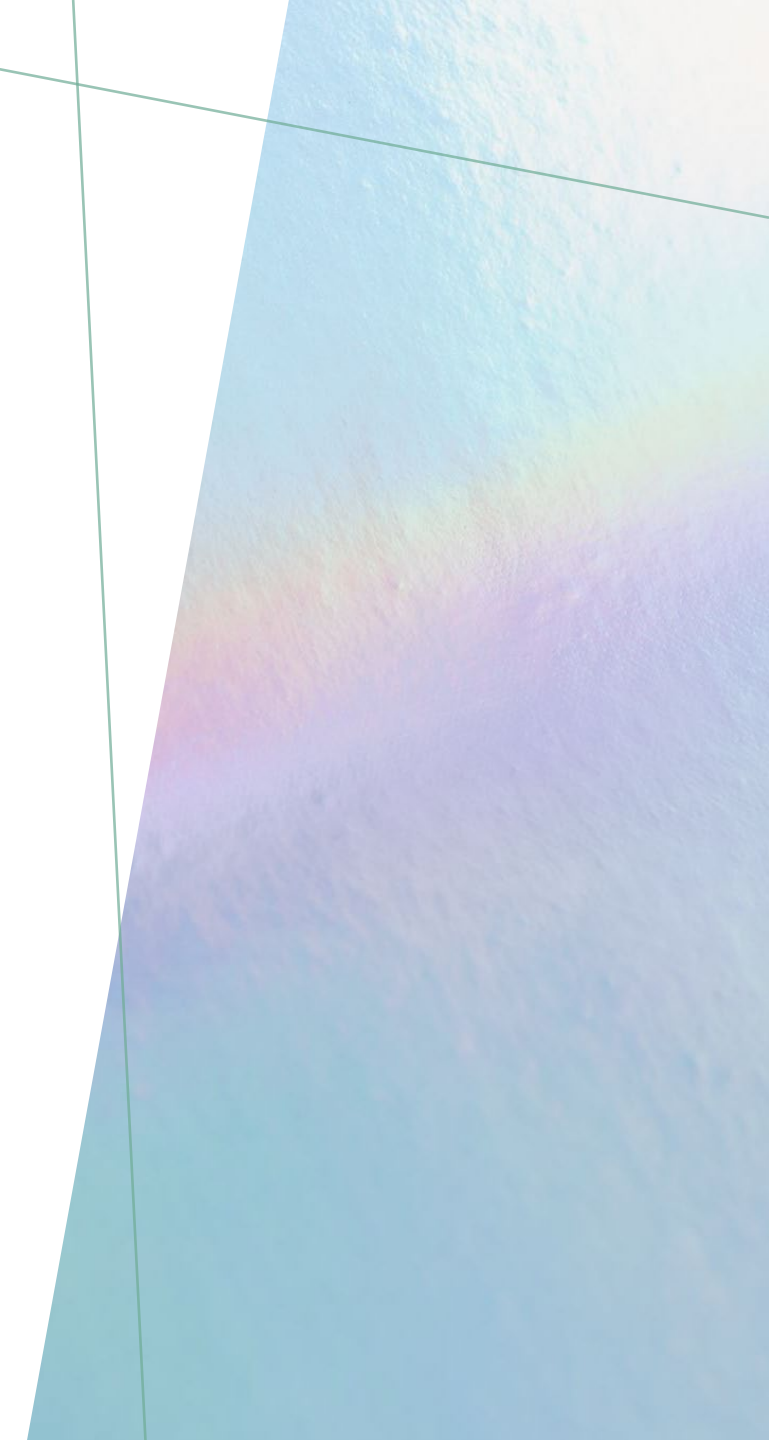


*INTRODUCTION  
TO SCOPING  
REVIEWS: KEY  
CONCEPTS AND  
PROCESS*



# *WHAT IS KNOWLEDGE SYNTHESIS?*

“The contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic. A synthesis must be reproducible and transparent in its methods, using quantitative and/or qualitative methods.” –Canadian Institutes of Health Research:

<http://www.cihr-irsc.gc.ca/e/29418.html#4.1>

- The purpose of knowledge synthesis is not simply to describe what is already known in a field or on a certain topic, but to make connections between existing literature so that new knowledge can be identified
- It can help scholars integrate/map/conceptualize complicated or ambiguous fields of study or topics of interest
- Knowledge synthesis is integral to knowledge translation
  - It allows researchers and knowledge users to make decisions based on the best evidence available
- Any type of knowledge synthesis should be performed “systematically”, which in this context means that the research process should follow rigorous and thorough procedures and methods
  - This can help to reduce bias and makes research more easily reproducible and verifiable

# *DIFFERENCES BETWEEN TYPES OF REVIEWS*

## **TRADITIONAL LITERATURE REVIEW**

- Used to find themes, trends, gaps, controversies, and convergences in knowledge by analyzing a body of literature
- The goal is to find patterns and/or to argue for or against positions within a field of study
- Literature reviews are considered subjective because they are heavily reliant on what an author already knows about a topic and their experience in the field
  - They don't usually summarize a subject in an unbiased, exhaustive, or systematic way

## **SYSTEMATIC REVIEW**

- “[...] conducted by review groups with specialized skills, who set out to identify and retrieve international evidence that is relevant to a particular question/questions and to appraise and synthesize the results of this search to inform practice, policy and in some cases, further research.” (Munn et al., 2018, p. 2)
- Utilizes specific methods that are meant to minimize bias and produce reliable findings for decision making
- Often used to:
  - Decide if current practice is based on relevant evidence; establish the quality of evidence; address uncertainty/variability in practice; identify gaps, deficiencies, and trends in the current evidence to inform future research in the area

## **SCOPING REVIEW**

- Used to define the scope/coverage of research on a specific topic, identify the amount of literature and studies available, and an overview of the focus of current research
- Useful for looking at the evidence that is available when a field or topic has not yet been examined enough to ask more specific questions
- Can examine the types of evidence that are currently being used to inform practice and how research is currently being conducted on the topic

*CONSENSUS  
DEFINITION  
OF A  
SCOPING  
REVIEW*

- “Scoping reviews are a type of evidence synthesis that aims to systematically identify and map the breadth of evidence available on a particular topic, field, concept, or issue, often irrespective of source (ie, primary research, reviews, non-empirical evidence) within or across particular contexts. Scoping reviews can clarify key concepts/definitions in the literature and identify key characteristics or factors related to a concept, including those related to methodological research” (Munn et al., 2022, p. 950)

# *INDICATORS FOR CONDUCTING A SCOPING REVIEW*

Munn et al. (2018) identify different reasons why a scoping review may be undertaken which are as follows:

- To identify the types of available evidence in a field
- To clarify key concepts/definitions in the literature
- To examine how research is conducted on a certain topic or field
- To identify key characteristics or factors related to a concept
- As a precursor to a systematic review
- To identify and analyze knowledge gaps

# *FRAMEWORKS OF THE SCOPING REVIEW PROCESS*

- The foundational framework for scoping reviews by Arksey and O'Malley (2005) describes the steps of conducting a scoping review as:
  1. Identifying the research question
  2. Identifying relevant studies
  3. Study selection
  4. Charting the data
  5. Collating, summarizing and reporting the results
  6. Consultation (optional)
- This framework has more recently been expanded on and detailed further (details on next slide)

# *FRAMEWORKS OF THE SCOPING REVIEW PROCESS CONT'D*

## **LEVAC ET AL. (2010) ADDITIONS:**

- Clarifying and linking the purpose and research question
- Balancing feasibility with breadth and comprehensiveness of the scoping process
- Using iterative team approach to selecting studies and extracting data
- Incorporating a numerical summary and qualitative thematic analysis
- Identifying the implications of the study findings for policy, practice or research
- Adopting consultation as a required component of scoping study methodology

