

Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain

[D] Evidence review for social interventions for chronic pain (chronic primary pain and chronic secondary pain)

NICE guideline NG193

Intervention evidence review underpinning the research recommendation on social interventions in the NICE guideline

April 2021

This evidence review was developed by the National Guideline Centre based at the Royal College of Physicians

Disclaimer

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1 Social interventions

1.1 Review question: What is the clinical and cost effectiveness of social interventions aimed at improving the quality of life of people with chronic pain?

1.2 Introduction

Social factors may have profound effects on the experience of pain. Suffering chronic pain can also have profound social effects. Inability to complete certain tasks or, for example, to go out with friends can cause loss of social status or loss of work, which impact both self-esteem and financial security. Isolation and loneliness can soon follow. People with long-lasting, severe pain may need to change job, work less and/or give up work altogether. The financial insecurity caused by the experience and prospect of loss of income can add to psychological stress. Poverty, stress and pain are closely interlinked. These factors all contribute to the experience of pain, and the way healthcare systems need to manage it. Being able to manage these factors successfully can transform people's lives. While people may still be in pain, they may be better prepared to deal with it.

There are many initiatives to enhance the wellbeing of people with health conditions through engagement in meaningful social activities. Local charities and voluntary sector organisations harness the power of group activities in non-medical settings to empower individuals with a variety of conditions to manage their conditions more effectively. This is often called "social prescribing". This chapter aims to assess the current evidence of such strategies in the management of chronic pain.

1.3 PICO table

For full details see the review protocol in Appendix A:.

Table 1: PICO characteristics of review question

Population	People, aged 16 years and over, with chronic pain. <i>Pain that persists or recurs for longer than 3 months.</i>
Intervention(s)	Social interventions aimed at improving quality of life, for example: <ul style="list-style-type: none">• Social prescribing• Cultural commissioning• Health training and coaching• Case management• Vocational rehabilitation• Befriending• Advocacy• Combinations of these. An iterative approach will be taken to determine whether interventions can be pooled for analysis, based on comparability of interventions identified.
Comparison(s)	Comparators: <ul style="list-style-type: none">• Standard care (GP appointments)/waiting list
Outcomes	CRITICAL: <ul style="list-style-type: none">• Health related quality of life (including meaningful activity)

	<p>IMPORTANT:</p> <ul style="list-style-type: none">• Physical function (5 minute walk, sit to stand, Roland and Morris Disability Questionnaire, Oswestry Disability Index, Canadian Occupational Performance Measure)• Pain self-efficacy (pain self-efficacy questionnaire)• Use of healthcare services• Sleep• Discontinuation• Pain reduction (any validated scale)• Psychological distress (depression/ anxiety) (preferably Hospital Anxiety and Depression Scale)• Pain interference (brief pain inventory interference subscale). <p>Outcomes will be extracted at the longest time point up to 3 months and at the longest time point after 3 months.</p>
Study design	Randomised controlled trials and systematic reviews of randomised controlled trials

1.4 Clinical evidence

1.4.1 Included studies

No relevant clinical studies comparing social interventions with standard care were identified.

See also the study selection flow chart in Appendix C:.

1.4.2 Excluded studies

See the excluded studies list in Appendix I.

1.4.3 Summary of clinical studies included in the evidence review

No studies were identified.

1.4.4 Quality assessment of clinical studies included in the evidence review

Not applicable.

1.5 Economic evidence

1.5.1 Included studies

No health economic studies were included.

1.5.2 Excluded studies

No relevant health economic studies were excluded due to assessment of limited applicability or methodological limitations.

See also the health economic study selection flow chart in Appendix G:.

1.6 The committee's discussion of the evidence

1.6.1 Interpreting the evidence

1.6.1.1 The outcomes that matter most

The committee considered health-related quality of life to be the only critical outcome for decision-making, as improvement in quality of life is the primary aim of social interventions. Physical function, psychological distress, pain interference, pain self-efficacy, use of healthcare services, sleep, discontinuation and pain reduction were also considered to be important outcomes. The critical and important outcomes agreed by the committee were adapted by consensus from relevant core outcome sets registered under the Core Outcome Measures in Effectiveness Trials (COMET) Initiative. This included the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommendations.

No evidence was identified for any critical or important outcomes.

1.6.1.2 The quality of the evidence

No evidence was identified.

1.6.1.3 Benefits and harms

Although there was no evidence identified that was relevant to this guideline population, the committee highlighted non-randomised evidence in other populations. It was noted that this suggested a benefit of social interventions in populations broader than chronic pain, although there was uncertainty. Furthermore the NHS long term plan committed to building the infrastructure for social prescribing in primary care. The committee therefore agreed that it would be important for there to be specific research in the effectiveness of this in people with chronic pain and included a research recommendation on this topic.

1.6.2 Cost effectiveness and resource use

No economic evidence was identified for this question.

Social interventions are very variable, which means the costs are also variable. No clinical evidence was identified to provide information on the benefits of social interventions. Widely implementing social interventions in the NHS will have a large resource impact. Given the lack of evidence, a research recommendation was made.

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Appendices

Appendix A: Review protocols

Review protocol for social interventions

ID	Field	Content
0.	PROSPERO registration number	CRD42019128392
1.	Review title	What is the clinical and cost effectiveness of social interventions aimed at improving the quality of life of people with chronic pain?
2.	Review question	What is the clinical and cost effectiveness of social interventions aimed at improving the quality of life of people with chronic pain?
3.	Objective	To determine the clinical and cost effectiveness of social interventions aimed at improving the quality of life of people with chronic pain.
4.	Searches	<p>The following databases will be searched:</p> <ul style="list-style-type: none"> • MEDLINE • Embase • Cochrane Library • SPP (Social Policy and Practice) • The Kings Fund Library Database • ASSIA (Applied Social Sciences Index and Abstracts) <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> • English language

