The Scoping Review: A Flexible, Inclusive, and Iterative Approach to Knowledge Synthesis

Michael Gottlieb, MD

michaelgottliebmd@gmail.com

Department of Emergency Medicine, Rush University Medical Center; Chicago, IL

Mary R. C. Haas, MD, MHPE

calderom@med.umich.edu

Department of Emergency Medicine, University of Michigan Medical School, Ann Arbor, MI.

Michelle Daniel, MD, MHPE

midaniel@health.ucsd.edu

Department of Emergency Medicine, University of California, San Diego School of Medicine,

La Jolla, CA.

Teresa M. Chan, MD, MHPE

teresa.chan@medportal.ca

Division of Emergency Medicine, Department of Medicine, McMaster University; Hamilton,

Ontario, Canada

<u>Corresponding Author:</u>

Michael Gottlieb, MD

Rush University Medical Center

Department of Emergency Medicine

1750 West Harrison Street, Suite 108 Kellogg, Chicago, IL 60612, United States

Phone: (312) 563-3669

Fax: (312) 942-4021

Email: michaelgottliebmd@gmail.com

Meetings: None

Total Word Count: 2,560

Financial Support: None

1

2 DR. MICHAEL GOTTLIEB (Orcid ID : 0000-0003-3276-8375)

3 DR. MARY R C HAAS (Orcid ID : 0000-0002-9506-5928)

4 DR. TERESA MAN-YEE CHAN (Orcid ID : 0000-0001-6104-462X)

5

6

8

9

10 **The Scoping Review: A Flexible, Inclusive, and Iterative Approach to Knowledge Synthesis**

11

12 **Introduction**

13 The body of medical education research has exploded in recent years. A push for a communal

14 effort amongst education researchers to answer the 'big questions' and support evidence-based

15 approaches to education has resulted in a significant rise in the number of medical education

16 publications.[1,2,3] Sifting through this expanding body of work can present a daunting task. For

17 example, PubMed, which is generally considered one of the primary databases for health

18 sciences literature, contains over 30 million citations and counting.[4] Additional education-

19 specific and other searchable databases contain billions more citations through which to sort.[5]

20

21 For medical educators balancing clinical work with teaching and research, finding efficient ways

22 to manage a rapidly expanding volume of literature has become increasingly difficult. In addition

23 to the challenges of time constraints and the sheer size of available databases, knowledge

24 syntheses in medical education are fraught with challenge due to the breadth and complexity of

25 the field. Out of this milieu, collaborations such as the Best Evidence in Medical Education

26 (BEME) that works to publish high-quality systematic reviews have emerged to address the

27 increasing need for efficient yet comprehensive assessment and synthesis of the literature.[6]

28

29 The health educator's toolbox for knowledge synthesis includes a variety of methods, ranging

30 from traditional health education systematic reviews, to newer methodologies such as realist and

31 scoping reviews.[7] Although scoping reviews have become an increasingly popular method,

32 concerns have been raised about the rigor, merit, and appropriate application of this approach.[8]

33 Herein, we describe scoping review methodology, the study questions to which this method is

34 optimally suited, a rigorous approach for conducting them, and common pitfalls to avoid.

35

36 **Why and when to perform this methodology**

37 Scoping studies are particularly well-suited to complex topics, where the literature base is broad

38 and not yet comprehensively reviewed. The intent is to rapidly map key concepts corresponding

39 to a particular research domain, including the primary sources and types of evidence currently

40 available.[9] Arksey and O'Malley provide four goals with which scoping review methodology

41 appropriately aligns: to investigate the extent, range, and nature of research activity; to determine

42 the value of performing more in-depth or focused systematic reviews; to summarize and

43 disseminate research findings; and to identify existing gaps in the literature.[10]

44

45 The inclusive, flexible, and iterative nature of scoping reviews distinguishes them from other

46 forms of knowledge synthesis.[11] In contrast to traditional health education systematic reviews,

47 scoping reviews do not adhere to strict methodological rules nor necessitate assessment of

48 quality of evidence.[10] Whereas systematic reviews typically involve a well-defined question and

49 pre-identification of inclusion criteria, scoping studies tend to examine broader topics, include a

50 variety of study designs, and allow for evolution in the population (P), intervention (I),