## **PETERS ET AL. (2021) ADDITIONS:**

- Defining and aligning the objective and questions
- Developing and aligning the inclusion criteria with the objectives and questions
- Describing the planned approach to evidence searching, selection, data extraction, and presentation of the evidence
- Searching for the evidence
- Selecting the evidence
- Extracting the evidence
- Analysis of the evidence
- Presentation of the results
- Summarizing the evidence in relation to the purpose of the review, making conclusions and noting any implications of the findings

# *THE PCC (POPULATION, CONCEPT, CONTEXT) FRAMEWORK*

The JBI guide to scoping reviews (2020) uses the PCC framework for developing research questions and objectives of a scoping review

- Population:
  - What are the important characteristics of participants?
  - Participants may not be relevant if the study focuses on other factors such as types of research designs being used in a field
- Concept:
  - What is the main issue or problem that the review wishes to address?
  - Can encompass elements like the interventions, phenomena of interest, and/or outcomes relevant to the study
- Context:
  - What setting/location/field/timing might be relevant to the study?
  - The context can also include consideration of factors related to the population being studied such as cultural or gender-based factors



*RESOURCES  
AND GUIDES  
FOR  
CONDUCTING A  
SCOPING  
REVIEW*

- University of Texas Scoping Review Guide: <https://guides.lib.utexas.edu/scopingreviews/protocol>
- JBI Scoping Review Guide: <https://jbi-global-wiki.refined.site/space/MANUAL/4687342/Chapter+11%3A+Scoping+reviews>
- PRISMA Checklist for Scoping Reviews: <http://www.prisma-statement.org/Extensions/ScopingReviews>
- The Systematic Review Toolbox: <http://systematicreviewtools.com/index.php>



*THE SCOPING  
REVIEW  
PROTOCOL*

# *WHAT IS A SCOPING REVIEW PROTOCOL?*

- When starting a scoping review project, it is essential to begin by developing an a priori scoping review protocol
- The protocol is the plan for the review and having one before actually conducting the review can help reduce reporting bias and make the process more transparent
- It should be finalized (and preferably published) before any work on the actual review begins
- It is also recommended that authors start with a general review of the literature available on the topic they wish to examine before writing the scoping review protocol to familiarize themselves with what has already been found and the terms and concepts that are used in the field

# *ELEMENTS INCLUDED IN A SCOPING REVIEW PROTOCOL*

- The University of Texas Guide to Scoping Reviews (2023) advise that the following elements should be included within a scoping review protocol:
  - Research question
  - Background
  - Objectives
  - Methods
    - Criteria for selecting studies for the review (eligibility criteria)
    - Search methods for identification of studies
    - Data collection and analysis
- Peters et al. (2022) have also created a more in-depth explanation of the elements in a scoping review protocol

# *THE SCOPING REVIEW PROTOCOL: TITLE*

- The title of a scoping review should be related to the research question(s)
- It is recommended that the title follows the PCC framework to accurately describe the topic being investigated
- The title should also include the phrase “a scoping review protocol”
- Conventions on terminology used in the field under investigation may be able to guide the formation of the title

*THE  
SCOPING  
REVIEW  
PROTOCOL:  
OBJECTIVE*

- The objective of a scoping review is meant to tell readers what the authors are trying to achieve by conducting the study
- The main objective of every scoping review is to look into and describe what is known about a particular topic/concept
- The objective should follow the PCC framework
- A common problem when formulating the objective is that it is unclear or does not include enough detail about the review being conducted
- The objective should be clearly stated so it is easily understood

