

Menopause

Supplement 2: Health economics

NICE guideline TBC

Health economics

November 2023

Draft for consultation

*These supplements were developed by
NICE*

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Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

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1 Search strategy

2 Health economics global search

3 One global search was conducted for economic evidence.
4 Database: Ovid MEDLINE(R) ALL <1946 to July 27, 2022>
5 Date of last search: 28/07/2022

#	Searches	
1	Climacteric/	4935
2	Menopause/ or Perimenopause/ or Postmenopause/	55972
3	(menopau* or postmenopau* or perimenopau* or climacteri*).tw.	102310
4	("change of life" or life change?).tw.	3141
5	or/1-4	116452
6	limit 5 to english language	103660
7	limit 6 to yr="2012 -Current"	41579
8	letter/	1188475
9	editorial/	613156
10	news/	213557
11	exp historical article/	408665
12	Anecdotes as Topic/	4746
13	comment/	973045
14	case report/	2282504
15	(letter or comment*).ti.	179095
16	or/8-15	4782431
17	randomized controlled trial/ or random*.ti,ab.	1466248
18	16 not 17	4751747
19	animals/ not humans/	4997958
20	exp Animals, Laboratory/	942090
21	exp Animal Experimentation/	10205
22	exp Models, Animal/	631246
23	exp Rodentia/	3472512
24	(rat or rats or mouse or mice).ti.	1407073
25	or/18-24	10620565
26	7 not 25	34368
27	Economics/	27455
28	Value of life/	5793
29	exp "Costs and Cost Analysis"/	259348
30	exp Economics, Hospital/	25612
31	exp Economics, Medical/	14359
32	Economics, Nursing/	4013
33	Economics, Pharmaceutical/	3074
34	exp "Fees and Charges"/	31172
35	exp Budgets/	14034
36	budget*.ti,ab.	33535
37	cost*.ti.	136425
38	(economic* or pharmaco?economic*).ti.	56592
39	(price* or pricing*).ti,ab.	48567
40	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.	191586
41	(financ* or fee or fees).ti,ab.	145674
42	(value adj2 (money or monetary)).ti,ab.	2817
43	or/27-42	689907
44	exp models, economic/	16130
45	*Models, Theoretical/	64214

#	Searches	
46	*Models, Organizational/	6490
47	markov chains/	15758
48	monte carlo method/	31445
49	exp Decision Theory/	12940
50	(markov* or monte carlo).ti,ab.	79077
51	econom* model*.ti,ab.	4760
52	(decision* adj2 (tree* or analy* or model*)).ti,ab.	31806
53	or/44-52	210296
54	43 or 53	865352
55	26 and 54	849

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Database: Embase <1974 to 2022 July 27>
 Date of last search: 28/07/2022

#	Searches	
1	climacterium/ or "menopause and climacterium"/	8930
2	menopause/ or early menopause/ or postmenopause/ or exp menopause related disorder/	133601
3	(menopau* or postmenopau* or perimenopau* or climacteri*).tw.	147803
4	("change of life" or life change?).tw.	4239
5	or/1-4	183218
6	limit 5 to english language	163179
7	limit 6 to yr="2012 -Current"	81270
8	letter.pt. or letter/	1241876
9	note.pt.	901797
10	editorial.pt.	733613
11	case report/ or case study/	2836641
12	(letter or comment*).ti.	224206
13	or/8-12	5462442
14	randomized controlled trial/ or random*.ti,ab.	1928915
15	13 not 14	5407726
16	animal/ not human/	1159758
17	nonhuman/	6983755
18	exp Animal Experiment/	2874637
19	exp Experimental Animal/	770091
20	animal model/	1570755
21	exp Rodent/	3850325
22	(rat or rats or mouse or mice).ti.	1557060
23	or/15-22	14181910
24	7 not 23	61890
25	health economics/	34559
26	exp economic evaluation/	337213
27	exp health care cost/	322230
28	exp fee/	42496
29	budget/	32003
30	funding/	67739
31	budget*.ti,ab.	44183
32	cost*.ti.	181970
33	(economic* or pharmaco?economic*).ti.	70774
34	(price* or pricing*).ti,ab.	67140
35	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.	264737
36	(financ* or fee or fees).ti,ab.	200470
37	(value adj2 (money or monetary)).ti,ab.	3792
38	or/25-37	1085390

