (tool* or scor*)) or validat*).ti,ab.
7.	(stratif* or ((scor* or rate or rating) adj2 (system* or scale* or scheme*))).ti,ab.
8.	"referral and consultation"/
9.	clinical protocols/
10.	or/5-9
11.	4 and 10
12.	exp otolaryngology/
13.	(otolaryngolog* or otorhinolaryngolog* or otolog*).ti,ab.
14.	(ent or (ear* adj2 nose* adj2 throat*) or (audiovestibular adj (medicine or service* or physician*))).ti,ab.
15.	(medical adj3 (care or assess* or evaluat* or service*)):ti,ab.
16.	or/12-15
17.	11 and 16
	Date parameters: 1946 – 3 January 2017

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance).ti,ab.
6.	((risk* adj3 (tool* or scor*)) or validat*).ti,ab.
7.	(stratif* or ((scor* or rate or rating) adj2 (system* or scale* or scheme*))).ti,ab.

8.	patient referral/
9.	clinical protocol/
10.	or/5-9
11.	4 and 10
12.	exp otorhinolaryngology/
13.	(otolaryngolog* or otorhinolaryngolog* or otolog*).ti,ab.
14.	(ent or (ear* adj2 nose* adj2 throat*) or (audiovestibular adj (medicine or service* or physician*))).ti,ab.
15.	(medical adj3 (care or assess* or evaluat* or service*)).ti,ab.
16.	or/12-15
17.	1 and 16
	Date parameters: 1974 – 3 January 2017

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance):ti,ab
#3.	((risk* near/3 (tool* or scor*)) or validat*):ti,ab
#4.	(stratif* or ((scor* or rate or rating) near/2 (system* or scale* or scheme*))).ti,ab
#5.	[mh ^"referral and consultation"]
#6.	[mh ^"clinical protocols"]
#7.	(or #2-#6)
#8.	#1 and #7
#9.	[mh otolaryngology]
#10.	(otolaryngolog* or otorhinolaryngolog* or otolog*):ti,ab
#11.	(ent or (ear* near/2 nose* near/2 throat*) or (audiovestibular next (medicine or service* or physician*))).ti,ab
#12.	(medical near/3 (care or assess* or evaluat* or service*)):ti,ab
#13.	(or #9-#12)
#14.	#8 and #13
	Date parameters: Inception – 3 January 2017

A.4.6 Communication needs

- What is the clinical and cost effectiveness of tests for communication needs in assessing hearing- and health-related quality of life?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	("surveys and questionnaires"/ or self-assessment/) and speech perception/
6.	needs assessment/
7.	(communicat* adj5 (assess* or need* or measur* or abilit* or self-assess* or test* or survey* or inventor* or questionnaire* or score* or evaluat*)):ti,ab.
8.	((speech or hearing) adj3 noise adj3 (test* or assess* or perception or measur*)):ti,ab.
9.	((speech adj1 (recognition or connected)) or nonsense syllable) adj1 test*).ti,ab.
10.	(speech adj (identification or perception or performance or intelligibility) adj3 (test* or

	measur* or scor* or survey* or questionnaire*).ti,ab.
11.	((words or sentence* or recognition) adj ("in quiet" or "in noise")).ti,ab.
12.	patient care planning/
13.	((patient* or individual or management or care) adj2 (plan* or protocol*).ti,ab.
14.	(client-oriented scale of improvement or cosi).ti,ab.
15.	((hearing handicap adj2 (inventor* or scor*)) or hhi*).ti,ab.
16.	((("hearing aid benefit" or communication or "hearing aid difference" or "aided loudness" or "hearing aid performance") adj2 profile*) or ghabp).ti,ab.
17.	((("attitudes towards loss of hearing" or "bern benefit single-sided deafness" or binaural hearing aid* or "environmental sounds" or "hearing aid performance" or hearing aid user* or "hearing attitudes in rehabilitation" or intervention) adj2 questionnaire*).ti,ab.
18.	((("client satisfaction" or "hearing ability" or "hearing aid satisfaction") adj2 survey*).ti,ab.
19.	("audiological rehabilitation" adj3 impression*).ti,ab.
20.	((client-oriented or communication or "device-oriented subjective outcome" or "effectiveness of auditory rehabilitation" or "predicting hearing aid use" or "hearing disability and handicap" or "hearing satisfaction" or "intelligibility rating improvement" or philadelphia or washington) adj2 scale*).ti,ab.
21.	((("glasgow benefit" or "hearing aid performance" or "hearing disability and aid benefit" or "hearing handicap and disability" or "hearing problem" or hearing aid* or "profound and severe loss" or "self-assessment") adj2 inventor*).ti,ab.
22.	("disabilities and handicaps associated with impaired auditory localization" or "expectations checklist" or "expected consequences of hearing aid ownership" or "hearing screen test for the elderly" or "negative reactions to hearing aids" or "own voice qualities" or "satisfaction with amplification in daily life").ti,ab.
23.	(speech adj spatial adj2 qualit*).ti,ab.
24.	or/5-23
25.	4 and 24
26.	Study filters: RCT(A.3.2) or SR(0) or OBS(A.3.8)
27.	25 and 26
	Date parameters: 1946 – 16 March 2017