51 comparator (C), and outcomes (O) under study.[10] In contrast to narrative or literature reviews,

52 scoping reviews require authors to perform analytical reinterpretation of the literature.[12,13]

53 Accordingly, the final write up of the scoping review is also flexible; its structure, content and

54 length can be adapted to the volume and type of literature reviewed.[11] The scoping review also

55 uniquely entails "charting" of the literature, whereby the authors generate a 'map' reflective of

56 the primary studies, corresponding to the review question(s).[10,12] As the map generally reflects

57 researchers who may represent different disciplines examining the topic in question from

58 different lenses, it is often multi-layered.[11,14] Lastly, unlike other review methodologies, the

59 scoping review process is iterative, allowing those conducting this type of review to deal with

60 themes which are noted in the literature on a whole. This aspect of scoping reviews corresponds

61 to a more constructivist approach and makes scoping reviews more aligned with other

62 knowledge syntheses that seek to amalgamate large swaths of literature instead of deductively

63 narrowing down a larger body of literature to a singular answer.

64

65 **How to perform this methodology**

66 Scoping reviews must be conducted in a rigorous and transparent manner (i.e., the approach to

67 searching for and synthesizing the evidence should be "systematic").[15] They should be

68 documented with sufficient detail to enable them to be replicated by others. While scoping

69 reviews differ from other forms of systematic reviews because they do not have a rigid, preset

70 protocol, some recommend that an a priori protocol should still be created and made publicly

71 available.[16] A number of key steps must be followed to properly perform a scoping review. Table

72 1 provides an illustrative example. Table 2 highlights common pitfalls encountered with this

73 technique.

74

75 The first step comprises identifying the research question.[10] Researchers should formulate one

76 overarching question in the area of interest. For scoping reviews, initial searches should be broad

77 and inclusive. Investigators can narrow the inclusion criteria after they have a better sense of the

78 data. Ultimately, the research team must clearly articulate the scope of their inquiry.[12] The

79 researchers should define terms, as these will be used to inform their search strategy. Minimally,

80 the target population, overarching concept, and outcomes of interest should be articulated to

81 clarify the focus of the review.[12] Researchers should consider the purpose and goals of the

82 review when articulating their research question, to ensure the study has meaningful and relevant

83 implications for educational policy, practice, or research. Prior to proceeding to the next step,

84 reviewers must conduct a pilot search and iteratively refine their question and inclusion criteria,

85 to ensure both the viability and feasibility of the review. Scoping reviews aim to 'map' the

86 literature and are unlikely to add value if the number of primary papers is too small. If the

87 number of primary papers is too large, the research team must consider their capacity (e.g.,

88 available time, budget, resources, and personnel) to successfully conduct the review. When

89 limiting the scope, researchers need to provide a rationale and justification for their decisions, as

90 well as acknowledge the potential limitations with regard to scope and applicability.[12] Those new

91 to the field should be wary of this phase of the study since it can prevent wasting time on a

92 question where a scoping review is simply not feasible (e.g., there is no literature to synthesize or

93 the literature is simply too vast and unwieldy).

94

95   The second step involves identifying relevant studies.[10] In this stage, reviewers must determine

96   their search strategy. The strategy should be exhaustive and rigorous. Engaging a medical

97   librarian to assist with the search can improve the quality of the search.[12] Once the search has

98   been created, pilot the search strategy and ensure that it captures the key articles in the field of

99   interest. The investigators should consider time span, and whether the search will include all

100   articles since database inception or only those within a certain time period. Any time limitations

101   should have a clear rationale (e.g., Twitter emerged in 2006). In addition to common medical

102   education research databases (e.g., PubMed, PsychINFO, CINAHL, ERIC, EMBASE),

103   investigators should consider hand searching reference lists of relevant articles and reviews, key

104   journals, conference abstracts, and online journals (e.g., MedEdPublish, MedEdPORTAL), as

105   well as engaging with experts to assess for potential missed articles. Investigators should

106   consider using a review reference manager (e.g., Covidence [Melbourne, Australia], DistillerSR

107   [Ontario, Canada], Rayyan [Doha, Qatar]) to facilitate tracking and storage of articles.

108

109   The third step is study selection.[10] Two investigators should independently screen all abstracts

110   and full texts, with disagreements resolved by discussion or involvement of a third person.