#	Searches	
39	statistical model/	171255
40	exp economic aspect/	2251504
41	39 and 40	27469
42	*theoretical model/	30994
43	*nonbiological model/	5065
44	stochastic model/	19388
45	decision theory/	1802
46	decision tree/	18095
47	monte carlo method/	46995
48	(markov* or monte carlo).ti,ab.	87061
49	econom* model*.ti,ab.	7134
50	(decision* adj2 (tree* or analy* or model*)).ti,ab.	43807
51	or/41-50	225433
52	38 or 51	1266430
53	24 and 52	2248

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Database: Cochrane Database of Systematic Reviews (CDSR) Issue 7 of 12, July 2022
Date of last search: 01/08/2022

#	Searches	
1	MeSH descriptor: [Climacteric] this term only	335
2	MeSH descriptor: [Menopause] this term only	1622
3	MeSH descriptor: [Perimenopause] this term only	168
4	MeSH descriptor: [Postmenopause] this term only	4982
5	(menopau* or postmenopau* or perimenopau* or climacteri*).ti,ab	27681
6	("change of life" or "life change" or "life changes").ti,ab	444
7	{or #1-#6}	28529
8	MeSH descriptor: [Economics] this term only	45
9	MeSH descriptor: [Value of Life] this term only	32
10	MeSH descriptor: [Costs and Cost Analysis] explode all trees	11515
11	MeSH descriptor: [Economics, Hospital] explode all trees	736
12	MeSH descriptor: [Economics, Medical] explode all trees	62
13	MeSH descriptor: [Economics, Nursing] explode all trees	13
14	MeSH descriptor: [Economics, Pharmaceutical] explode all trees	65
15	MeSH descriptor: [Fees and Charges] explode all trees	259
16	MeSH descriptor: [Budgets] explode all trees	32
17	budget*.ti,ab	1284
18	cost*.ti,ab	75603
19	(economic* or pharmaco?economic*).ti,ab	21792
20	(price* or pricing*).ti,ab	2632
21	(financ* or fee or fees or expenditure* or saving*).ti,ab	22897
22	(value near/2 (money or monetary)).ti,ab	347
23	resourc* allocat*.ti,ab	4633
24	(fund or funds or funding* or funded).ti,ab	20420
25	(ration or rations or rationing* or rationed).ti,ab	713
26	{or #8-#25}	120278
27	MeSH descriptor: [Models, Economic] explode all trees	371
28	MeSH descriptor: [Models, Theoretical] this term only	744
29	MeSH descriptor: [Models, Organizational] this term only	180
30	MeSH descriptor: [Markov Chains] this term only	288
31	MeSH descriptor: [Monte Carlo Method] this term only	203
32	MeSH descriptor: [Decision Theory] explode all trees	174
33	(markov* or monte carlo).ti,ab	2214
34	econom* model*.ti,ab	7061

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#	Searches	
35	(decision* near/2 (tree* or analy* or model*)):ti,ab	2140
36	{or #27-#35}	11044
37	#26 or #36	123649
38	#7 and #37	1179
39	#7 and #37 with Cochrane Library publication date Between Jan 2012 and Aug 2022, in Cochrane Reviews	37

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Database: Cochrane Central Register of Controlled Trials (CENTRAL) Issue 7 of 12, July 2022