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	*needs assessment/
6.	(questionnaires/ or self evaluation/) and speech perception/
7.	*patient care planning/
8.	(communicat* adj5 (assess* or need* or measur* or abilit* or self-assess* or test* or survey* or inventor* or questionnaire* or score* or evaluat*).ti,ab.
9.	((speech or hearing) adj3 noise adj3 (test* or assess* or perception or measur*).ti,ab.
10.	((("speech adj1 (recognition or connected)) or nonsense syllable) adj1 test*).ti,ab.
11.	(speech adj (identification or perception or performance or intelligibility) adj3 (test* or measur* or scor* or survey* or questionnaire*).ti,ab.
12.	((words or sentence* or recognition) adj ("in quiet" or "in noise")).ti,ab.
13.	((patient* or individual or management or care) adj2 (plan* or protocol*).ti,ab.
14.	(client-oriented scale of improvement or cosi).ti,ab.
15.	((hearing handicap adj2 (inventor* or scor*)) or hhi*).ti,ab.

16.	((("hearing aid benefit" or communication or "hearing aid difference" or "aided loudness" or "hearing aid performance") adj2 profile*) or ghabp).ti,ab.
17.	((("attitudes towards loss of hearing" or "bern benefit single-sided deafness" or binaural hearing aid* or "environmental sounds" or "hearing aid performance" or hearing aid user* or "hearing attitudes in rehabilitation" or intervention) adj2 questionnaire*).ti,ab.
18.	((("client satisfaction" or "hearing ability" or "hearing aid satisfaction") adj2 survey*).ti,ab.
19.	("audiological rehabilitation" adj3 impression*).ti,ab.
20.	((client-oriented or communication or "device-oriented subjective outcome" or "effectiveness of auditory rehabilitation" or "predicting hearing aid use" or "hearing disability and handicap" or "hearing satisfaction" or "intelligibility rating improvement" or philadelphia or washington) adj2 scale*).ti,ab.
21.	((("glasgow benefit" or "hearing aid performance" or "hearing disability and aid benefit" or "hearing handicap and disability" or "hearing problem" or hearing aid* or "profound and severe loss" or "self-assessment") adj2 inventor*).ti,ab.
22.	("disabilities and handicaps associated with impaired auditory localization" or "expectations checklist" or "expected consequences of hearing aid ownership" or "hearing screen test for the elderly" or "negative reactions to hearing aids" or "own voice qualities" or "satisfaction with amplification in daily life").ti,ab.
23.	(speech adj spatial adj2 qualit*).ti,ab.
24.	or/5-23
25.	4 and 24
26.	Study filters: RCT(A.3.2) or SR(0) or OBS(A.3.8)
27.	25 and 26
	Date parameters: 1974 – 16 March 2017

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"surveys and questionnaires"]
#3.	[mh ^self-assessment]
#4.	#2 or #3
#5.	[mh ^"speech perception"]
#6.	#4 and #5
#7.	[mh ^"needs assessment"]
#8.	(communicat* near/5 (assess* or need* or measur* or abilit* or self-assess* or test* or survey* or inventor* or questionnaire* or score* or evaluat*)):ti,ab
#9.	((speech or hearing) near/3 noise near/3 (test* or assess* or perception or measur*)):ti,ab
#10.	((("speech near/1 (recognition or connected)) or "nonsense syllable") near/1 test*):ti,ab
#11.	(speech next (identification or perception or performance or intelligibility) near/3 (test* or measur* or scor* or survey* or questionnaire*)):ti,ab
#12.	((words or sentence* or recognition) next ("in quiet" or "in noise")):ti,ab
#13.	[mh ^"patient care planning"]
#14.	((patient* or individual or management or care) near/2 (plan* or protocol*)):ti,ab
#15.	("client-oriented scale of improvement" or cosi):ti,ab
#16.	((("hearing handicap" near/2 (inventor* or scor*)) or hhi*):ti,ab
#17.	((("hearing aid benefit" or communication or "hearing aid difference" or "aided loudness" or "hearing aid performance") near/2 profile*) or ghabp):ti,ab
#18.	((("attitudes towards loss of hearing" or "bern benefit single-sided deafness" or "binaural hearing" next aid* or "environmental sounds" or "hearing aid performance" or "hearing aid" next user* or "hearing attitudes in rehabilitation" or intervention) near/2 questionnaire*):ti,ab

#19.	((("client satisfaction" or "hearing ability" or "hearing aid satisfaction") near/2 survey*):ti,ab
#20.	("audiological rehabilitation" near/3 impression*):ti,ab
#21.	((client-oriented or communication or "device-oriented subjective outcome" or "effectiveness of auditory rehabilitation" or "predicting hearing aid use" or "hearing disability and handicap" or "hearing satisfaction" or "intelligibility rating improvement" or philadelphia or washington) near/2 scale*):ti,ab
#22.	((("glasgow benefit" or "hearing aid performance" or "hearing disability and aid benefit" or "hearing handicap and disability" or "hearing problem" or hearing next aid* or "profound and severe loss" or "self-assessment") near/2 inventor*):ti,ab
#23.	("disabilities and handicaps associated with impaired auditory localization" or "expectations checklist" or "expected consequences of hearing aid ownership" or "hearing screen test for the elderly" or "negative reactions to hearing aids" or "own voice qualities" or "satisfaction with amplification in daily life"):ti,ab
#24.	(speech next spatial near/2 qualit*):ti,ab
#25.	(or #6-#24)
#26.	#1 and #25
	Date parameters: Inception – 16 March 2017

