

**Collaboration between adult patients and practitioners
when making decisions about prescribing opioid medicines
for chronic non-cancer pain in primary care – A scoping
review**

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Keywords:	Chronic Pain, Opioid, Interaction, Relationship, Patient
Abstract:	<p>ABSTRACT</p> <p>Background: Long-term opioid therapy (> than 12 months) is not effective for improving chronic non-cancer pain and function. Where patients are not experiencing pain relief with long-term opioids, the opioid should be tapered and discontinuation considered. Practitioners may find it challenging to tell patients experiencing pain that they are better off reducing or not taking medicines that do not help. This review aims to ascertain what is published about: (1) the interaction and (2) the nature of the relationship between practitioners and patients when prescribing opioids for chronic non-cancer pain in primary care.</p> <p>Method: A scoping review of English language qualitative, quantitative or mixed method studies in databases including: MEDLINE, Embase, PsycINFO, AMED, BNI, CINALH EMCARE and HMIC. The identified papers were reviewed to provide a descriptive summary of the literature.</p> <p>Results: The review identified 20 studies. The studies used a range of methods including interviews, focus groups, audio and video recordings of clinical consultations, telephone survey and data from patient records. One study reported that researchers had engaged with a patient advisory group to guide their research.</p> <p>Patients expressed the importance of being treated as individuals, not being judged and being involved in prescribing decisions. Practitioners expressed difficulty in managing patient expectations and establishing trust. Opioid risk and practitioner suspicion shape opioid prescribing decisions.</p> <p>There is a paucity of literature about how precisely practitioners overcome interactional challenges and implement personalised care in practice.</p> <p>Conclusion: The studies in this review ascertain that practitioners and patients often find it challenging to achieve shared decisions in opioid review consultations. Effective communication is essential to achieving good clinical practice. Collaborative research with PPI partners should be aimed at identifying communication practices that support practitioners to achieve shared decisions with patients when reviewing opioids for chronic non-cancer pain.</p>

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ABSTRACT

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Patients expressed the importance of being treated as individuals, not being judged and being involved in prescribing decisions. Practitioners expressed difficulty in managing patient expectations and establishing trust. Opioid risk and practitioner suspicion shape opioid prescribing decisions.

There is a paucity of literature about how precisely practitioners overcome interactional challenges and implement personalised care in practice.

Conclusion: The studies in this review ascertain that practitioners and patients often find it challenging to achieve shared decisions in opioid review consultations. Effective communication is essential to achieving good clinical practice. Collaborative research with PPI partners should be aimed at identifying communication practices that support practitioners to achieve shared decisions with patients when reviewing opioids for chronic non-cancer pain.

INTRODUCTION

Chronic non-cancer pain (CNCP) lasts more than three months and includes numerous pain conditions: lower back pain, musculoskeletal pain, abdominal pain, headache and neuropathic pain¹.

The prevalence of CNCP in UK adults varies from 35% to 50% with moderately severe pain and disabling pain prevalence being 10% to 14%². Back pain alone accounts for 40% of sickness absences in the NHS³. Patients with CNCP consult their GPs up to five times more frequently than other patients⁴ and chronic pain is the presenting condition in around a fifth of primary care consultations⁴.

Long-term opioid medicines

Opioids are effective analgesics for acute pain and pain at the end of life but there is limited evidence supporting long-term prescribing to manage CNCP⁵. The risks of long-term use may outweigh any benefits. A review of the effectiveness and risks of long-term opioid prescribing (> 3 months) did not find any studies comparing opioid versus placebo or non-opioid therapy researching outcomes beyond 12 months⁶. It concluded that there was insufficient evidence to determine the effectiveness of long-term opioid therapy for improving CNCP and function. It also highlighted that dose dependent risks are associated with the use of long-term opioids including overdose, opioid abuse and fractures⁶. Further to this, a pragmatic randomised trial comparing opioid versus non-opioid medicines; found opioids were not superior to treatment with non-opioids for improving pain-related function over 12 months⁷. In an epidemiological study comparing patients using opioids and non-opioids for CNCP, long-term use of opioids was significantly associated with reporting of moderate to severe pain, poor self-rated health, higher use of the health care system, and a negative influence on quality of life⁸. The cross-sectional nature of this study means that causal relationships cannot be drawn. However, it is important to note that long-term opioid treatment did not meet any of the key outcomes related to successfully treating CNCP.

Opioid prescribing trends

The majority of prescribing opioid medicines in the UK takes place in primary care through General Practices (GPs). Despite the lack of research evidence for the effectiveness of long-term opioids in the management of CNCP, an analysis of prescribing data shows a substantial increase in prescribing practice between 1998 and 2016⁹. In 2016, 776 opioid prescriptions were dispensed per 1000 patients⁹. A longitudinal analysis (between 2005 and 2012) of prescribing opioids in general practice showed the number of patients prescribed a weak opioid at least once almost doubled from 6.5% to 12.4%¹⁰ and the number of patients prescribed a strong opioid at least once increased by more than six fold from 0.13% to 0.85%¹⁰.

In relation to the duration for which opioids are being prescribed, between 2005 and 2012 approximately 5% of patients per GP practice were being prescribed a long-term opioid and 1% of patients were being prescribed a long-term strong opioid¹⁰. These findings were echoed in a population based study of 49,999 patients using the Clinical Practice Research Datalink¹¹. This study showed that in 2014, 5.2% of the study population were prescribed opioids and about 34% of opioid patients were receiving a prescription for more than 30 days duration¹¹. More recently Ashye and colleagues reported that about 40% of the 703 participants in their study received more than 3 opioid prescriptions a year¹².

