What is a Scoping Review and How to Conduct One

What is a Scoping Review?

- "A scoping review or scoping study is a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting and synthesizing existing knowledge" (Colquhoun et al, 2014).
- "Scoping reviews are used to identify knowledge gaps, set research agendas, and identify implications for decision-making. Scoping reviews are used to present a broad overview of the evidence pertaining to a topic, irrespective of study quality, and are useful when examining areas that are emerging, to clarify key concepts and identify gaps. For example, scoping reviews can be used to identify a topic area for a future systematic review. Scoping reviews can be seen as a hypothesis-generating exercise, while systematic reviews can be hypothesis-testing" (Tricco et al, 2016).
- "Rather than being guided by a highly focussed research question that lends itself to searching for particular study designs (as might be the case in a systematic review), the scoping study method is guided by a requirement to identify all relevant literature regardless of study design" (Arskey and O'Malley, 2005, p. 22).
- "Scoping reviews are exploratory projects that systematically map the literature available on a topic, identifying the key concepts, theories, sources of evidence, and gaps in the research" (Levac et al, 2010).
- "Scoping studies are concerned with contextualizing knowledge in terms of identifying the current state of understanding; identifying the sorts of things we know and do not know; and then setting this within policy and practice contexts" (Anderson et al, 2008).
- Scoping reviews "aim to map rapidly the key concepts underpinning a research area" (Mays, Roberts, and Popay, 2001).

Step 1: Identify the Purpose of the Study and Preliminary Research Question

1. Identify the **primary purpose of the study**: why should you summarize the activity in the field and what impact will it have?
2. Identify **broad research question and "clearly articulated scope of inquiry"** including concept, population and outcomes of interest" (Levec et al, 2010).

Stage 2: Identify Relevant Studies

1. Identify relevant studies that provide **"a comprehensiveness of evidence"** (Arskey and O'Malley, 2005).
2. Find a balance between **feasibility** and ability to achieve study purpose.
3. Ensure team includes members who can provide "expertise needed for decisions regarding breadth and comprehensiveness" (Levac et al, 2010).

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Stage 3: Study Selection

1. Develop a set of inclusion and exclusion criteria and to help determine relevance of literature.
    a. E.g. peer-reviewed published literature or grey literature; date ranges; or specific focus areas (like campus-community partnerships within the living labs literature).
    b. Note: "Criteria [may be] devised post hoc, based on increasing familiarity with the literature" (Arksey and O'Malley, 2005).
2. Apply the inclusion and exclusion criteria to all resources, using copies of full article for clarification.
    a. E.g. review all abstracts and titles, using full copies of article if needed.
    b. Note: "Read full articles to make the final decision about whether or not they should be chosen for inclusion in the review...abstracts cannot be assumed to be representative of the full article that follows, or to capture the full scope of an article" (Arksey and O'Malley, 2005, p. 26).

Stage 4: Charting the Data

1. Again, this is an iterative process!
2. "Synthesize and interpret data by sifting, charting and sorting material according to key issues and themes" (Arksey and O'Malley, 2005, p. 26).
3. Create a chart or other method of sorting data that organizes general information about the studies, and specific information about the type of intervention or research used, study design chosen, study population selected, etc.
4. Levac et al (2010) and Arksey and O'Malley (2005) both recommend that two people go through this process together. Levac et al recommends that these researchers "independently extract data from the first five to ten studies using the data-charting form and meet to determine whether their approach to data extraction is consistent with the research question and purpose."

Stage 5: Collating, Summarizing and Reporting the Results

"[A] scoping study seeks to present an overview of all material reviewed and consequently issues of how best to present this potentially large body of material are critical...Whilst a scoping study will need some analytic framework or thematic construction in order to present a narrative account of existing literature, there is no attempt made to present a view regarding the 'weight' of evidence in relation to particular interventions or policies" (Arksey and O'Malley, 2005, p. 27).

1. Summarize characteristics of studies *and* explain thematic analysis.

2. Communicate the outcome or end product of study clearly.
3. Identify how the study is useful and how it can advance the field (i.e. practical implications).

Parallel Element: Consultation Exercise

"An additional, parallel element is also described regarding the use of a 'consultation exercise' to inform and validate findings from the main scoping review. Whilst consultation might be viewed as an optional component of the scoping study framework, it greatly enhanced our work, a view confirmed by other researchers" (Arskey and O'Malley, 2005, p. 23).

1. Define the purpose of the consultation (e.g. to provide perspective on preliminary findings).
2. Specify the type of stakeholders that should be involved in this process.
3. Specific how information from consultation will be collected, analyzed and reported (Levac et al, 2010).

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