		<ul style="list-style-type: none"> • Human studies • Letters and comments are excluded. <p>Other searches:</p> <ul style="list-style-type: none"> • Inclusion lists of relevant systematic reviews will be checked by the reviewer. <p>The searches may be re-run 6 weeks before final committee meeting and further studies retrieved for inclusion if relevant.</p> <p>The full search strategies will be published in the final review.</p>
5.	Condition or domain being studied	Pain that persists or recurs for longer than 3 months.
6.	Population	<p>Inclusion: People, aged 16 years and over, with chronic pain.</p> <p>Exclusion: None</p>
7.	Intervention/Exposure/Test	<p>Social interventions aimed at improving quality of life, for example:</p> <ul style="list-style-type: none"> • social prescribing • cultural commissioning • health training and coaching • case management • vocational rehabilitation • befriending • advocacy • combinations of these <p>An iterative approach will be taken to determine whether interventions can be pooled for analysis, based on comparability of interventions identified.</p>

8.	Comparator/Reference standard/Confounding factors	Comparators: <ul style="list-style-type: none"> • standard care (GP appointments)/waiting list
9.	Types of study to be included	Randomised controlled trials and systematic reviews of randomised controlled trials
10.	Other exclusion criteria	Non-English language studies
11.	Context	A clear understanding of the evidence for the effectiveness of chronic pain treatments: <ul style="list-style-type: none"> • improves the confidence of healthcare professionals in their conversations about pain, and • helps healthcare professionals and patients to have realistic expectations about outcomes of treatment.
12.	Primary outcomes (critical outcomes)	<ul style="list-style-type: none"> • health related quality of life (including meaningful activity) <p>Outcomes will be extracted at the longest time point up to 3 months and at the longest time point after 3 months.</p>
13.	Secondary outcomes (important outcomes)	<ul style="list-style-type: none"> • physical function (5 minute walk, sit to stand, Roland and Morris Disability Questionnaire, Oswestry Disability Index, Canadian Occupational Performance Measure) • pain self-efficacy (pain self-efficacy questionnaire) • use of healthcare services • sleep • discontinuation • pain reduction (any validated scale) • psychological distress (depression/ anxiety) (preferably Hospital Anxiety and Depression Scale) • pain interference (brief pain inventory interference subscale) <p>Outcomes will be extracted at the longest time point up to 3 months and at the longest time point after 3 months</p>
14.	Data extraction (selection and coding)	EndNote will be used for reference management, sifting, citations and bibliographies. All references identified by the searches and from other sources will be screened for inclusion. 10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third

		<p>independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above.</p> <p>EviBASE will be used for data extraction.</p> <p>Study investigators may be contacted for missing data where time and resources allow.</p>	
15.	Risk of bias (quality) assessment	<p>Risk of bias will be assessed using the Cochrane Risk of Bias (2.0) tool. Disagreements between the review authors over the risk of bias in particular studies will be resolved by discussion, with involvement of a third review author where necessary.</p>	
16.	Strategy for data synthesis	<p>Pairwise meta-analyses will be performed using Cochrane Review Manager (RevMan5). GRADEpro will be used to assess the quality of evidence for each outcome, taking into account individual study quality and the meta-analysis results. The 4 main quality elements (risk of bias, indirectness, inconsistency and imprecision) will be appraised for each outcome.</p>	
17.	Analysis of sub-groups	<p>Proposed sensitivity/subgroup analysis to be explored where there is heterogeneity:</p> <ul style="list-style-type: none"> • cognitive impairment • learning difficulties • first language not English • sensory impairment • homeless • people aged 16-18 years 	
18.	Type and method of review	<input checked="" type="checkbox"/>	Intervention
		<input type="checkbox"/>	Diagnostic
		<input type="checkbox"/>	Prognostic
		<input type="checkbox"/>	Qualitative
		<input type="checkbox"/>	Epidemiologic
		<input type="checkbox"/>	Service Delivery
		<input type="checkbox"/>	Other (please specify)

19.	Language	English		
20.	Country	England		
21.	Anticipated or actual start date	15/03/2019		
22.	Anticipated completion date	19/08/2020		
23.	Stage of review at time of this submission	Review stage	Started	Completed
		Preliminary searches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Piloting of the study selection process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Formal screening of search results against eligibility criteria	<input type="checkbox"/>	<input type="checkbox"/>
		Data extraction	<input type="checkbox"/>	<input type="checkbox"/>
		Risk of bias (quality) assessment	<input type="checkbox"/>	<input type="checkbox"/>
		Data analysis	<input type="checkbox"/>	<input type="checkbox"/>
24.	Named contact	<p>5a. Named contact National Guideline Centre</p> <p>5b Named contact e-mail Chronicpain@nice.org.uk</p> <p>5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE) and the National Guideline Centre</p>		

25.	Review team members	<p>From the National Guideline Centre:</p> <p>Serena Carville, Guideline Lead</p> <p>Maria Smyth, Senior Systematic Reviewer</p> <p>Rebecca Boffa, Senior Systematic Reviewer</p> <p>Margaret Constanti, Senior Health Economist</p> <p>Joseph Runicles, Information Specialist</p> <p>Katie Broomfield, Project Manager</p>
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Centre which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual . Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10069
29.	Other registration details	-
30.	Reference/URL for published protocol	https://www.crd.york.ac.uk/PROSPERO/display_record.php?RecordID=128392

31.	Dissemination plans	<p>NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as:</p> <ul style="list-style-type: none"> • notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts • issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE. 	
32.	Keywords	-	
33.	Details of existing review of same topic by same authors	-	
34.	Current review status	<input checked="" type="checkbox"/>	Ongoing
		<input type="checkbox"/>	Completed but not published
		<input type="checkbox"/>	Completed and published
		<input type="checkbox"/>	Completed, published and being updated
		<input type="checkbox"/>	Discontinued
35.	Additional information	-	
36.	Details of final publication	www.nice.org.uk	