A.4.7 MRI imaging

- In people who have been referred to secondary care with sensorineural hearing loss, who needs MRI to assess the underlying cause of hearing loss?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	diagnostic imaging/ or exp magnetic resonance imaging/
6.	(imag* or "magnetic resonance" or mri or nmr*).ti,ab.
7.	5 or 6
8.	4 and 7
9.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance).ti,ab.
10.	((risk* adj3 (tool* or scor*)) or validat*).ti,ab.
11.	(stratif* or ((scor* or rate or rating) adj2 (system* or scale* or scheme*))).ti,ab.
12.	"referral and consultation"/
13.	clinical protocols/
14.	or/9-13
15.	8 and 14
	Date parameters: 1946 – 13 December 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	nuclear magnetic resonance imaging/
6.	*diagnostic imaging/
7.	(imag* or "magnetic resonance" or mri or nmr*).ti,ab.

8.	or/5-7
9.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance).ti,ab.
10.	((risk* adj3 (tool* or scor*)) or validat*).ti,ab.
11.	(stratif* or ((scor* or rate or rating) adj2 (system* or scale* or scheme*))).ti,ab.
12.	patient referral/
13.	clinical protocol/
14.	or/9-13
15.	4 and 8
16.	14 and 15
	Date parameters: 1974 – 13 December 2016

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"diagnostic imaging"]
#3.	[mh "magnetic resonance imaging"]
#4.	(imag* or "magnetic resonance" or MRI or NMR*):ti,ab
#5.	#2 or #3 or #4
#6.	#1 and #5
#7.	(protocol* or criteria or refer* or algorithm* or checklist* or guideline* or guidance):ti,ab
#8.	((risk* near/3 (tool* or scor*)) or validat*):ti,ab
#9.	(stratif* or ((scor* or rate or rating) near/2 (system* or scale* or scheme*))).ti,ab
#10.	[mh ^"Referral and Consultation"]
#11.	[mh ^"clinical protocols"]
#12.	(or #7-#11)
#13.	#6 and #12
	Date parameters: Inception – 13 December 2016

A.4.8 Earwax

- How should earwax be treated?

Medline search terms

1.	Cerumen/
2.	(cerumen or earwax or (ear* adj5 wax*)):ti,ab.
3.	1 or 2
4.	Excluded study designs and publication types [A.3.1]
5.	3 not 4
6.	Limit 5 to English language
7.	Study filters: RCT(A.3.2) or SR(0) or OBS(A.3.8)
8.	6 and 7
	Date parameters: 1946 – 20 June 2017

Embase search terms

1.	cerumen/ or cerumen impaction/
2.	(cerumen or earwax or (ear* adj5 wax*)):ti,ab.
3.	1 or 2
4.	Excluded study designs and publication types [A.3.1]
5.	3 not 4

6.	Limit 5 to English language
7.	Study filters: RCT(A.3.2) or SR(0) or OBS(A.3.8)
8.	6 and 7
	Date parameters: 1974 – 20 June 2017

Cochrane search terms

#1.	[mh ^cerumen]
#2.	(cerumen or earwax or (ear* near/5 wax*)):ti,ab
#3.	#1 or #2
	Date parameters: Inception – 20 June 2017

A.4.9 Patient-centred decision tools

- What is the clinical and cost effectiveness of using patient-centred tools to help patients with hearing loss decide between different management strategies?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	decision support techniques/
6.	decision support systems, clinical/
7.	decision trees/
8.	informed consent/
9.	decision making/ or choice behavior/
10.	((decision* or decid*) adj4 (support* or aid* or tool* or instrument* or technolog* or technique* or system* or program* or algorithm* or process* or method* or intervention* or material* or making or share* or sharing)).ti,ab.
11.	(decision adj (board* or guide* or counseling)).ti,ab.
12.	decision-making computer assisted/
13.	interactive health communication*.ti,ab.
14.	(interactive adj (internet or online or graphic* or booklet*)).ti,ab.
15.	(interacti* adj4 tool*).ti,ab.
16.	(informed adj (choice* or decision*)).ti,ab.
17.	adaptive conjoint analys#.ti,ab.
18.	motivational interviewing/
19.	(motivat* adj2 (tool* or interview*)).ti,ab.
20.	(patient-cent* adj3 (decision* or tool* or choice*)).ti,ab.
21.	option grid*.ti,ab.
22.	or/5-21
23.	4 and 22
	Date parameters: 1946 – 14 December 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2