Date of last search: 01/08/2022

#	Searches	
1	MeSH descriptor: [Climacteric] this term only	335
2	MeSH descriptor: [Menopause] this term only	1622
3	MeSH descriptor: [Perimenopause] this term only	168
4	MeSH descriptor: [Postmenopause] this term only	4982
5	(menopau* or postmenopau* or perimenopau* or climacteri*):ti,ab	27681
6	("change of life" or "life change" or "life changes"):ti,ab	444
7	{or #1-#6}	28529
8	MeSH descriptor: [Economics] this term only	45
9	MeSH descriptor: [Value of Life] this term only	32
10	MeSH descriptor: [Costs and Cost Analysis] explode all trees	11515
11	MeSH descriptor: [Economics, Hospital] explode all trees	736
12	MeSH descriptor: [Economics, Medical] explode all trees	62
13	MeSH descriptor: [Economics, Nursing] explode all trees	13
14	MeSH descriptor: [Economics, Pharmaceutical] explode all trees	65
15	MeSH descriptor: [Fees and Charges] explode all trees	259
16	MeSH descriptor: [Budgets] explode all trees	32
17	budget*:ti,ab	1284
18	cost*:ti,ab	75603
19	(economic* or pharmaco?economic*):ti,ab	21792
20	(price* or pricing*):ti,ab	2632
21	(financ* or fee or fees or expenditure* or saving*):ti,ab	22897
22	(value near/2 (money or monetary)):ti,ab	347
23	resourc* allocat*:ti,ab	4633
24	(fund or funds or funding* or funded):ti,ab	20420
25	(ration or rations or rationing* or rationed):ti,ab	713
26	{or #8-#25}	120278
27	MeSH descriptor: [Models, Economic] explode all trees	371
28	MeSH descriptor: [Models, Theoretical] this term only	744
29	MeSH descriptor: [Models, Organizational] this term only	180
30	MeSH descriptor: [Markov Chains] this term only	288
31	MeSH descriptor: [Monte Carlo Method] this term only	203
32	MeSH descriptor: [Decision Theory] explode all trees	174
33	(markov* or monte carlo):ti,ab	2214
34	econom* model*:ti,ab	7061
35	(decision* near/2 (tree* or analy* or model*)):ti,ab	2140
36	{or #27-#35}	11044
37	#26 or #36	123649
38	#7 and #37	1179
39	"conference":pt or (clinicaltrials or trialsearch):so	608941
40	#38 not #39 with Publication Year from 2012 to 2022, in Trials	326

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1 Database: EconLit <1886 to July 21, 2022>
 2 Date of last search: 28/07/2022

#	Searches	
1	Climacteric/	0
2	Menopause/ or Perimenopause/ or Postmenopause/ or exp Menopause Related Disorder/	0
3	(menopau* or postmenopau* or perimenopau* or climacteri*).tw.	70
4	("change of life" or life change?).tw.	92
5	or/1-4	162
6	limit 5 to yr="2012 -Current"	69

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 4 Database: CRD HTA
 5 Date of last search: 28/07/2022

#	Searches	
1	MeSH DESCRIPTOR Climacteric	9
2	MeSH DESCRIPTOR Menopause	117
3	MeSH DESCRIPTOR Perimenopause	7
4	MeSH DESCRIPTOR postmenopause	209
5	((menopau* or postmenopau* or perimenopau* or climacteri*))	957
6	((("change of life" or "life change" or "life changes")))	38
7	(#1 OR #2 OR #3 OR #4 OR #5 OR #6) IN HTA FROM 2012 TO 2022	42

6
 7 Database: INAHTA
 8 Date of last search: 28/07/2022

#	Searches	
1	"Climacteric"[mh]	2
2	"Menopause"[mh]	28
3	"Perimenopause"[mh]	1
4	"Postmenopause"[mh]	31
5	(menopau* or postmenopau* or perimenopau* or climacteri*)	159
6	("change of life" or "life change" or "life changes")	1
7	#6 OR #5 OR #4 OR #3 OR #2 OR #1	163
8	Limit to English Language	134