Table 2: Health economic review protocol

Review question	All questions – health economic evidence
Objectives	To identify health economic studies relevant to any of the review questions.
Search criteria	<ul style="list-style-type: none"> • Populations, interventions and comparators must be as specified in the clinical review protocol above. • Studies must be of a relevant health economic study design (cost–utility analysis, cost-effectiveness analysis, cost–benefit analysis, cost–consequences analysis, comparative cost analysis). • Studies must not be a letter, editorial or commentary, or a review of health economic evaluations. (Recent reviews will be ordered although not reviewed. The bibliographies will be checked for relevant studies, which will then be ordered.) • Unpublished reports will not be considered unless submitted as part of a call for evidence. • Studies must be in English.
Search strategy	A health economic study search will be undertaken using population-specific terms and a health economic study filter – see appendix B below.
Review strategy	<p>Studies not meeting any of the search criteria above will be excluded. Studies published before 2002. Abstract-only studies and studies from non-OECD countries or the USA will also be excluded.</p> <p>Each remaining study will be assessed for applicability and methodological limitations using the NICE economic evaluation checklist which can be found in appendix H of Developing NICE guidelines: the manual (2014).²⁴</p> <p>Inclusion and exclusion criteria</p> <ul style="list-style-type: none"> • If a study is rated as both ‘Directly applicable’ and with ‘Minor limitations’ then it will be included in the guideline. A health economic evidence table will be completed and it will be included in the health economic evidence profile. • If a study is rated as either ‘Not applicable’ or with ‘Very serious limitations’ then it will usually be excluded from the guideline. If it is excluded then a health economic evidence table will not be completed and it will not be included in the health economic evidence profile. • If a study is rated as ‘Partially applicable’, with ‘Potentially serious limitations’ or both then there is discretion over whether it should be included. <p>Where there is discretion</p> <p>The health economist will make a decision based on the relative applicability and quality of the available evidence for that question, in discussion with the guideline committee if required. The ultimate aim is to include health economic studies that are helpful for decision-making in the context of the guideline and the current NHS setting. If several studies are considered of sufficiently high applicability and methodological quality that they could all be included, then the health economist, in discussion with the committee if required, may decide to include only the most applicable studies and to selectively exclude the remaining studies. All studies excluded on the basis of applicability or methodological limitations will be listed with explanation in the excluded health economic studies appendix below.</p> <p>The health economist will be guided by the following hierarchies.</p> <p><i>Setting:</i></p> <ul style="list-style-type: none"> • UK NHS (most applicable). • OECD countries with predominantly public health insurance systems (for example, France, Germany, Sweden).

- OECD countries with predominantly private health insurance systems (for example, Switzerland).
- Studies set in non-OECD countries or in the USA will be excluded before being assessed for applicability and methodological limitations.

Health economic study type:

- Cost–utility analysis (most applicable).
- Other type of full economic evaluation (cost–benefit analysis, cost-effectiveness analysis, cost–consequences analysis).
- Comparative cost analysis.
- Non-comparative cost analyses including cost-of-illness studies will be excluded before being assessed for applicability and methodological limitations.

Year of analysis:

- The more recent the study, the more applicable it will be.
- Studies published in 2002 or later but that depend on unit costs and resource data entirely or predominantly from before 2002 will be rated as 'Not applicable'.
- Studies published before 2002 will be excluded before being assessed for applicability and methodological limitations.

Quality and relevance of effectiveness data used in the health economic analysis:

- The more closely the clinical effectiveness data used in the health economic analysis match with the outcomes of the studies included in the clinical review the more useful the analysis will be for decision-making in the guideline.

Appendix B: Literature search strategies

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.²⁴

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

B.1 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 20 May 2020	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974 – 20 May 2020	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2020 Issue 5 of 12 CENTRAL to 2020 Issue 5 of 12	None
ASSIA (ProQuest)	Inception - 20 May 2020	None
SPP (Ovid)	Inception - 20 May 2020	None
CINAHL (EBSCO)	Inception - 20 May 2020	None
King's Fund	Inception - 20 May 2020	None

Medline (Ovid) search terms

1.	chronic pain/ or pain, intractable/
2.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*).ti,ab.
3.	or/1-2
4.	letter/
5.	editorial/
6.	news/
7.	exp historical article/
8.	Anecdotes as Topic/
9.	comment/
10.	case report/
11.	(letter or comment*).ti.
12.	or/4-11
13.	randomized controlled trial/ or random*.ti,ab.
14.	12 not 13
15.	animals/ not humans/

16.	exp Animals, Laboratory/
17.	exp Animal Experimentation/
18.	exp Models, Animal/
19.	exp Rodentia/
20.	(rat or rats or mouse or mice).ti.
21.	or/14-20
22.	3 not 21
23.	limit 22 to English language
24.	social support/ or social work/ or social welfare/
25.	patient advocacy/
26.	((social or communit* or cultural or non-medical or non-clinical) adj3 (commission* or prescrib* or prescrip* or refer* or service* or reactivat* or integrat* or support* or work* or welfare or organisation* or referral or engag* or intervention)).ti,ab.
27.	((well-being adj2 program*) or (wellbeing adj2 program*) or (cultural adj2 commission*)).ti,ab.
28.	((job* or work or employment) adj3 (support* or rehab*)).ti,ab.
29.	(library visit* or ping pong or (vocational adj2 rehabilitation) or befriend* or creative activities or advocacy or link work*).ti,ab.
30.	((cook* or garden* or art or walking) adj3 (club* or class* or lesson* or group*)).ti,ab.
31.	(care adj2 (navigation or coordination)).ti,ab.
32.	Employment, Supported/
33.	Rehabilitation, Vocational/
34.	((occupation* or employ* or vocation* or job* or work*) adj2 (return* or retrain* or support* or rehabilitat*)).ti,ab.
35.	Case Management/
36.	(Case adj2 manag*).ti,ab.
37.	or/24-36
38.	randomized controlled trial.pt.
39.	controlled clinical trial.pt.
40.	randomi#ed.ti,ab.
41.	placebo.ab.
42.	randomly.ti,ab.
43.	Clinical Trials as topic.sh.
44.	trial.ti.
45.	or/38-44
46.	Meta-Analysis/
47.	exp Meta-Analysis as Topic/
48.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
49.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
50.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
51.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
52.	(search* adj4 literature).ab.
53.	(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.
54.	cochrane.jw.
55.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
56.	or/46-55