4.	Limit 3 to English language
5.	exp decision support system/
6.	exp decision making/
7.	decision aid/
8.	"decision tree"/
9.	informed consent/
10.	((decision* or decid*) adj4 (support* or aid* or tool* or instrument* or technolog* or technique* or system* or program* or algorithm* or process* or method* or intervention* or material* or making or share* or sharing)).ti,ab.
11.	(decision adj (board* or guide* or counseling)).ti,ab.
12.	interactive health communication*.ti,ab.
13.	(interactive adj (internet or online or graphic* or booklet*)).ti,ab.
14.	(interacti* adj4 tool*).ti,ab.
15.	(informed adj (choice* or decision*)).ti,ab.
16.	adaptive conjoint analys#s.ti,ab.
17.	motivational interviewing/
18.	(motivat* adj2 (tool* or interview*)).ti,ab.
19.	(patient-cent* adj3 (decision* or tool* or choice*)).ti,ab.
20.	option grid*.ti,ab.
21.	or/5-20
22.	4 and 21
	Date parameters: 1974 – 14 December 2016

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"decision support techniques"]
#3.	[mh ^"decision support systems, clinical"]
#4.	[mh ^"decision trees"]
#5.	[mh ^"informed consent"]
#6.	[mh ^"decision making"]
#7.	[mh ^"choice behavior"]
#8.	((decision* or decid*) near/4 (support* or aid* or tool* or instrument* or technolog* or technique* or system* or program* or algorithm* or process* or method* or intervention* or material* or making or share* or sharing)).ti,ab
#9.	(decision next (board* or guide* or counseling)):ti,ab
#10.	[mh ^"decision-making, computer assisted"]
#11.	("interactive health" next communication*) .ti,ab
#12.	(interactive next (internet or online or graphic* or booklet*))):ti,ab
#13.	(interacti* near/4 tool*):ti,ab
#14.	(informed next (choice* or decision*))):ti,ab
#15.	("adaptive conjoint" next analys*):ti,ab
#16.	[mh ^"motivational interviewing"]
#17.	(motivat* near/2 (tool* or interview*))):ti,ab
#18.	(patient-cent* near/3 (decision* or tool* or choice*))):ti,ab
#19.	option next grid*:ti,ab
#20.	(or #2-#19)

#21.	#1 and #20
	Date parameters: Inception – 14 December 2016

A.4.10 Microphones

- What is the clinical and cost effectiveness of directional versus omnidirectional microphones?

Medline search terms

1.	((direction* or omnidirection* or dual) adj2 microphone*).ti,ab.
2.	(multi-microphone* or multimicrophone*).ti,ab.
3.	1 or 2
4.	Excluded study designs and publication types [A.3.1]
5.	3 not 4
6.	Limit 5 to English language
	Date parameters: 1946 – 21 June 2017

Embase search terms

1.	((direction* or omnidirection* or dual) adj2 microphone*).ti,ab.
2.	(multi-microphone* or multimicrophone*).ti,ab.
3.	or/1-2
4.	Excluded study designs and publication types [A.3.1]
5.	3 not 4
6.	Limit 5 to English language
	Date parameters: 1974 – 21 June 2017

Cochrane search terms

#1.	((direction* or omnidirection* or dual) near/2 microphone*):ti,ab
#2.	(multi-microphone* or multimicrophone*):ti,ab
#3.	#1 or #2
	Date parameters: Inception – 21 June 2017

A.4.11 Noise reduction

- What is the clinical and cost effectiveness of noise reduction algorithms?

Medline search terms

1.	hearing aids/
2.	"correction of hearing impairment"/is [instrumentation]
3.	(hearing adj (aid* or instrument*)):ti,ab.
4.	(ear mold* or earmold* or ear mould* or earmould* or amplif*).ti,ab.
5.	or/1-4
6.	(noise adj1 reduc*).ti,ab.
7.	5 and 6
8.	Excluded study designs and publication types [A.3.1]
9.	7 not 8
10.	Limit 9 to English language
	Date parameters: 1946 – 21 June 2017

Embase search terms

1.	hearing aid/
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2.	(hearing adj (aid* or instrument*)):ti,ab.
3.	(ear mold* or earmold* or ear mould* or earmould* or amplif*):ti,ab.
4.	or/1-3
5.	noise reduction/
6.	(noise adj1 reduc*):ti,ab.
7.	or/5-6
8.	4 and 7
9.	Excluded study designs and publication types [A.3.1]
10.	8 not 9
11.	Limit 10 to English language
	Date parameters: 1974 - 21 June 2017

Cochrane search terms

#1.	[mh ^"hearing aids"]
#2.	MeSH descriptor: [correction of hearing impairment] this term only and with qualifier(s): [instrumentation - is]
#3.	(hearing next (aid* or instrument*)):ti,ab
#4.	(ear next mold* or earmold* or ear next mould* or earmould* or amplif*):ti,ab
#5.	(or #1-#4)
#6.	(noise near/1 reduc*):ti,ab
#7.	#5 and #6
	Date parameters: Inception – 21 June 2017