# *THE SCOPING REVIEW PROTOCOL: RESEARCH QUESTION(S)*

- Having a clear research question/questions makes it easier to determine the inclusion criteria of the review and extract data that will fulfill the objective
  - It can also help guide the formation of inclusion criteria and decisions on what extraction tools will be used
- Review questions are linked to the objective of the scoping review but are more specific and include specific details on what the review is focused on
- Scoping reviews usually have one main research question that is broad in nature
  - Sometimes sub-questions are beneficial to the review if researchers wish to collect more specific information on the population, concept, and/or context
  - Sub-questions can be useful for outlining how the evidence is likely to be mapped in the review
- Research questions should:
  - Be broad
  - Be relevant to the objective
  - Follow the PCC framework

# *THE SCOPING REVIEW PROTOCOL: INTRODUCTION*

- This section is where most of the rationale behind conducting a scoping review on a certain topic will be presented
- Should include a clear explanation of why it is important to do a scoping review in the context of the objective
- This section should begin with an overview of any pertinent information in the field that the review will be investigating
  - There should then be an explanation on problems/gaps in the literature that require a scoping review
- Introductions usually have general details about the inclusion criteria, so readers understand why the inclusion criteria has been formulated in a way that is related to the field and the research question/problem being investigated
- The introduction should end with details regarding other scoping reviews or systematic reviews that have been done/are being done on the topic at hand
  - This is both to show that the proposed work is needed and gives authors a chance to inform readers of how their work is new/novel or how it fits into the what is already known in the field



*THE SCOPING  
REVIEW  
PROTOCOL:  
ELIGIBILITY  
CRITERIA*

- This section describes how authors will determine if sources should be included in the study or not and needs to be very well defined
- Eligibility criteria should directly relate to the objective and research questions(s) and follow the PCC framework

# *THE SCOPING REVIEW PROTOCOL: ELIGIBILITY CRITERIA CONT'D*

## **TYPES OF PARTICIPANTS**

- Details about essential characteristics of the population being studied should be outlined in this section to explain why they are appropriate to examine in the context of the objective and research questions
- There should be enough detail to easily ascertain who is eligible for inclusion and who is not
- How authors intend to identify participants of interest and their relevance to the objective and research questions needs to be clear

## **CONCEPT**

- This is usually where details of inclusion criteria that are most central to the objective and review questions are explained
- How the inclusion criteria relates to the core concept should be clearly stated here to help guide the scope and breadth of the review
- The relationship between the concept of the review and the inclusion criteria can be explained as (but is not limited to):
  - Definitions of key terms in the field
  - Methodological approaches used
  - Study designs
  - Theories utilized
  - Interventions
  - Ongoing programs
  - Decisions regarding conduct

# *THE SCOPING REVIEW PROTOCOL: INCLUSION CRITERIA CONT'D*

## CONTEXT

- The context of the inclusion criteria can help to clarify how to limit the search for the review for feasibility and to meet the needs of the review objective and research questions
- Because terms like “setting” or “environment” are often used interchangeably, this part of the inclusion criteria should identify how other terms may be used in the literature search to describe the context
- Clear working definitions of key terms that may be used in the review need to be included here

## TYPES OF EVIDENCE SOURCES

- Because of the broad nature of a scoping review, authors can choose to leave sources of information open so that any type of source may be utilized
- It should be transparently reported in the protocol how authors will handle duplicate data that is identified during the search for sources

# *THE SCOPING REVIEW PROTOCOL: METHODS*

- This section starts with what methodology or framework will be used in the review
- It should also include how authors plan to develop their approach to the search for literature and how they plan on selecting potential evidence sources that will be included in the final report
- It is suggested that a research librarian or information scientist is consulted to develop the search strategy and to aid in the literature search itself

# *THE SCOPING REVIEW PROTOCOL: SEARCH STRATEGY*

- If collaborating with a research librarian or information scientist, the protocol should include details about the collaboration
- Searching for appropriate sources to include relies on having an appropriate range of relevant key words that will be utilized
  - This can be challenging because of variations in terminology used between sources or databases with different taxonomies and indexing terms
- Only databases that are relevant to the review questions and objective should be searched
- Ensuring clarity in the inclusion criteria is crucial to creating a robust search strategy
- Authors may choose to develop a concept map based on the key terms in the inclusion criteria to establish a comprehensive list of synonyms that may be used
- This section should include the earliest date that will be searched, with justification for why if the search will have a limited time frame