111   Authors less familiar with the rigor required of systematic reviews often negate this step and

112   charge through a structured review on their own. However, having at least two investigators

113   screening is critical to minimize bias and error. The screening investigators should meet at the

114   outset for calibration. Since coding behavior changes both between and within individuals over

115   time, screeners should plan to reconvene several times to ensure consistency. Study selection is

116   an iterative process that often involves post hoc modifications to the inclusion and exclusion

117   criteria. Investigators should engage in this process in a reflexive manner, which may require

118   repeating steps and components of the search as the reviewers gain familiarity with and

119   understanding of the literature. During this stage, investigators should track the number of

120   studies screened, assessed for eligibility, and included in the review, as well as the reasons for

121   exclusion at each stage. This should ideally be presented as a flow chart in the form of a

122   modified PRISMA diagram.[17] Measures of inter-rater reliability should be considered whenever

123   feasible, but the evolving nature of the inclusion criteria in scoping reviews can make

124   measurement of kappa statistics challenging beyond the initial title and abstract screening.

125

126   The fourth step involves charting the data.[10] During this step, investigators should utilize a

127   'narrative' or 'descriptive-analytic' model when approaching the data collection.[10] Typically, at

128   least two independent researchers will be needed for this stage. Early on, reviewers should meet

129   to determine whether their approach to data extraction is consistent with the research question

130   and purpose. Reviewers should use a data extraction form to facilitate extraction and sorting. The

131   data extraction will also likely be iterative and researchers should continually update the data

132   extraction form. When charting the data, researchers should focus on synthesizing and

133   interpreting the data to identify themes. Once data extraction is complete, the researchers will

134   need to present the data in a more narrative format to contextualize the findings within the study

135   design and setting, so it is important to keep this in mind when selecting the data for extraction.

136

137   The fifth step consists of collating, summarizing, and reporting the results.[10] Data will then need

138   to be charted and thematically organized. Charting of the data often consists of basic numerical

139   analyses, such as grouping by geographic region, population, and time period. This can help to

140   identify trends in research efforts and where there are significant gaps. Next, researchers should

141   organize the information through thematic analysis. Arksey and O'Malley recommend using the

142   data table as a starting point, combined with researcher discussion using the 'descriptive-

143   analytic' model to determine the final themes.[10] This often shares similarities with qualitative

144   content analytic techniques. Reviewers should utilize a clear and consistent reporting structure to

145   reduce biases and better allow others to replicate the findings. While Arksey and O'Malley

146   espouse that scoping reviews should not include quality analyses,[10] these can be important

147   components of mapping and contextualizing the current literature. In order to understand the data

148   and future directions for research, one must first understand the quality of said data; however,

149   this point remains controversial.[7,14] In fact, Pham et al. reported that only 22% of scoping

150   reviews reported a quality assessment.[18] When presenting the data, researchers should utilize

151   tables and figures to demonstrate the main data while the text should serve to supplement and

152   enhance, but not duplicate, the table. Researchers should also ensure that the final outcome or

153   end-product aligns with the purpose of the intended study. Finally, researchers must consider and

154   present the findings in light of the broader context of research, policy, and practice.

155

156 The final step is consultation. Arksey and O'Malley listed consultation as a highly-encouraged

157 but optional sixth step while Levac et al proposed that it should be a required component.[10,12]

158 We highly recommend this sixth step, as it often significantly enhances the quality of the work.

159 This step may provide additional information, including references and resources. This may also

160 provide valuable perspectives, meaning, and applicability to the study findings. Consultation is

161 typically performed immediately after stage five and should involve multiple stakeholders,

162 including experts in the field, as well as users and recipients of the interventions. Researchers

163 should describe how they will collect the data (e.g., interviews, focus groups, surveys) and how

164 the data will be analyzed, reported, and integrated into the overall study outcome. Investigators

165 may also want to utilize this stage to identify dissemination strategies and also to get a sense

166 from target audience members about the implications of the findings for the field at large. The

167 experts consulted can often provide thoughtful insights into the relevance and broader

168 implications the findings and help investigators better engage with scholarly conversation around

169 the topic.