A.4.12 Information, support and advice

- What are the information, support and advice needs of people with hearing difficulty and their families and carers?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	"patient acceptance of health care"/ or exp patient satisfaction/
6.	patient education as topic/
7.	((information* or advice or advising or advised or support*) adj3 (patient* or need* or requirement* or assess* or seek* or access* or disseminat*)):ti,ab.
8.	(information* adj2 support*):ti,ab.
9.	((client* or patient* or user* or carer* or consumer* or customer*) adj2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)):ti,ab.
10.	or/5-9
11.	Study filter: QUAL(A.3.9)
12.	4 and 10 and 11
	Date parameters: 1946 – 6 July 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	patient attitude/ or patient preference/ or patient satisfaction/ or consumer attitude/
6.	patient information/ or consumer health information/
7.	patient education/
8.	((information* or advice or advising or advised or support*) adj3 (patient* or need* or requirement* or assess* or seek* or access* or disseminat*)).ti,ab.
9.	(information* adj2 support*).ti,ab.
10.	((client* or patient* or user* or carer* or consumer* or customer*) adj2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)).ti,ab.
11.	or/5-10
12.	Study filter: QUAL(A.3.9)
13.	4 and 11 and 12
	Date parameters: 1974 – 6 July 2016

CINAHL search terms

S1.	Standard population [A.2.1]
S2.	Excluded study designs and publication types [A.3.1]
S3.	S1 not S2
S4.	Limit S3 to English language
S5.	(mh "consumer satisfaction+") or (mh "patient education") or (mh "health education")
S6.	((information* or advice or advising or advised or support*) n3 (patient* or need* or requirement* or assess* or seek* or access* or disseminat*))
S7.	(information* n2 support*)
S8.	((client* or patient* or user* or carer* or consumer* or customer*) n2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*))
S9.	S5 or S6 or S7 or S8
S10.	Study filter: QUAL(A.3.9)
S11.	S4 and S9 and S10
	Date parameters: 1981 – 6 July 2016

PsycINFO search terms

1.	Standard population [A.2.1]
2.	Limit 1 to English language
3.	su.exact("client education") or su.exact.explode("client attitudes") or ti,ab((information* or advice or advising or advised or support*) n/3 (patient* or need* or requirement* or assess* or seek* or access* or disseminat*)) or ti,ab(information* n/2 support*) or ti,ab((client* or patient* or user* or carer* or consumer* or customer*) n/2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*))
4.	Study filter: QUAL(A.3.9)
5.	2 and 3 and 4
	Date parameters: 1806 – 6 July 2016

A.4.13 Unilateral versus bilateral hearing aids

- What is the clinical and cost effectiveness of a unilateral hearing aid compared with bilateral hearing aids for people when both ears have an aidable hearing loss?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	hearing aids/
6.	"correction of hearing impairment"/is [instrumentation]
7.	(hearing adj (aid* or instrument*)).ti,ab.
8.	(ear mold* or earmold* or ear mould* or earmould* or amplif*).ti,ab.
9.	or/5-9
10.	(contralateral or bilateral* or binaural or unilateral* or monoaural or (bi adj3 lateral*) or (uni adj3 lateral*) or bimodal).ti,ab.
11.	((both or two or one or left or right or single or double) adj3 (side* or ear or ears or fitting*)).ti,ab.
12.	10 or 11
13.	9 and 12
14.	((both or two or one or left or right or single or double) adj3 (aid* or instrument*)).ti,ab.
15.	13 or 14
16.	4 and 15
17.	Study filters: RCT (A.3.2) or SR (0) or OBS (A.3.8)
18.	16 and 17
	Date parameters: 1946 – 7 October 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	hearing aid/
6.	(hearing adj (aid* or instrument*)).ti,ab.
7.	(ear mold* or earmold* or ear mould* or earmould* or amplif*).ti,ab.
8.	or/5-7
9.	(contralateral or bilateral* or binaural or unilateral* or monoaural or (bi adj3 lateral*) or (uni adj3 lateral*) or bimodal).ti,ab.
10.	((both or two or one or left or right or single or double) adj3 (side* or ear or ears or fitting*)).ti,ab.
11.	9 or 10
12.	8 and 11
13.	((both or two or one or left or right or single or double) adj3 (aid* or instrument*)).ti,ab.
14.	12 or 13
15.	4 and 14
16.	Study filters: RCT (A.3.2) or SR (0) or OBS (A.3.8)
17.	15 and 16

Date parameters: 1974 – 7 October 2016
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Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"hearing aids"]
#3.	MeSH descriptor: [correction of hearing impairment] this term only and with qualifier(s): [instrumentation - is]
#4.	(hearing next (aid* or instrument*)):ti,ab
#5.	(ear next mold* or earmold* or ear next mould* or earmould* or amplif*):ti,ab
#6.	(or #2-#5)
#7.	(contralateral or bilateral* or binaural or unilateral* or monoaural or (bi near/3 lateral*) or (uni near/3 lateral*) or bimodal):ti,ab
#8.	((both or two or one or left or right or single or double) near/3 (side* or ear or ears or fitting*)):ti,ab
#9.	#7 or #8
#10.	#6 and #9
#11.	((both or two or one or left or right or single or double) near/3 (aid* or instrument*)):ti,ab
#12.	#10 or #11
#13.	#1 and #12
	Date parameters: Inception – 7 October 2016

A.4.14 Idiopathic sudden sensorineural hearing loss

The following 2 questions were run with the same search strategy.

- What is the clinical and cost effectiveness of different routes of administration of steroids (for example oral or intratympanic) in the treatment of sudden sensorineural hearing loss (SSHL)?
- What is the most clinically and cost-effective treatment for idiopathic sudden sensorineural hearing loss (SSHL)?