National guidance

The National Institute of Health and Care Excellence (NICE) and the Faculty of Pain Medicine (FPM) recommend that where patients are not experiencing relief from pain with long-term opioid medicines they should be encouraged and supported to reduce and stop the opioid if possible^{13,14}. Practitioners may find it challenging to discuss with patients experiencing intolerable pain that they are better off reducing or not taking medicines that do not help, particularly if there is no therapeutic alternative¹⁵. The aims of this review are to ascertain what is published about: (1) the interaction and (2) the nature of the relationship between practitioners and patients when prescribing opioids for CNCP in primary care.

METHODS

Review design

This review takes the form of a scoping review. It follows guidance set out in the Joanna Briggs Institute (JBI) manual for reviewers¹⁶ and is reported using the PRISMA preferred reporting items for systematic reviews and meta-analyses extension for scoping reviews checklist⁴⁵. We developed and agreed a predefined protocol for conducting this review (Appendix 1).

Inclusion criteria

Target population

Adults over the age of 18 years prescribed an opioid for CNCP.

Context of the study

Decision making when prescribing opioids for CNCP can be influenced by factors relating to the patient, the consultation, experiences and perceptions of the patient and prescriber as well as the healthcare system in which the prescribing takes place. This scoping review will focus on prescribing by any healthcare practitioner (doctor, pharmacist, nurse) in a primary care setting.

Phenomena of interest

Studies were included if they document the interaction and relationship between practitioners and patients relating to prescribing opioids for CNCP.

Types of studies

Studies published in English language using qualitative, mixed-method or quantitative methods were included. Systematic reviews and meta-synthesis were also included. Reference lists of identified systematic reviews were reviewed for studies that may not have been highlighted in the initial search. Conference abstracts or presentations, thesis and dissertations were excluded due to the amount of detail that is usual to these texts (e.g. restricted word count associated with abstracts and substantial word count associated with thesis and dissertations).

Search strategy

Initially a search was conducted on Embase to help identify and refine search terms. Search terms from known existing literature were used to help support this process. A full search using the identified terms was conducted using MEDLINE, Embase, PsycINFO, AMED, BNI, CINALH EMCARE and HMIC. All databases were searched from inception. The search was completed on 11th June 2020. The full search strategy is detailed in Appendix 2.

Data collection

The studies identified for inclusion were reviewed independently by two reviewers at each stage of the review process: title screening, abstract screening and full paper review. Reviewers recorded their decisions. Discrepancies between reviewers were documented and discussed with the review team so that an outcome could be achieved.

Assessment of included studies

The JBI reviewer's manual recommends that scoping reviews should aim to provide an overview of the existing evidence regardless of quality¹⁶. Individual studies were therefore not methodologically assessed for quality. A charting table was developed to record the relevant information from each study, this included: author(s), publication year, country where the study was conducted, aims and objectives of the study, the population being studied, sample size (if applicable), methodology / design / methods and findings related to the scoping review question. This was done iteratively with the review team giving feedback on the data charted so as to provide a logical and descriptive summary of the included studies that aligns with the **aims** of the scoping review.

RESULTS

Twenty studies were included in the review. A flow diagram illustrating the number of studies that were included and excluded at each stage is in figure 1.