57.	23 and 37 and (45 or 56)
-----	--------------------------

Embase (Ovid) search terms

1.	chronic pain/ or intractable pain/
2.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*).ti,ab.
3.	or/1-2
4.	letter.pt. or letter/
5.	note.pt.
6.	editorial.pt.
7.	case report/ or case study/
8.	(letter or comment*).ti.
9.	or/4-8
10.	randomized controlled trial/ or random*.ti,ab.
11.	9 not 10
12.	animal/ not human/
13.	nonhuman/
14.	exp Animal Experiment/
15.	exp Experimental Animal/
16.	animal model/
17.	exp Rodent/
18.	(rat or rats or mouse or mice).ti.
19.	or/11-18
20.	3 not 19
21.	limit 20 to English language
22.	Social support/ or *social work/ or *social welfare/
23.	patient advocacy/
24.	((social or communit* or cultural or non-medical or non-clinical) adj3 (commission* or prescrip* or prescrip* or refer* or service* or reactivat* or integrat* or support* or work* or welfare or organisation* or referral or engag* or intervention)).ti,ab.
25.	((well-being adj2 program*) or (wellbeing adj2 program*) or (cultural adj2 commission*)).ti,ab.
26.	((job* or work or employment) adj3 (support* or rehab*)).ti,ab.
27.	(library visit* or ping pong or (vocational adj2 rehabilitation) or befriend* or creative activities or advocacy or link work*).ti,ab.
28.	((cook* or garden* or art or walking) adj3 (club* or class* or lesson* or group*)).ti,ab.
29.	(care adj2 (navigation or coordination)).ti,ab.
30.	supported employment/
31.	vocational rehabilitation/
32.	((occupation* or employ* or vocation* or job* or work*) adj2 (return* or retrain* or support* or rehabilitat*)).ti,ab.
33.	case management/
34.	(Case adj2 manag*).ti,ab.
35.	or/22-34
36.	random*.ti,ab.
37.	factorial*.ti,ab.
38.	(crossover* or cross over*).ti,ab.
39.	((doubl* or singl*) adj blind*).ti,ab.

40.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
41.	crossover procedure/
42.	single blind procedure/
43.	randomized controlled trial/
44.	double blind procedure/
45.	or/36-44
46.	systematic review/
47.	meta-analysis/
48.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
49.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
50.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
51.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
52.	(search* adj4 literature).ab.
53.	(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.
54.	cochrane.jw.
55.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
56.	or/46-55
57.	21 and 35 and (45 or 56)

ASSIA (ProQuest) search terms

1.	((mainsubject(social support) OR mainsubject(social work) OR mainsubject(patient advocacy) OR TI,AB((social OR communit* OR cultural OR non-medical OR non-clinical) NEAR/3 (commission* OR prescrib* OR prescrip* OR refer* OR service* OR reactivat* OR integrat* OR support* OR work* OR welfare OR organisation* OR referral OR engag* OR intervention)) OR TI,AB((well-being NEAR/2 program*) OR (wellbeing NEAR/2 program*) OR (cultural NEAR/2 commission*)) OR TI,AB((job* OR work OR employment) NEAR/3 (support* OR rehab*)) OR TI,AB(library visit* OR ping pong OR (vocational NEAR/2 rehabilitation) OR befriend* OR creative activities OR advocacy OR link work*) OR TI,AB((cook* or garden* or art or walking) near/3 (club* or class* or lesson* or group*)) OR TI,AB(care near/2 (navigation or coordination)) OR mainsubject(vocational rehabilitation) OR TI,AB((occupation* OR employ* OR vocation* OR job* OR work*) NEAR/2 (return* OR retrain* OR support* OR rehabilitat*))) AND (chronic pain)) AND ((mainsubject(social support) OR mainsubject(social work) OR mainsubject(patient advocacy) OR TI,AB((social OR communit* OR cultural OR non-medical OR non-clinical) NEAR/3 (commission* OR prescrib* OR prescrip* OR refer* OR service* OR reactivat* OR integrat* OR support* OR work* OR welfare OR organisation* OR referral OR engag* OR intervention)) OR TI,AB((well-being NEAR/2 program*) OR (wellbeing NEAR/2 program*) OR (cultural NEAR/2 commission*)) OR TI,AB((job* OR work OR employment) NEAR/3 (support* OR rehab*)) OR TI,AB(library visit* OR ping pong OR (vocational NEAR/2 rehabilitation) OR befriend* OR creative activities OR advocacy OR link work*) OR TI,AB((cook* or garden* or art or walking) near/3 (club* or class* or lesson* or group*)) OR TI,AB(care near/2 (navigation or coordination)) OR mainsubject(vocational rehabilitation) OR TI,AB((occupation* OR employ* OR vocation* OR job* OR work*) NEAR/2 (return* OR retrain* OR support* OR rehabilitat*))) AND su(chronic pain))
----	---

SPP (Ovid) search terms

1.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*).ti,ab.
----	---

2.	((social or communit* or cultural or non-medical or non-clinical) adj3 (commission* or prescrib* or prescrip* or refer* or service* or reactivat* or integrat* or support* or work* or welfare or organisation* or referral or engag* or intervention)).ti,ab.
3.	((well-being adj2 program*) or (wellbeing adj2 program*) or (cultural adj2 commission*)).ti,ab.
4.	((job* or work or employment) adj3 (support* or rehab*)).ti,ab.
5.	(library visit* or ping pong or (vocational adj2 rehabilitation) or befriend* or creative activities or advocacy or link work*).ti,ab.
6.	((cook* or garden* or art or walking) adj3 (club* or class* or lesson* or group*)).ti,ab.
7.	(care adj2 (navigation or coordination)).ti,ab.
8.	((occupation* or employ* or vocation* or job* or work*) adj2 (return* or retrain* or support* or rehabilitat*)).ti,ab.
9.	(Case adj2 manag*).ti,ab.
10.	or/2-9
11.	1 and 10

CINAHL (EBSCO) search terms

S1.	(MH "Chronic Pain")
S2	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) n3 pain*)
S3	S1 OR S2
S4	MH social work
S5	MH patient advocacy
S6	((social or communit* or cultural or non-medical or non-clinical) n3 (commission* or prescrib* or prescrip* or refer* or service* or reactivat* or integrat* or support* or work* or welfare or organisation* or referral or engag* or intervention))
S7	((well-being n2 program*) or (wellbeing n2 program*) or (cultural n2 commission*))
S8.	((job* or work or employment) n3 (support* or rehab*))
S9	(library visit* or ping pong or (vocational n2 rehabilitation) or befriend* or creative activities or advocacy or link work*)
S10	((cook* or garden* or art or walking) n3 (club* or class* or lesson* or group*))
S11	(care n2 (navigation or coordination))
S12	MH vocational rehabilitation
S13	((occupation* or employ* or vocation* or job* or work*) n2 (return* or retrain* or support* or rehabilitat*))
S14	S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13
S15	s3 and s14