Medline search terms

1.	(sshl or snhl or ishl or isshl or issnhl).ti,ab.
2.	hearing loss, sudden/
3.	hearing loss/ or deafness/ or exp hearing loss, sensorineural/
4.	(hearing adj2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral or bilateral)).ti,ab.
5.	deaf*.ti,ab.
6.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*).ti,ab.
7.	(sudden* or abrupt* or rapid* or acute*).ti,ab.
8.	or/3-6
9.	7 and 8
10.	1 or 2 or 9
11.	Excluded study designs and publication types [A.3.1]
12.	10 not 11
13.	Limit 12 to English language
14.	exp steroids/
15.	(steroid* or corticosteroid* or glucocorticosteroid* or glucocorticoid* or prednisolone or dexamethasone).ti,ab.
16.	exp antiviral agents/

17.	(antiviral* or anti-viral*).ti,ab.
18.	(aciclovir or acyclovir or amantadine or famciclovir or ganciclovir or gancyclovir or valaciclovir).ti,ab.
19.	or/14-18
20.	13 and 19
21.	Study filters: RCT (A.3.2) or SR (0)
22.	20 and 21
	Date parameters: 1946 – 19 June 2017

Embase search terms

1.	(sshl or snhl or ishl or isshl or issnhl).ti,ab.
2.	sudden deafness/
3.	*hearing impairment/ or exp perception deafness/
4.	(hearing adj2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral or bilateral)).ti,ab.
5.	deaf*.ti,ab.
6.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*).ti,ab.
7.	or/3-6
8.	(sudden* or abrupt* or rapid* or acute*).ti,ab.
9.	7 and 8
10.	1 or 2 or 9
11.	Excluded study designs and publication types [A.3.1]
12.	10 not 11
13.	Limit 12 to English language
14.	exp *steroid/
15.	(steroid* or corticosteroid* or glucocorticosteroid* or glucocorticoid* or prednisolone or dexamethasone).ti,ab.
16.	exp *antivirus agent/
17.	(antiviral* or anti-viral*).ti,ab.
18.	(aciclovir or acyclovir or amantadine or famciclovir or ganciclovir or gancyclovir or valaciclovir).ti,ab.
19.	or/14-18
20.	13 and 19
21.	Study filters: RCT (A.3.2) or SR (0)
22.	20 and 21
	Date parameters: 1974 - 19 June 2017

Cochrane search terms

#1.	(sshl or snhl or ishl or isshl or issnhl):ti,ab
#2.	[mh ^"hearing loss, sudden"]
#3.	[mh ^"hearing loss"]
#4.	[mh ^deafness]
#5.	[mh "hearing loss, sensorineural"]
#6.	(hearing near/2 (loss* or impair* or partial* or deficit* or deteriorat* or degenerat* or diminish* or difficult* or disabilit* or hard or one side* or unilateral or bilateral)):ti,ab
#7.	deaf*:ti,ab
#8.	(hypoacus* or presbycus* or presbyacus* or sociocus* or nosocus* or anacus*):ti,ab

#9.	(or #3-#8)
#10.	(sudden* or abrupt* or rapid* or acute*):ti,ab
#11.	#9 and #10
#12.	#1 or #2 or #11
#13.	[mh steroids]
#14.	(steroid* or corticosteroid* or glucocorticosteroid* or glucocorticoid* or prednisolone or dexamethasone):ti,ab
#15.	[mh "antiviral agents"]
#16.	(antiviral* or anti-viral*):ti,ab
#17.	(aciclovir or acyclovir or amantadine or famciclovir or ganciclovir or gancyclovir or valaciclovir):ti,ab
#18.	(or #13-#17)
#19.	#12 and #18
	Date parameters: Inception – 19 June 2017

A.4.15 Monitoring

The following 2 questions were run with the same search strategy.

- What is the most clinically and cost-effective method of delivery of monitoring and follow-up of people with hearing-related communication needs?
- When should people with hearing-related communication needs (including those with hearing aids) be monitored and followed up?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	monit*.ti,ab.
6.	monitoring, physiologic/
7.	((review* or follow-up or followed up or followup* or check-up* or assess*) adj3 (regular* or routine* or periodic* or frequent* or email* or e-mail* or telephone* or phone* or telemedicine* or telecare* or clinic or clinics or appoint* or online or survey* or questionnaire*)):ti,ab.
8.	(review* or follow-up or followed up or followup* or check-up* or assess*).ti,ab. and telemedicine/
9.	telemonitor*.ti,ab.
10.	or/5-9
11.	4 and 10
12.	Study filters: RCT (A.3.2) or SR (0) or OBS (A.3.8]
13.	11 and 12
	Date parameters: 1946 – 22 February 2017

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language

5.	monit*.ti,ab.
6.	*monitoring/ or exp *patient monitoring/
7.	((review* or follow-up or followed up or followup* or check-up* or assess*) adj3 (regular* or routine* or periodic* or frequent* or email* or e-mail* or telephone* or phone* or telemedicine* or telecare* or clinic or clinics or appoint* or online or survey* or questionnaire*)):ti,ab.
8.	(review* or follow-up or followed up or followup* or check-up* or assess*).ti,ab. and telemedicine/
9.	telemonitor*.ti,ab.
10.	or/5-9
11.	4 and 10
12.	Study filters: RCT (A.3.2) or SR (0) or OBS (A.3.8)
13.	11 and 12
	Date parameters: 1974 – 22 February 2017