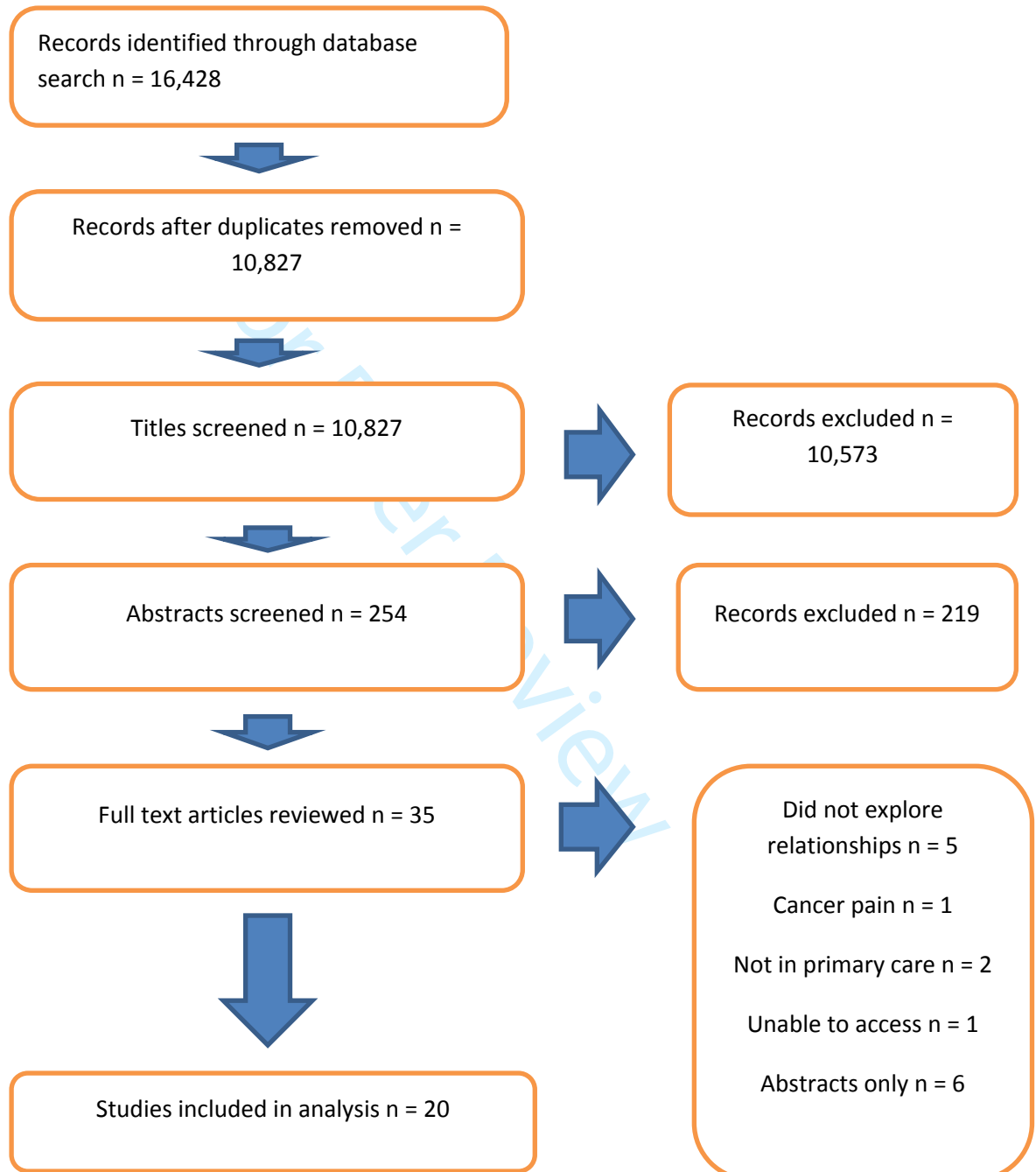


Figure 1: PRISMA flow diagram illustrating the search strategy results

Description of the included studies

All of the studies included involved patients and practitioners prescribed or prescribing opioids for CNCP in primary care. Sixteen studies were undertaken in the United States of America (USA)¹⁷⁻³², two were performed in the United Kingdom (UK)^{33,34} and one was based in Canada³⁵.

One of the included studies is a meta-synthesis³⁶. Some of the studies included in the meta-synthesis^{17-20,22,33} are also included in this review. The rationale for including the meta-synthesis in this review is to incorporate the authors' theorised perspective of the practitioner-patient relationship.

One study reported that researchers had engaged with a patient advisory group to guide their research²⁸.

A descriptive summary of the studies and the key findings related to the review aims is presented in Appendix 3.

Aims of the studies in the review

Three studies aimed to understand patient perspectives / experience of opioid prescribing^{21,26,27}. Practitioner perspectives / experience of opioid prescribing, was the aim of three further studies^{22,29,35} as well as the meta-synthesis³⁶. Both patient and practitioner perspectives / experience of opioid prescribing was the aim in two studies^{17,18}.

Two studies explored practitioner and patient trust when prescribing opioids^{19,28}, whilst a further four studies explored understanding communication between practitioners and patients^{20,24,30,31}. Three studies examined the decision making process^{23,25,32}.

One study aimed to understand how problematic long-term opioid prescribing becomes established³³ and another assessed the acceptability of a pain review service³⁴.

Population studied

All of the studies included patients and practitioners with an experience of prescribed opioids for CNCP. CNCP included all non-cancer pain, however in six of the studies this was limited to musculoskeletal pain^{20,23-25,30,31}. Three studies included practitioners that were from several disciplines (doctors, nurses, clinical pharmacists)^{22,29,34}.

Methods for data collection

The included studies used a range of methods to explore the practitioner and patient relationship. Six of the studies used interviews^{17,18,22,26,34,35} and five of the studies used both interviews and focus groups^{19,21,27,29,33}. Six studies used recordings of clinical consultations, with four using an audio recording^{20,23,25,30} and two using video recording^{24,31}. One study collected data from reviewing patient records³² and one study used a telephone survey of patients²⁸.

Methods for data analysis

The studies using data from interviews and focus groups used a variety of methods for data analysis. Thematic analysis^{17,22,27,34} or grounded theory^{19,21,33} were the most used approaches. The theoretical domains framework³⁵, immersion and crystallisation¹⁸, mixed deductive and inductive^{26,29} approaches were also used by researchers. Thematic analysis was also used to analyse data in the one study reviewing medical records³². Those studies using audio or video recordings to collect data used immersion and crystallisation²⁰ and constant comparison^{25,30} as qualitative approaches to analyse data. However quantitative approaches using statistical analysis of coded data were also used in four studies^{23,24,28,31}. One study used a list of coded communication measures to relate practitioner and patient characteristics to communication²³, whilst another study coded data from videotaped practitioner and patient consultations and then related these codes to the patient and practitioner experience of the consultation²⁴. A further study used coded assessments of patient statements. Assessments were coded as positive, negative or ambivalent and were compared with practitioner responses to these statements³¹. In the study using a telephone survey, the researchers provided raw counts for responses to questions about trust, such as "I feel my doctor trusts me in how I manage my opioid pain medicine". Results were adjusted for potential bias due to non-respondents²⁸.

Findings related to the review question

Interaction between practitioners and patients when making decisions about prescribed opioids for CNCP

Discussions about opioids were directed by pressure from guidance^{25,27}, greater patient pain catastrophisation²³ or where practitioners were orientated towards psychosocial interventions²³. Practitioner and patient disagreement^{25,33,36,32} along with requests for an increase in opioid dose were associated with significantly worse experience of consultations²⁴. Negative interactions happen where decisions were taken unilaterally by the practitioner^{27,30,32}, or where the stigma associated with prescribing opioids resulted in a reluctance to prescribe and interrogation of the patient^{18,19,21}. Some patients prescribed opioids describe not being treated as individuals¹⁷, being judged^{18,21,26} and not feeling that they are involved in the decision making process^{25,30,34}. Patients valued the importance of being listened to^{20,25,34} especially where practitioners have taken the time to build a supportive relationship with the patient^{22,27,34} and where they experience a degree of interpersonal assurance¹⁹.