170

171 **Markers of Rigor**

172

173 Various groups have worked to define the structure and content of methodologically sound

174 scoping reviews. Arksey and O'Malley initially defined a six-step approach in 2007.[10] In 2010,

175 Levac and colleagues expanded this to provide additional details and rigor.[12] In 2018, Tricco et

176 al. created the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension

177 for Scoping Reviews (PRISMA-ScR) to provide clear reporting guidelines.[17] In Table 3, we

178 provide a summary of the major frameworks for scoping reviews.

179

180 **Conclusion**

181 Scoping reviews can be a powerful tool to map the current literature for the purposes of

182 determining gaps and problems within a new field or area. Once completed, a scoping review

183 may provide new insights into existing gaps in the literature and lead to further research,

184 innovation, and scholarship. Those new to medical education may find scoping reviews to be a

185 useful methodology to apply when venturing into a new scholarly conversation within a

186 particular field of study.

187

188   **References**

[1] Regehr G. Trends in medical education research. Acad Med. 2004;79(10):939-47.

[2] Doja A, Horsley T, Sampson M. Productivity in medical education research: an examination of countries of origin. BMC Med Educ. 2014;14(1):243.

[3] Prideaux D, Bligh J. Research in medical education: asking the right questions. Med Educ. 2002;36(12):1114-5.

[4] National Library of Medicine National Center for Biotechnology Information. PubMed User Guide. 2020. [Cited December 29, 2020]; Available from: https://pubmed.ncbi.nlm.nih.gov/help/#:~:text=PubMed%20comprises%20over%2030%20million,science%20journals%2C%20and%20online%20books

[5] Kunder M. The Size of the World Wide Web (The Internet). 2020. [Cited December 29, 2020]; Available from: https://www.worldwidewebsize.com/#:~:text=Web%20(The%20Internet)-,The%20size%20of%20the%20World%20Wide%20Web%20(The%20Internet),%2C%2005%20December%2C%202020).

[6] Horsley T, Steinert Y, Leslie K, Oswald A, Friesen F, Ellaway RH. The use of BEME reviews in the medical education literature. Med Teach. 2020;42(10):1171-8.

[7] Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. Health Info Libr J. 2009;26(2):91-108.

[8] Thomas A, Lubarsky S, Durning SJ, Young ME. Knowledge syntheses in medical education: demystifying scoping reviews. Acad Med. 2017;92(2):161-6.

[9] Mays N, Robert E, Popay J. Synthesizing research evidence. In: Fulop N, Allen P, Clarke A, Black N, editors. Studying the organization and delivery of health services: Research methods. London: Routledge; 2001.

[10] Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res MEthod. 2005;8:19-32.

[11] McGaghie WC. Varieties of Integrative Scholarship: Why Rules of Evidence, Criteria, and Standards Matter. Acad Med. 2015;90(3):294-302.

[12] Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. Implement Sci. 2010;5(1):69.

[13] Davis K, Drey N, Gould D. What are scoping studies? A review of the nursing literature. Int J Nurs Stud. 2009;46(10):1386-400.

[14] Brien SE, Lorenzetti DL, Lewis S, Kennedy J, Ghali W. Overview of a formal scoping review on health system report cards. Implement Sci. 2010;5:2.

[15] Gordon M, Daniel M, Patricio M. What do we mean by 'systematic' in health education systematic reviews and why it matters! Med Teach. 2019;41(8):956-7.

[16] Tricco AC, Lillie E, Zarin W, O'Brien K, Colquhoun H, Kastner M, Levac D, Ng C, Sharpe JP, Wilson K, Kenny M. A scoping review on the conduct and reporting of scoping reviews. BMC Med Res Methodol. 2016;16(1):15.

[17] Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, Moher D, Peters MD, Horsley T, Weeks L, Hempel S. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. Ann Intern Med. 2018;169(7):467-73.

[18] Pham MT, Rajić A, Greig JD, Sargeant JM, Papadopoulos A, McEwen SA. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. Res Synth Methods. 2014;5(4):371-85.

[19] Chan TM, Syer-Sebok SS, Cheung W, Pusic M, Stehman C, Gottlieb M. Workplace-Based Assessment Data in Emergency Medicine: A Scoping Review of the Literature. AEM Educ Train. 2020 Oct 10. doi: 10.1002/aet2.10544

[20] Cook DA, Reed DA. Appraising the quality of medical education research methods: the Medical Education Research Study Quality Instrument and the Newcastle-Ottawa Scale-Education. Acad Med. 2015;90(8):1067-1076.