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	monit*:ti,ab
#3.	[mh ^"monitoring, physiologic"]
#4.	((review* or follow-up or "follow up" or "followed up" or followup* or check-up* or check next up* or assess*) near/3 (regular* or routine* or periodic* or frequent* or email* or e-mail* or telephone* or phone* or telemedicine* or telecare* or clinic or clinics or appoint* or online or survey* or questionnaire*)):ti,ab
#5.	(review* or follow-up or "follow up" or "followed up" or followup* or check-up* or check next up* or assess*):ti,ab
#6.	[mh ^telemedicine]
#7.	#5 and #6
#8.	telemonitor*:ti,ab
#9.	#2 or #3 or #4 or #7 or #8
#10.	#1 and #9
	Date parameters: Inception – 22 February 2017

A.4.16 Assistive listening devices

- What is the clinical and cost effectiveness of assistive listening devices (such as loops) to support communication?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	amplifiers, electronic/
6.	mobile applications/
7.	wireless technology/
8.	smartphone/
9.	bluetooth.ti,ab.
10.	((telephone* or phone* or television* or tv) adj3 amplif*).ti,ab.

11.	((doorbell* or door bell* or alarm* or smoke detector*) adj3 amplif*).ti,ab.
12.	(wireless* or wirefree or wire-less* or wire-free).ti,ab.
13.	(fm or frequency modulated or rf or radiofrequenc* or radio-frequenc* or radio or radios).ti,ab.
14.	(telecoil* or t-coil*).ti,ab.
15.	(loop or loops or t-loop*).ti,ab.
16.	(remote adj microphone*).ti,ab.
17.	(smartphone* or smart phone* or iphone*).ti,ab.
18.	((mobile or cell or cellphone or cellular) adj3 (app or apps or application* or software*)).ti,ab.
19.	(personal sound amplif* or psap*).ti,ab.
20.	((assist* or alternative*) adj2 (listen* or device*)).ti,ab.
21.	self-fitting.ti,ab.
22.	or/5-21
23.	4 and 22
	Date parameters: 1946 – 21 June 2017

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	amplifier/
6.	mobile application/
7.	wireless communication/
8.	smartphone/
9.	bluetooth.ti,ab.
10.	((telephone* or phone* or television* or tv) adj3 amplif*).ti,ab.
11.	((doorbell* or door bell* or alarm* or smoke detector*) adj3 amplif*).ti,ab.
12.	(wireless* or wirefree or wire-less* or wire-free).ti,ab.
13.	(fm or frequency modulated or rf or radiofrequenc* or radio-frequenc* or radio or radios).ti,ab.
14.	(telecoil* or t-coil*).ti,ab.
15.	(loop or loops or t-loop*).ti,ab.
16.	(remote adj microphone*).ti,ab.
17.	(smartphone* or smart phone* or iphone*).ti,ab.
18.	((mobile or cell or cellphone or cellular) adj3 (app or apps or application* or software*)).ti,ab.
19.	(personal sound amplif* or psap*).ti,ab.
20.	((assist* or alternative*) adj2 (listen* or device*)).ti,ab.
21.	self-fitting.ti,ab.
22.	or/5-21
23.	4 and 22
	Date parameters: 1974 – 21 June 2017

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"amplifiers, electronic"]

#3.	[mh ^"mobile applications"]
#4.	[mh ^"wireless technology"]
#5.	[mh ^smartphone]
#6.	bluetooth:ti,ab
#7.	((telephone* or phone* or television* or tv) near/3 amplif*):ti,ab
#8.	((doorbell* or door next bell* or alarm* or smoke next detector*) near/3 amplif*):ti,ab
#9.	(wireless* or wirefree or wire-less* or wire-free):ti,ab
#10.	(fm or frequency next modulated or rf or radiofrequenc* or radio-frequenc* or radio or radios):ti,ab
#11.	(telecoil* or t-coil*):ti,ab
#12.	(loop or loops or t-loop*):ti,ab
#13.	(remote next microphone*):ti,ab
#14.	(smartphone* or smart next phone* or iphone*):ti,ab
#15.	((mobile or cell or cellphone or cellular) near/3 (app or apps or application* or software*)):ti,ab
#16.	(personal next sound next amplif* or psap*):ti,ab
#17.	((assist* or alternative*) near/2 (listen* or device*)):ti,ab
#18.	self-fitting:ti,ab
#19.	(or #2-#18)
#20.	#1 and #19
	Date parameters: Inception - 21 June 2017

A.4.17 Aftercare

- What is the clinical and cost effectiveness of interventions to support continuing use of hearing aids?