King's Fund search terms

1.	'Chronic pain'
----	----------------

Cochrane Library (Wiley) search terms

#1.	MeSH descriptor: [Chronic Pain] explode all trees
#2.	MeSH descriptor: [Pain, Intractable] explode all trees
#3.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) near/3 pain*):ti,ab
#4.	(or #1-#3)
#5.	MeSH descriptor: [Social Support] explode all trees
#6.	MeSH descriptor: [Social Work] explode all trees
#7.	MeSH descriptor: [Patient Advocacy] explode all trees

#8.	((social or communit* or cultural or non-medical or non-clinical) near/3 (commission* or prescrib* or prescrip* or refer* or service* or reactivat* or integrat* or support* or work* or welfare or organisation* or referral or engag* or intervention)):ti,ab
#9.	((well-being near/2 program*) or (wellbeing near/2 program*) or (cultural near/2 commission*)):ti,ab
#10.	((job* or work or employment) near/3 (support* or rehab*)):ti,ab
#11.	(library visit* or ping pong or (vocational near/2 rehabilitation) or befriend* or creative activities or advocacy or link work*):ti,ab
#12.	((cook* or garden* or art or walking) near/3 (club* or class* or lesson* or group*)):ti,ab
#13.	(care near/2 (navigation or coordination)):ti,ab
#14.	MeSH descriptor: [Rehabilitation, Vocational] explode all trees
#15.	((occupation* or employ* or vocation* or job* or work*) near/2 (return* or retrain* or support* or rehabilitat*)):ti,ab
#16.	(or #5-#15)
#17.	#4 and #16

B.2 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to a Chronic Pain population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA) with no date restrictions. NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional searches were run on Medline and Embase for health economics and economic modelling.

Table 3: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2014 – 20 May 2020	Exclusions Health economics studies Health economics modelling studies
Embase	2014 – 20 May 2020	Exclusions Health economics studies Health economics modelling studies
Centre for Research and Dissemination (CRD)	HTA - Inception – 20 May 2020 NHSEED - Inception to March 2015	None

Medline search terms

1.	chronic pain/ or pain, intractable/
2.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*).ti,ab.
3.	((chronic or persist* or idiopathic or atypical or a-typical) adj4 pain).ti,ab.
4.	exp Complex Regional Pain Syndromes/

5.	(complex regional pain syndrome* or CRPS or causalgia).ti,ab.
6.	fibromyalgia/
7.	((reflex or sympathetic) adj2 dystroph*).ti,ab.
8.	vulvodynia/
9.	(vulvodynia or vestibulodynia or dyspareunia or vulvar vestibulitis or vulvitis).ti,ab.
10.	interstitial cystitis/
11.	(interstitial adj2 cystitis).ti,ab.
12.	algodystrophy/
13.	(algodystroph* or sudek or sudeck*).ti,ab.
14.	exp myofascial pain syndromes/
15.	cystitis, interstitial/
16.	(loin pain adj (haematuria or hematuria) adj syndrome*).ti,ab.
17.	(LPHS or prostatodynia or CPPS or atypic* odontalgia or a-typic* odontalgia or burning mouth syndrome* or phantom tooth pain or neuropathic orofacial pain or "myofascial pain" or MPS).ti,ab.
18.	((pelvic or pelvis) adj pain syndrome*).ti,ab.
19.	((non-cardiac or noncardiac) adj3 chest adj3 pain).ti,ab.
20.	(temporomandibular adj3 joint adj3 pain).ti,ab.
21.	((prostate or vulv* or bladder or perineal) adj3 pain).ti,ab.
22.	(functional pain syndrome* or non-cancer pain or noncancer pain).ti,ab.
23.	((pelvic or pelvis or abdominal) adj3 pain adj3 (unknown or un-known or idiopathic or atypic* or a-typic*).ti,ab.
24.	(fibromyalgia* or fibrositis or myofascial pain syndrome).ti,ab.
25.	or/1-24
26.	letter/
27.	editorial/
28.	news/
29.	exp historical article/
30.	Anecdotes as Topic/
31.	comment/
32.	case report/
33.	(letter or comment*).ti.
34.	or/26-33
35.	randomized controlled trial/ or random*.ti,ab.
36.	34 not 35
37.	animals/ not humans/
38.	exp Animals, Laboratory/
39.	exp Animal Experimentation/
40.	exp Models, Animal/
41.	exp Rodentia/
42.	(rat or rats or mouse or mice).ti.
43.	or/36-42
44.	25 not 43
45.	Economics/
46.	Value of life/
47.	exp "Costs and Cost Analysis"/
48.	exp Economics, Hospital/
49.	exp Economics, Medical/

50.	Economics, Nursing/
51.	Economics, Pharmaceutical/
52.	exp "Fees and Charges"/
53.	exp Budgets/
54.	budget*.ti,ab.
55.	cost*.ti.
56.	(economic* or pharmaco?economic*).ti.
57.	(price* or pricing*).ti,ab.
58.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
59.	(financ* or fee or fees).ti,ab.
60.	(value adj2 (money or monetary)).ti,ab.
61.	or/45-60
62.	exp models, economic/
63.	*Models, Theoretical/
64.	*Models, Organizational/
65.	markov chains/
66.	monte carlo method/
67.	exp Decision Theory/
68.	(markov* or monte carlo).ti,ab.
69.	econom* model*.ti,ab.
70.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
71.	or/62-70
72.	44 and (61 or 71)

Embase (Ovid) search terms

1.	chronic pain/ or pain, intractable/
2.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*).ti,ab.
3.	((chronic or persist* or idiopathic or atypical or a-typical) adj4 pain).ti,ab.
4.	exp Complex regional pain syndrome/
5.	(complex regional pain syndrome* or CRPS or causalgia).ti,ab.
6.	((reflex or sympathetic) adj2 dystroph*).ti,ab.
7.	fibromyalgia/
8.	(fibromyalgia* or fibrositis or myofascial pain syndrome).ti,ab.
9.	vulvodinia/
10.	(vulvodinia or vestibulodynia or dyspareunia or vulvar vestibulitis or vulvitis).ti,ab.
11.	interstitial cystitis/
12.	(interstitial adj2 cystitis).ti,ab.
13.	algodystrophy/
14.	(algodystroph* or sudek or sudeck*).ti,ab.
15.	myofascial pain/
16.	noncardiac chest pain/
17.	cystalgia/
18.	Pelvis pain syndrome/
19.	(loin pain adj (haematuria or hematuria) adj syndrome*).ti,ab.