Nature of the relationship between patients and practitioners when prescribing opioids for CNCP

Establishing mutual trust lays the foundation to successful pain management¹⁷. One study reported a high degree of trust between practitioners and patients²⁸. However, others reported that practitioners find it difficult to establish trust with patients when there is a difference in understanding of pain^{18,33} or if they are uncertain about the patients' account of pain^{19,29}. The subjective nature of pain alongside inconsistencies between diagnosis and the patients' experience contribute to compromising trust²². This may lead to practitioners forming fixed negative attitudes towards patients³³ and miss opportunities where review of opioids can be explored³¹.

Practitioners report difficulty in managing patient expectation²², experiencing stress and reduced job satisfaction as a result of challenging conversations about opioids^{22,29,35}. When prescribing opioids there is a tension between managing pain and facilitating opioid misuse³⁵ as well as a tension between keeping the patient satisfied and safe use of prescribed opioids^{25,29}. This can compromise the therapeutic alliance. A systematic meta-synthesis of practitioner perceptions theorised that opioid risk and practitioner suspicion shape opioid prescribing decisions³⁶.

Gaps in evidence

The studies exploring communication^{20,24,30,31} or decision making^{23,25,32} between practitioners and patients used audio recording of clinical consultations^{20,23,25,30}, video recording of clinical consultations^{24,31} and review of patient clinical records³² to conduct their research.

Data was analysed qualitatively in four studies^{20,25,30,32}. **Whilst this design gives practitioner and patient insights into communicative practice and decision making in clinical practice**, it misses how utterances and non-verbal cues from practitioners impact on the patient in real time³⁷ and hence misses precisely how practitioners achieve collaboration with patients in clinical consultations.

Video recording of clinical consultations captures both verbal and non-verbal communicative clues³⁸ to identify important insights about clinical practice³⁸. Of the two studies that used this method, both used associations between coded data and interactional behaviours to identify communicative practice^{24,31}. Coding relies on the researchers' preconceived theoretical concept of the consultation, this may uncover key aspects of communicative practice in consultations, but may also miss new or relevant interactional practice^{39,40} that practitioners use to achieve collaboration with patients.

DISCUSSION

This review identifies that practitioners and patients face interactional challenges when making decisions about prescribing **long-term** opioids for CNCP. This can compromise the therapeutic alliance in a clinical relationship.

Medicines optimisation (MO) ensures patients get the right choice of medicine, at the right time, and are engaged in the process by practitioners⁴¹. MO should follow the principles of shared decision making where patients are empowered to be involved in decisions about their health. Individuals and clinicians should work together to understand the treatment options that are most appropriate, bearing in mind the person's individual circumstances⁴².

Effective practitioner-patient communication is a central clinical function in building a therapeutic relationship⁴³. The importance of communication has been highlighted in practice guidelines. The role of effective communication in improving patient care is underlined by the Personalised Care Institute⁴⁴. It has also highlighted in NICE and FPM guidance for assessing and managing pain^{13,14}. A review of clinician and patient communication identified improved practitioner-patient communication tends to increase patient involvement in managing their condition; influence patient satisfaction, adherence, and health care utilization; and improve quality of care and health outcomes⁴³.

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3 One study in this review reported on Patient and Public Involvement (PPI) to guide research
4 about trust between practitioner and patient when prescribing opioids for CNCP²⁸. Patient
5 partners as lived experience based experts contribute knowledge that is **complementary** to
6 that of researchers and professionals. Their input into the design, conduct and dissemination
7 of research has been shown to improve the quality, relevance and uptake of research⁴⁶. The
8 National Institute for Health Research recommends that PPI input should be embedded in
9 practice so that researchers naturally take on the values and practices of effective public
10 involvement⁴⁷.
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16 This review ascertains that there is a paucity of literature about how precisely practitioners
17 overcome interactional challenges that might present when reviewing opioids and implement
18 personalised care in practice. It also highlights a lack of published research conducted with
19 PPI partners. Further collaborative study of practitioner and patient interaction using
20 methods such as conversation analysis, which analyse the structure of communication, will
21 provide new insights into how communication is co-constructed between practitioner and
22 patient⁴⁰. This can then be used to identify communicative practice that help enact trust,
23 achieve therapeutic alliance and give an insight into what good communicative practice
24 looks like in routine primary care encounters^{37,40}.
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31 **Strengths and weakness**

32 This study was conducted in line with the JBI guidelines following a systematic process. A
33 predefined review protocol was agreed prior to commencement. Two reviewers
34 independently assessed studies at each stage of the process. Data extraction was
35 completed using a standardised spread-sheet by the lead reviewer. **An independent patient
36 and public involvement partner, with lived experience of CNCP has reviewed this paper and
37 suggested comments on the findings.**
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44 Studies may have been missed due to the search terms used in the review. The studies
45 included have not been assessed for quality and reflect a high degree of heterogeneity with
46 regard to method and theoretical stance. The majority of studies are based in the USA. **This
47 may present a bias as the interaction and nature of relationship between practitioners and
48 patients will reflect the health system within which they operate.** This review intends to make
49 comment on the state of current literature on the interaction between practitioners and
50 patients when prescribing opioids for CNCP and identify gaps for further research.
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Recommendations

- Researchers with PPI partners should consider a systematic review of literature to identify communication practices that support collaborative care with patients prescribed opioids for CNCP.
- Researchers with PPI partners should consider further examination of video recorded clinical consultations and identify communication practices that support collaborative care with patients prescribed opioids for CNCP.
- A consensus process is needed to depict best practice and provide guidance on communication practices that help support collaborative care with patients prescribed opioids for CNCP.