Medline search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	hearing aids/
6.	prosthesis fitting/
7.	hearing aid*.ti,ab.
8.	("ear mold*" or earmold* or "ear mould*" or earmould* or amplif*).ti,ab.
9.	or/5-8
10.	4 and 9
11.	social support/
12.	(support* adj2 (social* or peer* or group*)):ti,ab.
13.	(aftercare or after care).ti,ab.
14.	(repair* or maintenance* or maintain* or batter*).ti,ab.
15.	or/11-14
16.	10 and 15
17.	Study filters: RCT (A.3.2) or SR (0)
18.	16 and 17
	Date parameters: 1946 – 3 October 2016

Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	hearing aid/
6.	exp prosthesis/
7.	hearing aid*.ti,ab.
8.	("ear mold*" or earmold* or "ear mould*" or earmould* or amplif*).ti,ab.
9.	or/5-8
10.	4 and 9
11.	social support/
12.	aftercare/
13.	electric battery/
14.	prosthetic repair/
15.	(support* adj2 (social* or peer* or group*)).ti,ab.
16.	(aftercare or after care).ti,ab.
17.	(repair* or maintenance* or maintain* or batter*).ti,ab.
18.	or/11-17
19.	10 and 18
20.	Study filters: RCT (A.3.2) or SR (0)
21.	19 and 20
	Date parameters: 1974 – 3 October 2016

Cochrane search terms

#1.	Standard population [A.2.1]
#2.	[mh ^"hearing aids"]
#3.	[mh ^"prosthesis fitting"]
#4.	hearing next aid*:ti,ab
#5.	("ear mold*" or earmold* or "ear mould*" or earmould* or amplif*):ti,ab
#6.	(or #2-#5)
#7.	#1 and #6
#8.	[mh ^"social support"]
#9.	(support* near/2 (social* or peer* or group*)):ti,ab
#10.	(aftercare or "after care"):ti,ab
#11.	(repair* or maintenance* or maintain* or batter*):ti,ab
#12.	(or #8-#11)
#13.	#7 and #12
	Date parameters: Inception - 3 October 2016

PsycINFO search terms

1.	Standard population [A.2.1]
2.	Limit 1 to English language
3.	su.exact("hearing aids") or ti,ab(hearing-aid*) or ti,ab(ear-mold* or earmold* or ear-mould* or earmould* or amplif*)
4.	su.exact("social support") or su.exact("peer counseling") or su.exact("aftercare") or

	ti,ab(support* n/2 (social* or peer* or group*)) or ti,ab(aftercare or after-care) or ti,ab(repair* or maintenance* or maintain* or batter*)
5.	Study filters: RCT (A.3.2) or SR (0)
6.	2 and 3 and 4 and 5
	Date parameters: 1806 - 3 October 2016

CINAHL search terms

S1.	Standard population [A.2.1]
S2.	Excluded study designs and publication types [A.3.1]
S3.	S1 not S2
S4.	Limit 3 to English language
S5.	(mh "hearing aids") or (mh "hearing aid fitting") or (mh "prosthetic fitting")
S6.	"hearing aid*" or "ear mold*" or earmold* or "ear mould*" or earmould* or amplif*
S7.	S5 or S6
S8.	S4 and S7
S9.	(mh "support, psychosocial+") or (mh "after care") or (mh "hearing aid care") or (mh "equipment maintenance")
S10.	(support* n2 (social* or peer* or group*))
S11.	aftercare or "after care"
S12.	repair* or maintenance* or maintain* or batter*
S13.	S9 or S10 or S11 or S12
S14.	S8 and S13
	Date parameters: 1981 - 3 October 2016

A.5 Health economics search terms

A.5.1 Health economic (HE) reviews

Economic searches were conducted in Medline, Embase and CRD.

Medline & Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	Study filter HE (0) or MOD(A.3.6)
6.	4 and 5
	Date parameters: 2014 – 16 February 2016

CRD search terms

#1.	Standard population [A.2.1]
	Date parameters: 2001-2016

A.5.1.1 Additional economic search for Wax question

- Run in Medline, Embase and CRD below without a population, just terms for wax.

Medline search terms

1.	cerumen/
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2.	(cerumen or earwax or (ear* adj5 wax*)).ti,ab.
3.	1 or 2
4.	Limit 3 to English language
5.	Excluded study designs and publication types [A.3.1]
6.	4 not 5
7.	Study filter HE (0)
8.	6 and 7
	Date parameters: Inception – 16 August 2017

Embase search terms

1.	cerumen/ or cerumen impaction/
2.	(cerumen or earwax or (ear* adj5 wax*)).ti,ab.
3.	1 or 2
4.	Limit 3 to English language
5.	Excluded study designs and publication types [A.3.1]
6.	4 not 5
7.	Study filter HE (0)
8.	6 and 7
	Date parameters: Inception – 16 August 2017

CRD search terms

#1.	MeSH descriptor cerumen
#2.	((cerumen or earwax or (ear* adj5 wax*)))
#3.	#1 or #2 in NHSEED, HTA
	Date parameters: Inception – 16 August 2017

A.5.2 Quality of life (QoL) reviews

Quality of life searches were conducted in Medline and Embase only

Medline & Embase search terms

1.	Standard population [A.2.1]
2.	Excluded study designs and publication types [A.3.1]
3.	1 not 2
4.	Limit 3 to English language
5.	Study filter QOL (A.3.5)
6.	4 and 5
	Date parameters: Inception – 16 February 2016