20.	(LPHS or prostatodynia or CPPS or atypic* odontalgia or a-typic* odontalgia or burning mouth syndrome* or phantom tooth pain or neuropathic orofacial pain or "myofascial pain" or MPS).ti,ab.
21.	((pelvic or pelvis) adj pain syndrome*).ti,ab.
22.	((non-cardiac or noncardiac) adj3 chest adj3 pain).ti,ab.
23.	(temporomandibular adj3 joint adj3 pain).ti,ab.
24.	((prostate or vulv* or bladder or perineal) adj3 pain).ti,ab.
25.	(functional pain syndrome* or non-cancer pain or noncancer pain).ti,ab.
26.	((pelvic or pelvis or abdominal) adj3 pain adj3 (unknown or un-known or idiopathic or atypic* or a-typic*)).ti,ab.
27.	or/1-26
28.	letter.pt. or letter/
29.	note.pt.
30.	editorial.pt.
31.	case report/ or case study/
32.	(letter or comment*).ti.
33.	or/28-32
34.	randomized controlled trial/ or random*.ti,ab.
35.	33 not 34
36.	animal/ not human/
37.	nonhuman/
38.	exp Animal Experiment/
39.	exp Experimental Animal/
40.	animal model/
41.	exp Rodent/
42.	(rat or rats or mouse or mice).ti.
43.	or/35-42
44.	27 not 43
45.	health economics/
46.	exp economic evaluation/
47.	exp health care cost/
48.	exp fee/
49.	budget/
50.	funding/
51.	budget*.ti,ab.
52.	cost*.ti.
53.	(economic* or pharmaco?economic*).ti.
54.	(price* or pricing*).ti,ab.
55.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
56.	(financ* or fee or fees).ti,ab.
57.	(value adj2 (money or monetary)).ti,ab.
58.	or/45-57
59.	statistical model/
60.	exp economic aspect/
61.	59 and 60
62.	*theoretical model/
63.	*nonbiological model/

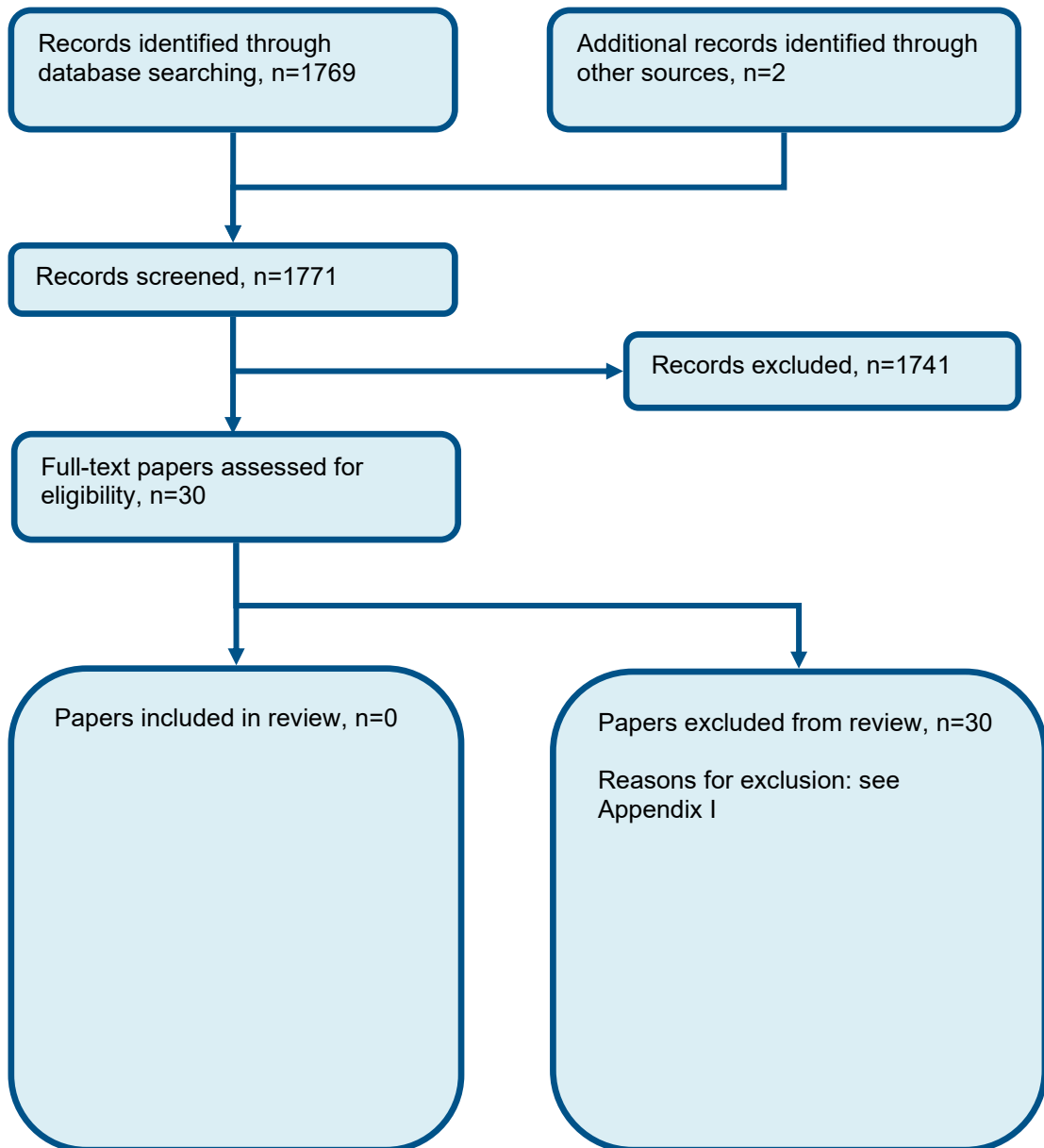
64.	stochastic model/
65.	decision theory/
66.	decision tree/
67.	monte carlo method/
68.	(markov* or monte carlo).ti,ab.
69.	econom* model*.ti,ab.
70.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
71.	or/61-70
72.	44 and (58 or 71)