CONCLUSION

The studies in this review ascertain that practitioners and patients often find it challenging to achieve shared decisions in opioid review consultations. Effective communication is essential to achieving good clinical practice. Collaborative research with PPI partners should be aimed at identifying communication practices that support practitioners to achieve personalised care with patients when reviewing opioids for CNCP.

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Ethical approvals: No ethical approval was required for this scoping review.

FIGURE AND APPENDIX

Figure 1: PRISMA flow diagram illustrating the search strategy results

Appendix 1: Protocol for this systematic scoping review

Appendix 2: Search strategy adopted in this systematic scoping review

Appendix 3: Chart describing study characteristics

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For Peer Review

APPENDIX 1

SCOPING REVIEW PROTOCOL

Collaboration between practitioners and patients when making decisions about prescribing opioids for chronic non-cancer pain in primary care – A scoping review

Aim

- To identify what research literature exists on the contexts of the interaction between patients and practitioners and factors that influence opioid use and prescribing.
- To identify what research literature exists on the nature of the relationship between patients and practitioners when prescribing opioid medicines.

Types of studies to be included:

- Research papers that document the relationship between practitioners and patients relating to prescribing opioid medicines for chronic non-cancer pain in a primary care setting
- Research papers published in a peer-reviewed journal
- Research papers using a quantitative, qualitative or mixed-method approach

Exclusion criteria

Non-English language papers, policy documents, conference abstracts or presentations and study protocols will be excluded.

Search strategy

Databases to be searched

MEDLINE, Embase, PsycINFO, AMED, BNI, CINALH EMCARE, HMIC from inception

Search terms

((exp CONVERSATION/ OR exp "PROFESSIONAL-PATIENT RELATIONSHIP"/ OR exp "PATIENT ATTITUDE"/ OR exp "HEALTH PERSONNEL ATTITUDE"/ OR exp "GENERAL PRACTICE"/ OR "Primary care"/ OR (communication*).ti.ab OR (patient*).ti.ab OR (attitude*).ti.ab OR (interaction*).ti.ab OR (relationship*).ti.ab OR (communication*) ti.ab OR (primary healthcare).ti.ab OR (GP*).ti.ab OR (physician*).ti.ab OR (doctor*).ti.ab OR (clinician*).ti.ab OR (practitioner*).ti.ab OR (pharmacist*).ti.ab OR (nurse*).ti.ab

AND

((chronic pain).ti.ab OR exp "CHRONIC PAIN"/ OR (chronic non-cancer pain).ti.ab OR (chronic non cancer pain).ti.ab))

AND

((tramadol).ti.ab OR (hydromorphone).ti.ab OR (fentanyl).ti.ab OR (pethidine).ti.ab OR (dihydrocodeine).ti.ab OR (oxycodone).ti.ab OR (hydrocodone).ti.ab OR (oxymorphone).ti.ab OR (morphine).ti.ab OR (codeine).ti.ab OR (meptazinol).ti.ab OR (buprenorphine).ti.ab OR (diamorphine).ti.ab. OR (dipipanone).ti.ab OR (meperidine).ti.ab. OR (papaveretum).ti.ab.

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3 OR (opiate*).ti,ab OR (opioid*).ti,ab OR exp "NARCOTIC ANALGESIC AGENT"/ OR exp
4 "MORPHINE DERIVATIVE"/))

5
6 [English language] [Human age groups Adult 18 to 64 years OR Aged 65+ years]

7
8 Study selection

9
10 Following removal of duplicate citations, retrieved titles and abstracts will be screened for
11 inclusion by two reviewers working independently, and disagreements will be resolved by
12 discussion with the wider scoping review team.

13
14 Data extraction

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16 A charting table or form will be developed to record the key information of the source, this
17 will include:

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- Author(s)
 - Year of publication
 - Origin/country of origin (where the study was published or conducted)
 - Aims/purpose
 - Study population and sample size (if applicable)
 - Methodology / Design / Methods
 - Key findings
 - How findings relate to the scoping review question/s.
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31 This process will provide a logical and descriptive summary of the results that aligns with the
32 objective/s and question/s of the scoping review

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34 A reviewer will chart each study, the charting process will be an iterative process, and it may
35 become apparent that additional unforeseen data can be usefully charted. The review team
36 will feedback on charting of two or three studies to ensure all relevant results are extracted.

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39 Presentation of the results

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41 The results of a scoping review will be presented as a chart of the data extracted from the
42 included papers and in a descriptive format that aligns with the aims / objectives and scope
43 of the review.
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APPENDIX 2

Search strategy

Databases to be searched

MEDLINE, Embase, PsycINFO, AMED, BNI, CINALH EMCARE, HMIC from inception

Search terms

((exp CONVERSATION/ OR exp "PROFESSIONAL-PATIENT RELATIONSHIP"/ OR exp "PATIENT ATTITUDE"/ OR exp "HEALTH PERSONNEL ATTITUDE"/ OR exp "GENERAL PRACTICE"/ OR "Primary care"/ OR (communication*).ti.ab OR (patient*).ti.ab OR (attitude*).ti.ab OR (interaction*).ti.ab OR (relationship*).ti.ab OR (communication*) ti.ab OR (primary healthcare).ti.ab OR (GP*).ti.ab OR (physician*).ti.ab OR (doctor*).ti.ab OR (clinician*).ti.ab OR (practitioner*).ti.ab OR (pharmacist*).ti.ab OR (nurse*).ti.ab

