

COMMENTARY

Scoping reviews: time for clarity in definition, methods, and reporting

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Abstract

**Objectives:** The scoping review has become increasingly popular as a form of knowledge synthesis. However, a lack of consensus on scoping review terminology, definition, methodology, and reporting limits the potential of this form of synthesis. In this article, we propose recommendations to further advance the field of scoping review methodology.

**Study Design and Setting:** We summarize current understanding of scoping review publication rates, terms, definitions, and methods. We propose three recommendations for clarity in term, definition and methodology.

**Results:** We recommend adopting the terms “scoping review” or “scoping study” and the use of a proposed definition. Until such time as further guidance is developed, we recommend the use of the methodological steps outlined in the Arksey and O'Malley framework and further enhanced by Levac et al. The development of reporting guidance for the conduct and reporting of scoping reviews is underway.

**Conclusion:** Consistency in the proposed domains and methodologies of scoping reviews, along with the development of reporting guidance, will facilitate methodological advancement, reduce confusion, facilitate collaboration and improve knowledge translation of scoping review findings. © 2014 Elsevier Inc. All rights reserved.

**Keywords:** Scoping review; Methodology; Scoping study; Reporting; EQUATOR; Knowledge synthesis; Terminology

Estimates for the generation of research evidence suggest that 75 trials and 11 new systematic reviews are published daily [1]. This volume of health research evidence implies that knowledge syntheses are essential to advance practice and research through consolidation of evidence. Such reviews can also help knowledge users work more efficiently to make evidence-based decisions [2]. Among the various types of knowledge synthesis, the scoping review has become increasingly popular.

Scoping reviews are a form of knowledge synthesis, which incorporate a range of study designs to comprehensively summarize and synthesize evidence with the aim of informing practice, programs, and policy and providing direction to future research priorities [3]. Scoping reviews

have been used to answer a range of research questions from identifying social determinants of health associated with cervical screening for women living in middle- and low-income countries, informing improved coverage and research gaps [4], to improving our understanding of how social network analysis interventions could support the implementation of change in health care organizations [5].

We conducted an electronic search for “scoping study” or “scoping review” from 1997 to 2013 in Medline, EMBASE, CINAHL, and PsychINFO and identified 249 of them. Until 2009, less than 10 scoping reviews were published annually. Since 2009, consistent yearly increases have occurred with 85 reviews published in 2013 up to December 5 (Fig. 1). Scoping reviews have likely been embraced because they are relevant to both emerging and established fields. In emerging areas of evidence, there is a diversity of study methodologies and the trajectory published articles of some content areas makes it difficult to ascertain the extent of the landscape. In established fields where there may be an abundance of evidence, scoping

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**What is new?****Key findings**

- Variability in labeling, definition, methodology, and reporting currently limits the potential of scoping reviews

**What this adds to what was known?**

- Recommendations are offered for a consistent label, definition, and methodology

**What is the implication and what should change now?**

- Reporting guidance for the conduct and reporting of scoping reviews are forthcoming

reviews can provide an understanding of the “lay of the land”. As a method of knowledge synthesis, scoping reviews have potential to advance health care practice, policy, and research. However, variability and lack of consensus on scoping review terminology (the label we give them), definition, methodological conduct, and reporting prevent scoping reviews from fully reaching this potential. In this article, we propose recommendations to further advance the field of scoping review methodology.

Arksey and O’Malley published one of the first methodological frameworks for conducting a “scoping study” [3]. Proposed as a methodological guide on which to build, this six-stage framework consisted of identifying the research question, searching for relevant studies, selecting studies, charting the data, collating, summarizing and reporting the results, and consulting with stakeholders to inform or validate study findings. In 2010, we (H.L.C., D.L., K.O.B.) drew from our scoping study experiences to build on this methodological framework and proposed recommendations for each stage of the scoping study framework, highlighting considerations for advancement, application, and relevance of scoping studies in health research [6]. This article was labeled “highly accessed” and has been viewed over 16,000 times, indicating the interest in scoping reviews and the pressing need for its ongoing advancement. Since its publication, we continue to observe variability pertaining to terminology labeling for scoping reviews (eg, “scoping review,” “scoping study,” “scoping method,” “mapping of research,” “literature review,” “scoping exercise method”), definition, methodological conduct and reporting of scoping reviews in the field of health research, making it challenging for readers to evaluate the methodological rigor and quality of conduct for this growing form of knowledge synthesis. Consistent with our observations of variability in the methodological conduct of scoping reviews, a scan of the reference lists for the 2012 scoping reviews found in our search and those we could readily access (56 of 64) indicated that

less than half (48%, 27 of 56) referenced Arksey and O’Malley.

One of the most widely used descriptions of the scoping review is the one proposed by Arksey and O’Malley in 2005: “scoping studies aim to map rapidly the key concepts underpinning a research area and the main sources and types of evidence available, and can be undertaken as standalone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before” [3]. Recently, Daudt et al. proposed a revised definition: “scoping studies aim to map the literature on a particular topic or research area and provide an opportunity to identify key concepts, gaps in the research; and types and sources of evidence to inform practice, policymaking, and research” [7]. Daudt et al. further suggest that scoping reviews should include some form of quality assessment for included studies, a criterion that until now has defined scoping reviews by its absence [3]. Competing definitions raise several potential consequences including difficulties collaborating across different research groups, different estimates of the prevalence of scoping reviews, and difficulty sharing and retrieving information.

Although no imperative exists for a single term and definition of scoping reviews, clarity and consistency in these domains, along with consistent use of existing methodological guidance and the development of reporting guidance would facilitate methodological advancement, reduce potential confusion between practitioners and researchers, facilitate communication and collaboration among researchers and methodologists, and improve knowledge translation of scoping review findings.

## 1. Clarity in label, definition, and methodology

We offer three recommendations.

1. We recommend that everybody adopt consistent use of the terms “scoping review” or “scoping study” when conducting this type of synthesis.
2. We recommend the use of the following definition:

A scoping review or scoping study is a form of knowledge synthesis that addresses an exploratory research

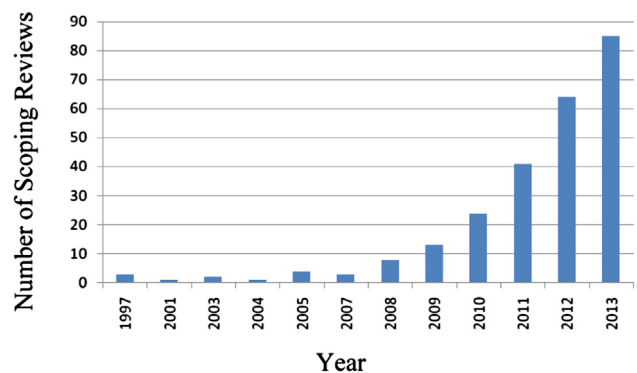


Fig. 1. Scoping reviews by year, 1997–2013. Note: Search conducted to December 5, 2013.

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