9
 10 Database: EED
 11 Date of last search: 28/07/2022

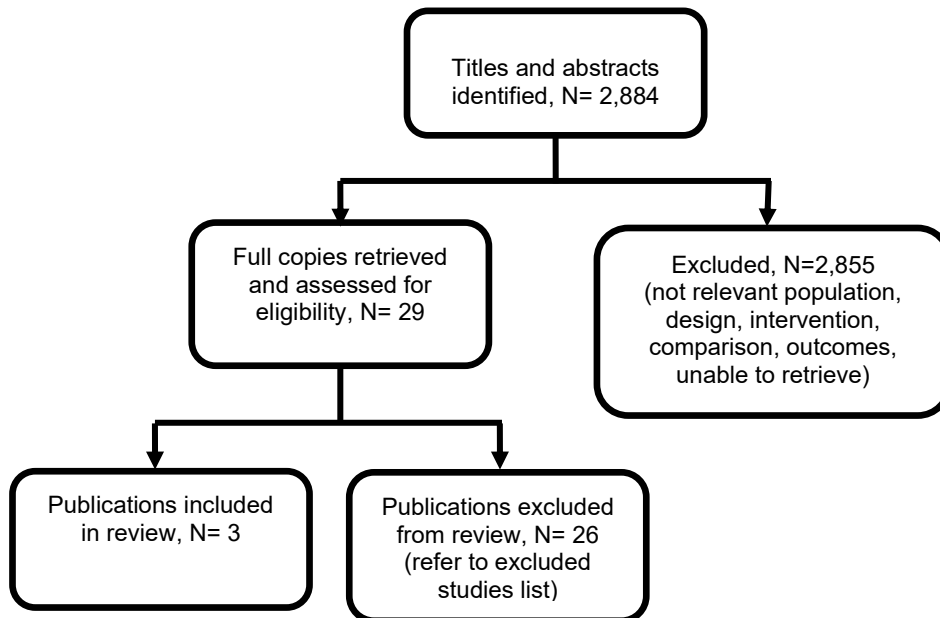
#	Searches	
1	MeSH DESCRIPTOR Climacteric	9
2	MeSH DESCRIPTOR Menopause	117
3	MeSH DESCRIPTOR Perimenopause	7
4	MeSH DESCRIPTOR postmenopause	209
5	((menopau* or postmenopau* or perimenopau* or climacteri*))	957
6	((("change of life" or "life change" or "life changes")))	38
7	(#1 OR #2 OR #3 OR #4 OR #5 OR #6) IN NHSEED FROM 2012 TO 2022	33

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1 Economic evidence study selection

2 Health economics global search

3 **Figure 1: Flow diagram of economic article selection for global health economic**
 4 **search**



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6 **Table 1: Number of economic studies identified by review topic**

Review topic	Number of economic studies included in the review
Topic A: What is the effectiveness of cognitive behavioural therapy for managing symptoms associated with the menopause?	2
Topic B1: What is the effectiveness of treatments such as local oestrogen, ospemifene, prasterone and transvaginal laser therapy for managing genitourinary symptoms associated with the menopause?	1