AND

((chronic pain).ti,ab OR exp "CHRONIC PAIN"/ OR (chronic non-cancer pain).ti,ab OR (chronic non cancer pain).ti,ab))

AND

((tramadol).ti,ab OR (hydromorphone).ti,ab OR (fentanyl).ti.ab OR (pethidine).ti,ab OR (dihydrocodeine).ti,ab OR (oxycodone).ti,ab OR (hydrocodone).ti,ab OR (oxymorphone).ti,ab OR (morphine).ti,ab OR (codeine).ti,ab OR (meptazinol).ti,ab OR (buprenorphine).ti,ab OR (diamorphine).ti.ab. OR (dipipanone).ti.ab OR (meperidine).ti.ab. OR (papaveretum).ti.ab. OR (opiate*).ti,ab OR (opioid*).ti,ab OR exp "NARCOTIC ANALGESIC AGENT"/ OR exp "MORPHINE DERIVATIVE"/))

[English language] [Human age groups Adult 18 to 64 years OR Aged 65+ years]

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APPENDIX 3

Chart describing study characteristics

STUDIES EXPLORING PATIENT PERSPECTIVES OF PRESCRIBING OPIOIDS FOR CNCP							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
1	Wallace, L. Wexler, R. McDougale, L. Miser, F. Haddox, D.	2014	USA	To comprehensively define the chronic pain experience from the patients perspective.	Patients receiving opioid medicines for chronic non-cancer pain within one medical centre.	One to one interviews with 25 patients using photovoice method. Followed by focus group discussions about displayed photographs. Grounded theory approach was used to analyse data.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Physicians did not understand patients' feelings towards taking opioid medicines; they just assumed it was all about seeking out more prescriptions.
2	Frank, J. Levy, C. Matlock, D. Calcaterra, S. Mueller, S. Koester, S. Binswanger, I.	2016	USA	To understand patients perspectives of opioid tapering.	Patients within primary care clinics prescribed opioid medicines for chronic non-cancer pain.	Health belief model, social cognitive theory and the trans theoretical model. Semi-structured interviews with 24 patients. Analysis using a mixed deductive and inductive approach.	<p>Patient perspective:</p> <ul style="list-style-type: none"> A trusted provider that is supportive, flexible, non-judgmental and accessible is important to initiating and sustaining opioid tapering.
3	Henry, S. Paterniti, D. Feng, B. Losif, A. Kravitz, R. Weinberg, G. Cowan, P. Verba, S.	2018	USA	Insight into the patient experience with opioid tapering	Patients registered in primary care clinics with neck or back pain prescribed long term opioid medicines for longer than 3 months	21 patients in four focus groups. 7 patients with face to face interviews. Iterative review of transcripts leading to themes of accounts relating to tapering opioids. Themes summarised to develop conceptual model of patients' tapering experience.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Positive interactions where clinicians took time to understand patient needs build mutual trust, devise individual tapering plans. Negative interaction where unilaterally stopped or tapered opioids leaving patients with a profound sense of loss and betrayal. Clinicians not being honest and motivated by institutional pressure. Patients reluctant to challenge clinicians for fear of losing medical services Importance of mutual honesty between patients and clinicians.

STUDIES EXPLORING PRACTITIONER PERSPECTIVES OF PRESCRIBING OPIOIDS FOR CNCP							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
4	Matthias, M. Parpart, A. Nyland, K. Huffman, M. Stubbs, D. Sargent, C. Bair, M.	2010	USA	To understand primary care provider perspectives of chronic pain	Primary care clinic providers. Multidisciplinary.	In-depth semi-structured interviews with 20 primary care providers. Thematic analysis of data.	Practitioner perspective: <ul style="list-style-type: none"> Developing strong relationships with patients enhances trust. Difficulties in managing patient expectation, especially when prescribing opioids. Subjective nature of pain, inconsistencies between diagnostic test and patient account leading to mistrust Stress, lack of satisfaction and hostility encountered with some patients.
5	Kennedy, L. Binswanger, I. Mueller, S, Levy, C. Matlock, D. Calcaterra, S. Koester, S. Frank, J.	2018	USA	Explore primary care providers' experience of discussing and implementing opioid tapering with patients on long term opioid therapy.	Primary care providers (multidisciplinary) with experience of prescribing or monitoring opioid for chronic pain	Forty primary care providers participated in six semi-structured interviews and focus groups. Data was analysed using a mixed inductive – deductive approach.	Practitioner perspective: <ul style="list-style-type: none"> Discussions of opioid tapering emotionally charged and exhausting. Trust compromised when uncertain about patient account and when enforced tapering Conflict between keeping patients satisfied and safely prescribing opioid medicines.
6	Desveaux, L. Saragosa, M. Kithulegoda, N. Ivers, M.	2019	Canada	Understand current perspectives of family practitioners to opioid prescribing and the perceived barriers and enablers to guideline adherent prescribing	Family practitioners	Theoretical domains framework. Semi-structured interviews with 22 practitioners. Data coded to construct a matrix of how individual belief interacts with behavioural determinants of prescribing opioid medicines.	Practitioner perspective: <ul style="list-style-type: none"> Challenging conversations around opioid prescribing threaten therapeutic relationships. Emotional consequences of prescribing led to some practitioners avoiding prescribing altogether. Tension between managing pain and facilitation opioid misuse.
7	Kennedy, M. Pallotti, P. Dickinson, R. Harley, C.	2019	USA – 9 UK – 3 Canada - 1	Identify and synthesise qualitative literature describing the factors influencing the nature and extent of opioid prescribing by GPs for patients with chronic non cancer pain in primary care.	GPs in primary care	Systematic synthesis of 13 qualitative studies	Practitioner perspective: <ul style="list-style-type: none"> Factors relating to the specific patient, the consultation, experiences and perceptions of the prescriber will influence opioid prescribing decisions. A theoretical framework proposing that risk, disagreement and suspicion axes interact to shape opioid prescribing decisions.