# *THE SCOPING REVIEW PROTOCOL: STUDY/SOURCE OR EVIDENCE SELECTION*

- The selection of sources found during the search is based solely on whether they meet the inclusion criteria
  - There should be details in the protocol on how it will be determined if the sources meet the inclusion criteria
- How many members of the review team will carry out screening and selection of sources and whether this process will be cross-checked by others should be stated
- It should also describe if the authors will pilot the screening process before the review begins, how many sources will be included, and how many authors will participate in the pilot
- There should be a description of how disagreements on including sources will be resolved
  - Usually this is done through discussion between data screeners or by including a third party to decide
- The protocol should also provide some information on how authors intend to report excluded sources in the final report
- Because of the iterative nature of a scoping review, it is likely that searching, screening, and selection will reveal new potentially relevant terms, concepts, and locations of evidence
  - Authors can include in this section that the search may be modified and expanded if/when new evidence is uncovered

# *THE SCOPING REVIEW PROTOCOL: DATA EXTRACTION*

- Beyond extracting basic descriptive data on included sources, the data extracted should be consistent with the review question and inclusion criteria
- A draft table detailing the data to be extracted should be included in the protocol with fields for data items that align with the review questions, participants, concepts, and context
- It should also be stated how many authors will be involved in data extraction, whether it will happen independently, if cross-checking of extracted data will occur, and how disagreements will be settled regarding dissimilarities in terms of data extraction
- Scoping reviews don't generally include an assessment of the methodological quality or risk of bias of sources
  - In the rare case this does occur, authors should explain and justify why it meets the reviews' objective or questions and why a systematic review is not being conducted instead
  - The results of methodological quality assessment should not be used to determine inclusion/exclusion criteria

# *THE SCOPING REVIEW PROTOCOL: DATA ANALYSIS AND PRESENTATION*

- There should be details on how authors intend to analyse and present an overview and description of all included sources as well as the data extracted from them
- Analysis of data is normally descriptive, with basic frequency analysis and percentages being the most common approach
- There should also be a description of how the results will be presented
- Because scoping reviews aim to identify existing knowledge, it is important to present conceptual categories such as intervention type, study population, duration of interventions, aims, methodology adopted, key findings, and gaps in the research
- At the protocol stage, it is only necessary to provide some detail that authors have considered how to best present anticipated results in a way that corresponds with the objective and review questions



*THE SCOPING  
REVIEW  
PROTOCOL:  
DEVIATIONS  
FROM THE  
PROTOCOL*

- The a priori protocol should be followed as closely as possible
- It is common that there are deviations from the protocol when actually conducting a scoping review
  - If this occurs, authors should mention deviations to ensure the process remains transparent



*UTILIZING  
KNOWLEDGE USERS  
AND STAKEHOLDERS*

# *WHY SHOULD KNOWLEDGE USERS BE INCLUDED?*

- It has been found that utilizing stakeholders and knowledge users while conducting a scoping review is beneficial to the quality, relevance, and impact of research and can help reduce research waste
- Knowledge users are described as individuals who are invested in the research being conducted, and who may benefit from the knowledge produced through research
- Engaging with knowledge users is a bidirectional relationship between stakeholders and researchers that can help inform decisions made about what research needs to be conducted and how to best conduct research
- Involving knowledge users in the process of a scoping review can:
  - Strengthen the reasoning behind conducting the review
  - Inform how the review is conducted and reported
  - Guide how the research is disseminated to individuals who are impacted by the findings
- While it is beneficial to include stakeholders in the scoping review process, the process may take longer to complete by including this step, may have financial implications for the project, and those who are being consulted may need more guidance and information on the process of conducting a scoping review and how research is done