[21] Gordon M, Patricio M, Horne L, et al. Developments in medical education in response to the COVID-19 pandemic: A rapid BEME systematic review: BEME Guide No. 63. Med Teach. 2020;42(11):1202-1215.

Table 1. Illustrative Example of a Scoping Review

Steps	Workplace-based Assessment Data in Emergency Medicine: A Scoping Review of the Literature[19]
Step 1: Identify the research question	● Developed the bounds of the review in collaboration with the research team. ● Study Question: What are the primary considerations when collecting, aggregating, and reporting WBA data for the diagnosis and support of trainees?
Step 2: Identify the relevant studies	● Searched six databases without language or date restrictions. ● Searched using set terms and published the search strategy. ● Utilized an experienced medical librarian.
Step 3: Select the studies to be included in the review	● All study designs were considered for inclusion. ● Inclusion criteria: All studies highlighting procedures addressing the collection, aggregation, analysis, or report generation of WBAs for further downstream educational decision-making. ● Two reviewers screened all abstracts with discrepancies resolved by consensus. ● Full texts were screened for inclusion by three authors.
Step 4: Chart the data	● A data extraction tool was created by the research team, informed by prior research and refined through discussion. ● Outcomes from empirical studies were also classified using the Kirkpatrick framework. ● The tool was piloted and refined based on four studies.
Step 5: Collate, summarize, and report the results	● Quantitative data was extracted. ● Qualitative thematic analyses were performed using an inductive method. ● The list of themes was iteratively expanded during the

	extraction process and all prior analyses were updated accordingly. ● A summary of the main themes was selected and discussed with the team for feedback. ● Validity evidence was determined for each study. ● Figures and tables were assembled to best summarize the charted data.
Step 6: Consult with key stakeholders	● The themes and findings were reviewed with three education researchers with domain-relevant expertise. ● Expert consultations were performed via one-on-one video conferencing.

WBA, workplace-based assessment

Table 2. Common Pitfalls Encountered in Scoping Reviews

Based on prior literature on scoping reviews, we have identified some common problems encountered by authors performing a scoping review.

Pitfall 1: Omitting the expert or stakeholder consultation phase

Many guidance papers for scoping reviews suggest that consulting stakeholders or experts can be of high yield for the last step of a scoping review. The rationale for this step is to ensure that your mapping resonates with those most knowledgeable about and impacted by the subject domain. Arksey and O'Malley highlight that consulting experts in the domain (e.g., those who have published in this area) will help you to identify any missing literature within your analysis.**Error! Bookmark not defined.** Levac et al. suggest the usage of stakeholder consultation may provide similar help.**Error! Bookmark not defined.**

Pitfall 2: Failing to update your search

Depending on their size, scoping reviews can take a number of months to complete. Sometimes by the time you have completed your scoping review, new evidence has emerged in the field. It is best practice to quickly repeat your search at the end as you are mapping the literature for the time frame that has elapsed since your original search. Since you already have your inclusion/exclusion criteria and extraction forms streamlined by this stage, adding a few more papers to update analyses requires limited additional effort.

Pitfall 3: Poor visual representation of the final data

Pham et al. found that less than one-third of scoping reviews used graphics to represent their data.[18] Consider moving beyond just tabular representations of your findings. Visual aids may help better explain concepts and trends than overly lengthy tables.

Pitfall 4: Not considering all your end-users

While the primary intent of scoping reviews is often to map a field and identify gaps for scholars within a domain to advance research or innovation, medical education practitioners may also desire a concise summary of takeaways from the paper. If possible, consider suggesting policy or practice-oriented recommendations. Consider including a variety of end-

users in the consultation stage to facilitate this.