NHS EED and HTA (CRD) search terms

#1.	MeSH DESCRIPTOR Chronic Pain EXPLODE ALL TREES
#2.	((persist* or intract* or chronic or longstanding or long standing or longterm or long term or refractory or prolong* or long last* or sustain* or linger* or syndrome*) adj3 pain*)
#3.	((chronic or persist* or idiopathic or atypical or a-typical) adj4 pain))
#4.	MeSH DESCRIPTOR Complex Regional Pain Syndromes EXPLODE ALL TREES
#5.	((complex regional pain syndrome* or CRPS or causalgia))
#6.	MeSH DESCRIPTOR Fibromyalgia EXPLODE ALL TREES
#7.	((reflex or sympathetic) adj2 dystroph*)
#8.	MeSH DESCRIPTOR Vulvodynia EXPLODE ALL TREES
#9.	((vulvodynia or vestibulodynia or dyspareunia or vulvar vestibulitis or vulvitis))
#10.	MeSH DESCRIPTOR Cystitis, Interstitial EXPLODE ALL TREES
#11.	((interstitial adj2 cystitis))
#12.	MeSH DESCRIPTOR Reflex Sympathetic Dystrophy EXPLODE ALL TREES
#13.	((algodystroph* or sudek or sudeck*))
#14.	MeSH DESCRIPTOR Myofascial Pain Syndromes EXPLODE ALL TREES
#15.	((loin pain adj (haematuria or hematuria) adj syndrome*))
#16.	((LPHS or prostatodynia or CPPS or atypic* odontalgia or a-typic* odontalgia or burning mouth syndrome* or phantom tooth pain or neuropathic orofacial pain or "myofascial pain" or MPS))
#17.	((pelvic or pelvis) adj pain syndrome*))
#18.	((non-cardiac or noncardiac) adj3 chest adj3 pain))
#19.	((temporomandibular adj3 joint adj3 pain))
#20.	((prostate or vulv* or bladder or perineal) adj3 pain))
#21.	((functional pain syndrome* or non-cancer pain or noncancer pain))
#22.	((pelvic or pelvis or abdominal) adj3 pain adj3 (unknown or un-known or idiopathic or atypic* or a-typic*))
#23.	((fibromyalgia* or fibrositis or myofascial pain syndrome))
#24.	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23)

Appendix C: Clinical evidence selection

Figure 1: Flow chart of clinical study selection for the review of social interventions