# *LEVELS OF KNOWLEDGE USER INVOLVEMENT: THE ACTIVE FRAMEWORK*

- While authors can choose to only include knowledge users in certain stages of the review process, it is encouraged that they are involved in the entire all stages of the scoping review
- The ACTIVE framework is one framework that can be utilized to decide on the level of involvement knowledge users will have in a scoping review study. There are 5 levels in this framework which are:
  - Leading: knowledge users make key decisions about the review
  - Controlling: knowledge users help to develop and define the inclusion criteria
  - Influencing: knowledge users assist with extracting the data or with searching for sources
  - Contributing: knowledge users participate by contributing to discussions concerning what the research priorities should be
  - Receiving: knowledge users listen to the results of the review
- Ideally, knowledge users will take on a leading role in the research process and be considered co-creators of the scoping review

# *PRINCIPLES OF ENGAGING WITH KNOWLEDGE USERS*

- It is important to commit to and follow the key principles of involving knowledge users in health research in order to create authentic and beneficial partnerships and to avoid engaging in a way that is tokenistic
- The key principles for engaging with knowledge users are:
  - Ongoing, bi-directional partnerships, where consumers and community members are valued throughout
  - Co-learning and co-benefit for all parties involved
  - Power and responsibility equally shared with everyone's role clearly stated
  - Trust, transparency, and honesty

# *HOW TO FACILITATE KNOWLEDGE USER INVOLVEMENT*

- Utilizing knowledge users in any stage of a scoping review can lead to unique insights on the topic and can help to ensure the research is relevant to the community that is being addressed in the study
- When meeting knowledge users in the scoping review process, there needs to be several things taken into consideration to facilitate their involvement:
  - Consider making adaptations to meetings to make sure everyone's needs are met
  - There should be a clear agenda that has been set prior to meetings
  - Meetings should use formal processes, so everyone gets a say in the process and to mitigate power imbalances
  - Authors should be flexible with knowledge users and ask them how they feel they can best contribute to the review process
  - Ensure meetings are a brave space so everyone can openly share their thoughts and opinions

# *REPORTING KNOWLEDGE USER INVOLVEMENT IN A SCOPING REVIEW*

- Any knowledge user involvement should be transparently reported in the scoping review
- The process of co-creation, at the conceptualization and development stages of the scoping review, and how partnerships will be continued throughout the project should be discussed in the protocol and in the methods section of the final report
- The GRIPP 2 short form checklist can guide how knowledge user engagement is reported and includes:
  - Need to report the aim of engaging knowledge users
  - Need to give a clear explanation of the approach and process of recruiting and utilizing knowledge users
  - How the use of knowledge users in the process affected the interpretation of results
  - The extent that engagement with knowledge users influenced the study
  - A reflection/critical perspective on how utilizing knowledge users went as a learning experience

# *KEY CONSIDERATIONS WHEN INVOLVING KNOWLEDGE USERS*

- Strategy for Patient-Oriented Research (SPORE) tips:
  - A strategy should be developed by the review team for engaging knowledge users and this strategy should be consistently applied across all projects
  - The review team should ensure that they have the necessary resources to facilitate meaningful knowledge user involvement and that knowledge users have access to these resources
  - Researchers should have training related to how to best involve knowledge users and on communication strategies to facilitate a cohesive environment
  - Engagement with knowledge users' needs to be meaningful, transparent, and inclusive
  - There should be a clear recruitment and screening process for engaging knowledge users, and review teams should ensure they have adequate time for this process before engaging with knowledge users before work on the review begins
  - Researchers should consider what barriers there may be to knowledge user engagement and think of strategies to reduce barriers
  - There should be proper compensation for knowledge user involvement and authors should consider:
    - Authorship for knowledge user involvement
    - Discussing compensation and authorship with knowledge users as soon as possible
    - Always asking if knowledge users wish to be listed as co-authors
  - There should always be an evaluation of knowledge user engagement that occurs, and the knowledge gained from the experience should be applied to future projects involving knowledge users