STUDIES EXPLORING PATIENT AND PRACTITIONER PERSPECTIVES OF PRESCRIBING OPIOIDS FOR CNCP							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
8	Bergman, A. Matthias, M. Coffing, J. Krebs, E.	2013	USA	Develop a better understanding of the respective experiences, perceptions, and challenges both patients and primary care providers face when communicating about pain management.	Physicians and their patients with chronic pain. Patients prescribed an opioid medicine with 6 collections in the last 12 months.	In-depth interviews with 14 primary care providers and 26 patients. Inductive thematic analysis.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Importance of being treated as individuals. Not being stereotyped and receiving depersonalised attention. <p>Practitioner perspective:</p> <ul style="list-style-type: none"> Trust lays the foundation to successful pain management, especially when opioid therapy is involved.
9	Esquibel, A. Borkan, J	2014	USA	Examine patients and physicians experience of opioid medicines for chronic non-cancer pain and the ways in which this influences the doctor patient relationship.	Patients prescribed an opioid medicine for more than 3 months and chronic non-cancer pain within a Family Care Centre Physicians prescribing opioids to patients	Narrative approach. In-depth interviews with 21 patients and their physicians (16 physicians). Immersion / crystallisation process used to generate thematic codebook. Patient narratives compared to physician narratives.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Perceive reluctance to prescribe opioids as lack of empathy Patriarchal relationship, patient on trial and physician as judge <p>Practitioner perspective:</p> <ul style="list-style-type: none"> Stigma attached to prescribing opioid medicines Conflict when there is a difference in understanding of pain 'Ideal' patients are those that align to pain management goals.
STUDIES EXPLORING PRACTITIONER and PATIENT TRUST WHEN PRESCRIBING OPIOIDS FOR CNCP							
10	Buchman, D. Ho, A. Illes, J.	2016	USA	Provide an in-depth examination of how trust is negotiated in pain management.	Patients with low back pain in primary care clinics, community health centres and physiotherapy clinics. Physicians prescribing opioids	Grounded theory approach. 27 semi-structured interviews with patients. Data coded and organised into themes. Patient feedback group to minimise researcher misinterpretation. Physician feedback group to triangulate data and test themes.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Patient trust is threatened if they do not experience a degree of interpersonal assurance. Patients feel clinicians are being untrustworthy of their motives to seek treatment and see them as untrustworthy informants <p>Practitioner perspective:</p> <ul style="list-style-type: none"> With opioid medicines practitioner saw their role to be as interrogators rather than to develop a clinical relationship.
11	Sherman, K. Walker, R. Saunders, K. Shortreed, S. Parchman, M. Hansen, R. Thakral, M. Ludman, E. Dublin, S. Von Korff, M.	2018	USA	To compare doctor patient trust between clinics where opioid risk reduction interventions are being implemented and control settings where the intervention is not being implemented.	Patients prescribed opioid medicines for at least 70 days served by a health group co-operative.	Telephone survey of 935 patient from intervention clinics and 653 patients from control clinics. Data was analysed statistically.	<ul style="list-style-type: none"> 82.2% reported trust in their doctors' judgement. (86.3% in control clinics, 77.9% in intervention clinics) 88.7% felt doctors trusted them in managing opioids. (91.1% in control clinic, 86.2% in intervention clinic)

STUDIES EXPLORING COMMUNICATION BETWEEN PRACTITIONERS AND PRESCRIBERS WHEN PRESCRIBING OPIOIDS FOR CNCP							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
12	Matthias, M. Krebs, E. Bergman, A. Coffing, J. Bair, M.	2013	USA	Improve understanding about communication when prescribing opioid medicines. Gain an insight into how relationships between patient and physician shape communication about opioids.	Physicians and patients in primary care clinics. Patients were prescribed opioid medicines for musculoskeletal pain.	5 physicians and 30 patients participated. 30 clinic visits were audio recorded. Individual patient interviews after the consultation. Immersion / crystallisation approach was used to analyse the data.	Patient perspective: <ul style="list-style-type: none"> Some patients believed their doctors did not listen to them or care about their well-being. Whilst other patients believed doctors listened to them and had genuine concern for their care.
13	Henry, S. Bell, R. Fenton, J. Kravitz, R.	2018	USA	To understand communication between physicians and patient about chronic pain and opioids.	Patients and physicians at two primary care academic clinics. Patients were prescribed long-term opioid medicines for chronic musculoskeletal pain.	86 patient clinic consultations were videotaped, involving 49 physicians. Data of patient experience and physician visit difficulty was also collected. Data from consultations was coded. Statistical analysis was conducted to relate codes to patient and physician experience.	<ul style="list-style-type: none"> Patient – physician disagreement and patient request for opioid dose increases were significantly associated with worse patient experience and physician visit difficulty. Visits with patients who reported a greater desire for increased pain medicine were significantly associated with worse patient experience and physician visit difficulty.
14	Matthias, M. Johnson, N. Shields, C. Bair, M. MacKie, P. Huffman, M. Alexander, S.	2017	USA	In depth examination about opioid tapering to identify communicative challenges and best practices.	Primary care clinics serving primarily low income patients. Primary care physicians currently prescribing opioid medicines. Patients prescribed an opioid medicine for musculoskeletal pain.	9 primary care physicians and 37 of their patients participated. 95 clinic visits were audio recorded. Patients and physicians were interviewed about patient – provider relationship. Data was analysed using constant comparison.	<ul style="list-style-type: none"> Not all patients felt involved in the process and did not understand why their doses were being reduced. Where patients think they are doing well with their prescribed opioid, conversations about tapering can be especially difficult. Unsuccessful negotiations about tapering led to contention and frustration Ensure patients do not feel abandoned in the process of tapering.
15	Henry, S. Gosdin, M. White, A. Kravitz, R.	2020	USA	To identify patient statements to opioids that indicates potential openness to tapering opioids and characterise physician responses to the statements.	Primary care physicians. Patients with musculoskeletal pain prescribed a long-term opioid.	86 clinic visits were video recorded. Data was analysed using coded assessment of patient statements and reported side effects. Assessments were coded as positive, negative or ambivalent stance towards opioids.	43% of the time physicians did not respond to / or had minimal response to clues where opioid discontinuation may have been explored.