Pitfall 5: Lack of a quality assessment

Pham et al. found that only 22% of scoping reviews reported a quality assessment.[18] Although this is controversial, it is important for authors leading scoping reviews to consider whether the final list of papers may be filtered by some sort of quality assessment tool in order to provide readers with insights about the quality of the literature. While not all scoping reviews will have the same requirement for determining quality of the literature within the field, it can be helpful to map the state of the literature in an area to determine what types of studies are needed next within a field. However, as Thomas et al. point out, the heterogeneity of the types of scholarship that may occur in a health professions or medical education search may make it difficult to make firm assessments of quality for the various types of literature.[8] Tools like the Medical Education Research Study Quality Instrument (MERSQI), the Newcastle-Ottawa scale, or a new visual approach to risk of bias assessment from a recent BEME guide may be used to complete quality assessments of health professions education scholarship.[20,21]

Table 3. Summary of the Major Frameworks for Scoping Reviews

Steps	Arksey and O'Malley[10]	Levac et al.[12]	PRISMA-ScR[17]
Step 1: Identify the research question	• Consider which facets of the review question are particularly important. • Maintain a broader approach early on.	• Clearly articulate the research question. • Consider the concept, target population, and health outcomes of interest when determining the research question. • Consider the purpose and rationale/goal for the scoping study when developing the research question.	• Describe the rationale for the review in the context of what is already known. • Explain why a scoping review is the appropriate approach. • Provide an explicit statement of the questions and objectives being addressed.
Step 2: Identify the relevant studies	• Create a plan for the search, including databases, search terms, time span, and language. • Consider time, budget, and personnel.	• The research question and purpose should guide decisions regarding the scope of the study. • Assemble a team with sufficient content and methodological expertise. • Justify decisions and acknowledge limitations regarding the scope of the study.	• Specify the characteristics of the sources of evidence used as eligibility criteria and provide a rationale. • Describe all information sources (e.g., databases, dates, additional sources) and the date of the most recent search. • Present the full search strategy.
Step 3:	• Determine inclusion and	• This should be an iterative process.	• State the process for selecting

Select the studies to be included in the review	exclusion criteria. ● These may be iteratively derived or developed post-hoc as familiarity with the literature increases.	● The team should include at least two reviewers to independently screen and select articles with disagreements resolved by a third reviewer if needed. ● Hold regular team meetings at the beginning, midpoint, and final stages.	sources of evidence (i.e., screening and eligibility).
Step 4: Chart the data	● Create and utilize a data extraction tool. ● Use a 'narrative review' or 'descriptive-analytic' method.	● Collectively develop the data extraction form. ● Charting should be an iterative process and the form should be continuously updated. ● Two authors should independently extract data from the first 5-10 studies and ensure it is consistent with the research question and purpose. ● Process-oriented data may require extra planning for analysis. ● A qualitative content analysis approach is suggested.	● Describe the methods for charting the data and processes for confirming data from investigators. ● List and define all data variables. ● Describe the methods and rationale for a critical appraisal of the data sources (if performed).
Step 5:	● Present numerical analyses of	● It is recommended to split this stage	● Describe the methods for

Collate, summarize, and report the results	the data. ● Perform thematic analyses. ● Utilize a clear and consistent reporting structure.	into three distinct steps: analyzing the data, reporting results, and applying meaning to the results. ● Analysis: includes descriptive, numerical summary, and qualitative thematic analysis. ● Reporting: present the results and produce the outcome that aligns with the overall study purpose or research question. ● Applying meaning: consider the findings as they relate to the research question, as well as future research, practice, and policy.	handling and summarizing the data that were charted. ● Give the number of sources screened, assessed for eligibility, and included, as well as the reasons for exclusion at each stage. ● Present characteristics for the data and provide the citations. ● Present the critical appraisal (if performed). ● For each included source of data, summarize and present the relevant data that were charted and relate them to the review question and objectives. ● Summarize the main results, link to the review questions, and consider the relevance to key groups.
Step 6:	● Engage multiple stakeholders,	● Consultation should be an essential	● Not mentioned.

| Consult with key stakeholders | including experts and end-users.
● This step can provide valuable insights and additional references.
● This is optional but encouraged. | component.
● Establish a clear purpose for the consultation.
● Use preliminary findings to inform the consult.
● Develop a clear plan to select which stakeholders to consult and how the data will be collected, analyzed, reported, and integrated.
● Incorporate opportunities for knowledge dissemination. | |

PRISMA-ScR, Preferred Reporting Items for Systematic Review and Meta-Analysis - Scoping Review Extension