Appendix D: Clinical evidence tables

None

Appendix E: Forest plots

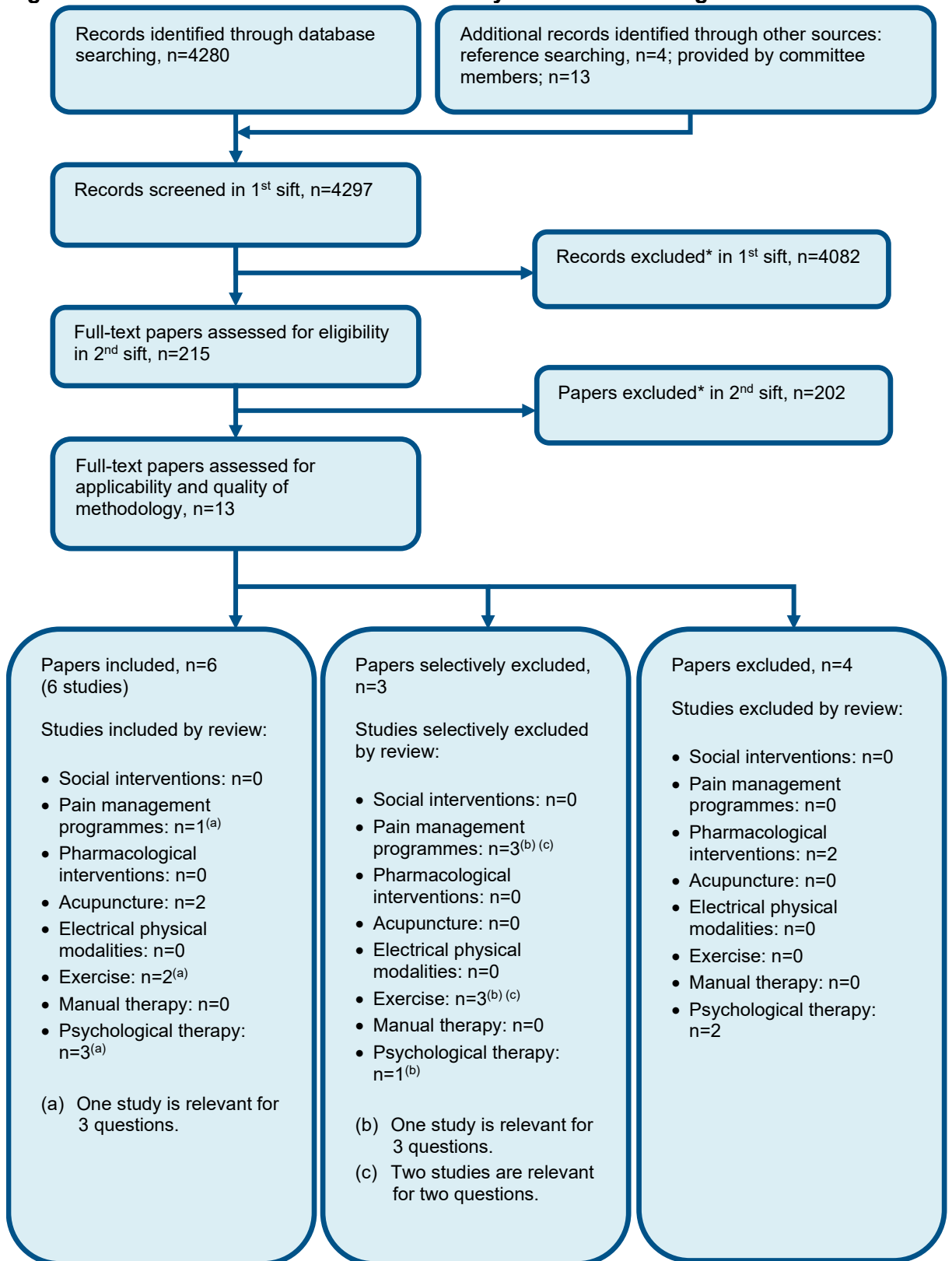
None

Appendix F: GRADE tables

None

Appendix G: Health economic evidence selection

Figure 2: Flow chart of health economic study selection for the guideline



* Non-relevant population, intervention, comparison, design or setting; non-English language

Appendix H: Health economic evidence tables

None

Appendix I: Excluded studies

I.1 Excluded clinical studies

Table 4: Studies excluded from the clinical review

Study	Exclusion reason
Aas 2011 ¹	Systematic review is not relevant to review question or unclear PICO
Andersen 2018 ²	Not guideline condition
Bernaards 2007 ³	Not guideline condition
Bickerdike 2017 ⁴	Systematic review is not relevant to review question or unclear PICO
Bradt 2016 ⁵	Incorrect intervention
Chouinard 2013 ⁶	Study protocol
Cooper 2014 ⁷	Systematic review is not relevant to review question or unclear PICO
Cooper 2019 ⁸	Incorrect study design
Gardiner 2017 ⁹	Incorrect interventions
Garland 2013 ¹¹	Inappropriate comparison
Garland 2019 ¹⁰	Inappropriate comparison
Grant 2000 ¹²	Not guideline condition
Guillory 2015 ¹³	Incorrect interventions
Hara 2018 ¹⁴	Not guideline condition
Karjalainen 2003 ¹⁵	Systematic review is not relevant to review question or unclear PICO
Kool 2005 ¹⁶	Incorrect interventions
Kroenke 2013 ¹⁷	Incorrect interventions
Landstrom 2017 ¹⁸	Conference abstract
Lefort 1998 ¹⁹	Cancelled - thesis (not available)
Linnemorken 2018 ²⁰	Study protocol
Linton 1997 ²¹	Incorrect interventions
Lytsy 2017 ²²	Not guideline condition
Meyer 2005 ²³	Inappropriate comparison
Reagon 2016 ²⁵	Systematic review is not relevant to review question or unclear PICO
Rouch 2018 ²⁶	Inappropriate comparison. No relevant outcomes
Shin 2010 ²⁷	Systematic review is not relevant to review question or unclear PICO
Tse 2014 ²⁹	Study protocol
Tse 2018 ²⁸	Not guideline condition
Weir 2001 ³⁰	Review of systematic reviews with different PICO
Wright 2017 ³¹	Incorrect study design

I.2 Excluded health economic studies

Table 5: Studies excluded from the health economic review

Reference	Reason for exclusion
None	

Appendix J: Research recommendations

J.1 Social interventions for chronic pain

Research question: What is the clinical and cost effectiveness of social interventions aimed at improving the quality of life of people aged 16 years and over with chronic pain?

Why this is important:

Social prescribing is included in the NHS long term plan as a component of Universal Personalised Care as it has been suggested to lead to a range of positive health and wellbeing outcomes. Social prescribing aims to take a holistic approach to people's health and wellbeing, focusing on 'what matters to me'. It can include referral to community groups or statutory services for practical and emotional support.

This is becoming part of the primary care service, however it is a relatively new approach to treatment and robust evidence specific to distinct populations and conditions is still lacking in many areas. Such research in people with chronic pain was lacking when searched for within this guideline, therefore future research directed to answer this question would be beneficial to help inform future updates of this guideline.

Criteria for selecting high-priority research recommendations:

PICO question	Population: People aged 16 years and over with chronic pain Intervention(s): Social interventions (for example: social prescribing, cultural commissioning, health training and coaching, case management, vocational rehabilitation, befriending, advocacy, combinations of these). Comparison: Usual care Outcome(s): Critical; Health related quality of life. Important; physical function, pain self-efficacy, use of healthcare services, sleep, discontinuation, pain reduction, psychological distress, pain interference.
Importance to patients or the population	Chronic pain can impact on many factors in the lives of people with chronic pain, and equally life and activities can impact on pain. Evidence from other populations has suggested that social prescribing, or social interventions may be beneficial in improving quality of life for people with chronic conditions. If this is true for people with chronic pain it could be a beneficial option for people to pursue.
Relevance to NICE guidance	Evidence specific to this guideline population would help inform updates to this guideline. At present no recommendation could be made for people with chronic pain.
Relevance to the NHS	Chronic pain has a high economic impact on the NHS. The ineffectiveness of many treatments results in a high number of attendances at appointments. Effective social interventions may help improve the lives of people with chronic pain, and therefore reduce their return visits to healthcare providers.
National priorities	Yes. The NHS long term plan committed to building the infrastructure for social prescribing in primary care: https://www.longtermplan.nhs.uk/
Current evidence base	No evidence was identified relevant to people with chronic pain within the evidence review of social prescribing in this guideline.
Equality	No.
Study design	The ideal study design would be an RCT. However noting this is a complex intervention, a cluster randomised trial may be most appropriate. Long term follow up is required to demonstrate effectiveness beyond the duration of the programmes.
Feasibility	If carried out as a cluster randomised trial, this is a feasible study to conduct.

Other comments	There are a variety of social interventions that can be considered. This research may focus on specific interventions most likely to benefit people with chronic pain, or consider that this would differ according to individuals and consequently pool the variety of interventions available under a broad umbrella. Within the research it would be useful to explore whether there are subgroups of people with chronic pain who are most likely to benefit.
Importance	<ul style="list-style-type: none">• Medium: the research is relevant to the recommendations in the guideline, but the research recommendations are not key to future updates.