1 Excluded studies

2 Excluded studies following full text review

3 **Table 2: List of excluded studies**

Author and Year	Title and Journal	Reason for exclusion
Anonymous 2014	Anesthetic Injections Into the Stellate Ganglion for the Treatment of Hot Flashes in Women: A Review of Clinical and Cost-Effectiveness and Guidelines	Not relevant to any review question
Anonymous 2019	Effectiveness of a Multi-Dimensional Group Counseling Program Based on the GATHER Approach on the Quality of Life in Surgically Menopausal Women Journal of menopausal medicine	Not an economic evaluation
Brown 2006	Transdermal hormone replacement therapy patches for women with postmenopausal symptoms: economic analysis of short-term use	Not relevant to any review question
CADTH 2014	Anesthetic injections into the stellate ganglion for the treatment of hot flashes in women: a review of clinical and cost-effectiveness and guidelines Ottawa: Canadian Agency for Drugs and Technologies in Health (CADTH)	Not relevant to any review question
Carbonell-Baeza 2015	Cost-effectiveness of an exercise intervention program in perimenopausal women: the Fitness League Against MENopause COst (FLAMENCO) randomized controlled trial. BMC public health	Not relevant to any review question
DiBonaventura 2013	Burden of vasomotor symptoms in France, Germany, Italy, Spain, and the United Kingdom International Journal of Women's Health	Costing study
Dymond 2019	PIH11 ECONOMIC EVALUATION OF OSPEMIFENE FOR THE TREATMENT OF VULVOVAGINAL ATROPHY IN THE UNITED KINGDOM Value in Health	Conference abstract. Full economic evaluation included in review
Faught 2018	Adherence, persistence, and healthcare costs associated with ospemifene compared with local estrogen therapy among commercially insured women in the United States Menopause	Costing study
Goranitis 2017	Aerobic exercise for vasomotor menopausal symptoms: A cost-utility analysis based on the Active Women trial. PLoS one	Not relevant to any review question
Grant MD 2015	Menopausal symptoms: comparative effectiveness review of therapies Agency for Healthcare Research and Quality (AHRQ)	Not an economic evaluation
Hesham 2019	Cost-effectiveness of vaginal estrogen and selective estrogen receptor modulator therapy vs. fractional vaginal laser for treatment of genitourinary syndrome of menopause Female Pelvic Medicine and Reconstructive Surgery	US health care payer perspective taken
Kolu 2015	Cost-effectiveness of physical activity among women with menopause symptoms: findings from a randomised controlled trial. PLoS one	Not relevant to any review question
Lang 2017	Fractional CO2 laser of the vagina for genitourinary syndrome of menopause: Is the out-of-pocket cost worth the outcome of treatment?. Lasers in surgery and medicine	Not an economic evaluation
Mewes 2013	Cost-effectiveness of cognitive-behavioral therapy and physical exercise for alleviating treatment-induced menopausal symptoms in breast cancer patients Value in Health	Conference abstract. Full economic evaluation included in review
Moyneur 2018	Health care costs associated with depression, anxiety, and urinary track infection in women diagnosed with vulvovaginal atrophy Menopause	Costing study
NIHR 2013	Ospemifene for vulvo-vaginal atrophy in postmenopausal women	Not an economic evaluation
Sarrel 2014	Incremental direct and indirect cost of untreated vasomotor symptoms (VMS) Pharmacoepidemiology and Drug Safety	Costing study
Shyu 2012	Health-related quality of life and healthcare resource utilization in Taiwanese women with menopausal symptoms: a nation-wide survey. The journal of nursing research : JNR	Costing study
Sills 2022	Predbezne modelovani odchytky nakladu pro porovnani autologni intraovarialni plazmy bohate na trombocyty a standardni hormonalni substitucni terapie pri menopauze, Preliminary cost variance modeling to compare autologous intraovarian platelet-rich plasma vs. standard	Costing study

	hormone replacement therapy for menopause management Ceska gynecologie	
Spacirova 2019	Cost-effectiveness of a primary care-based exercise intervention in perimenopausal women. The FLAMENCO Project. Gaceta sanitaria	Not relevant to any review question
St Martin 2019	A cost-effectiveness analysis of the intravaginal CO2 laser therapy compared to standard medicaltherapies for genitourinary syndrome of menopause Female Pelvic Medicine and Reconstructive Surgery	US health care payer perspective taken
Teitsson 2015	Cost-effectiveness of conjugated estrogens/bazedoxifene for the treatment of vasomotor symptoms in the United States Value in Health	US health care payer perspective taken
Verbeek 2019	PCN77 COST-UTILITY, COST-EFFECTIVENESS, AND BUDGET IMPACT OF INTERNET-BASED COGNITIVE BEHAVIOURAL THERAPY FOR BREAST CANCER SURVIVORS WITH TREATMENT-INDUCED MENOPAUSAL SYMPTOMS Value in Health	Conference abstract.
Wallace 2020	A cost-effectiveness analysis of vaginal carbon dioxide laser therapy compared with standard medical therapies for genitourinary syndrome of menopause-associated dyspareunia. American journal of obstetrics and gynecology	US health care payer perspective taken

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