STUDIES EXPLORING DECISION MAKING BETWEEN PRACTITIONERS AND PATIENTS WHEN PRESCRIBING OPIOIDS FOR CNCP							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
16	Sheilds, C. Fuzzell, L. Christ, S. Matthias, M.	2019	USA	Examine primary care provider and patient characteristics related to discussions of pain and opioid management.	Physicians and patients in primary care clinics. Patients were prescribed opioid medicines for musculoskeletal pain.	30 patients and 8 primary care physicians participated in audio recording 78 primary care visits. Patients and physicians completed questionnaires before and after their first recorded visit. Audio recordings were coded to a list of communication measures. Statistical analysis to relate patient and physician characteristics to communication.	<ul style="list-style-type: none"> Greater patient pain catastrophizing and higher primary care physician psychosocial orientation were associated with discussion about opioid and pain management.
17	Matthias, M. Talib, T. Huffman, M.	2019	USA	To understand treatment decision making with patients taking opioid medicines.	Primary care physicians in four primary care clinics. Patients with chronic musculoskeletal pain taking prescribed opioid medicines.	95 clinic visits were audio-recorded. There were between 37 patients and 9 physicians. Semi-structured interviews with 22 patients and 9 physicians. Constant comparison was used to analyse the data.	<ul style="list-style-type: none"> Disagreements were rooted in perceptions of not being listened to and distrust. Refusing to prescribe opioids endangered relationship with patient. Opioid were prescribed to maintain relationship with patients There are limitations on patient input into treatment decisions (safety of opioids) Opioid prescriptions came with rules and requirements (urine testing) Use prescribing policy to support decisions not to prescribe.
18	Buonora, M. Perez, H. Stumph, J. Allen, R. Nahvi, S. Cummingham, C. Merlin, J. Starrels, J.	2020	USA	To describe clinician documentation and rationale and patient engagement in opioid tapering decisions.	Primary care practices. Patients without cancer prescribed long-term opioids who experienced an opioid taper.	Thematic analysis of 39 patient records.	<ul style="list-style-type: none"> Rationale for taper tended to focus on patient behaviours Documentation tended to reflect practitioner view points, suggesting tapers were practitioner initiated. Patient disagreement with clinician plan was prominent

STUDIES EXPLORING HOW PROBLEMATIC PRESCRIBING OF OPIOIDS FOR CNCP BECOMES ESTABLISHED							
No	Authors	Year	Country	Aims	Population	Design / method	Key findings
19	McCrorie, C. Closs, S. House, A. Petty, D. Ziegler, L. Gliedewell, L. West, R. Foy, R.	2015	UK	To understand how problematic long-term opioid prescribing becomes established.	Patients and GPs within GP practices. Patients prescribed opioid medicines for chronic non-cancer pain.	Grounded theory approach. Semi-structured interviews with 23 patients. Prompts from interviews were used to facilitate focus group discussions with GPs. Constant comparison was used to analyses data.	<p>Practitioner perspective:</p> <ul style="list-style-type: none"> Establishing trust was difficult when GPs had formed fixed negative attitudes towards patients. GPs anticipated problematic consultations with patients. <p>Patient perspective:</p> <ul style="list-style-type: none"> Practitioner explanations about pain led to scepticism in patients
STUDIES EXPLORING THE ACCEPTABILITY OF A PAIN MANAGEMENT SERVICE							
20	Kesten, J. Thomas, K. Scott, L. Bache, K. Hickman, M. Campbell, R. Pickering, A. Redwood, S.	2020	UK	Acceptability (perceived appropriateness) of the South Gloucestershire pain review services.	Patients and project workers at the South Gloucestershire pain review services.	Semi-structured interviews with 18 patients, 4 GPs, 1 service manager and 2 project workers. Inductive thematic analysis of data.	<p>Patient perspective:</p> <ul style="list-style-type: none"> Patients welcomed non-judgemental and encouraging consultations. Project workers described as kind and good listeners. Patients disliked not being present when their case was discussed between project worker and GP. <p>Practitioner perspective:</p> <ul style="list-style-type: none"> Described importance of forming trusting and open relationships

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3/4
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	5/6
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	5, Appendix 1
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5/6
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	6
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix 2
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	7
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Not done
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	7
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Appendix 3
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Not done
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Appendix 3
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	8/9/10/11
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	11
Limitations	20	Discuss the limitations of the scoping review process.	12
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	13
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	14

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: 10.7326/M18-0850.

