Moving from consultation to co-creation with knowledge users in scoping reviews: guidance from the JBI Scoping Review Methodology Group.

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1   **Moving from consultation to co-creation with knowledge users in scoping reviews: Guidance from**

2   **the JBI Scoping Review Methodology Group**

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40   **Conflict of Interest**

41   DP and ZM are salaried academic staff with JBI, The University of Adelaide. ACT, ZM, MDJP, CMG,

42   HK, LA, PM, DP, also developed and reported the current, updated JBI guidance for scoping reviews.

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50

51 **Abstract**

52 Knowledge user consultation is often limited or omitted in the conduct of scoping reviews. The lack of

53 inclusion of knowledge users within the conduct and reporting of scoping reviews could be due to a

54 lack of guidance or understanding about what consultation requires and its benefits. Knowledge user

55 engagement, including consultation approaches, in evidence synthesis has many associated benefits,

56 including improved relevance of the research and better dissemination and implementation of

57 research findings. Scoping reviews, however, have not been specifically focused on in terms of

58 research into knowledge user consultation and evidence syntheses. In this paper, we will present JBI's

59 guidance for knowledge user engagement in scoping reviews based on the expert opinion of the JBI

60 Scoping Review Methodology Group. We offer specific guidance on how this can occur. We also

61 provide information regarding how to report and evaluate knowledge user engagement within

62 scoping reviews. We believe that scoping review authors should embed knowledge user engagement

63 into all scoping reviews and strive towards a co-creation model.

64 **Introduction**

65 Scoping reviews are a popular form of evidence synthesis.[1] They seek to map evidence in diverse fields;

66 identify the types of evidence available, decipher potential knowledge gaps, and clarify key concepts

67 or definitions within the literature.[2] Scoping reviews allow for broad, hypothesis-generating research

68   questions, highlighting where there is a need for future research, methodological improvement, or

69   underpin future systematic reviews.[1,2] Therefore, scoping reviews play an important role in reducing

70   research waste, and the findings of scoping reviews can have implications for policy, practice and other

71   decision-making.

72   There is an imperative for evidence syntheses to include knowledge users in health-related issues.

73   Knowledge users are those invested in the production of research, and who may benefit or be

74   impacted by the research. This can include academics, patients, health care providers, policy makers,

75   research funders, other decision-makers, and trainees. Engagement with knowledge users is defined

76   as a *'bi-directional relationship between stakeholder and researcher that results in informed decision-*

77   *making about the prioritization, conduct and use of research."(pg 1698)*[3]

78   Most research exploring knowledge user engagement in evidence syntheses has primarily focused

79   on the conduct and reporting of systematic reviews.[4] Although both systematic and scoping reviews

80   share similarities in their conduct, there are key differences that warrant the need for specific

81   guidance on engaging knowledge users in scoping reviews. The reasons for conducting a scoping or

82   systematic review differs substantially. Systematic reviews are conducted to investigate the

83   feasibility, appropriateness, meaningfulness and effectiveness of a particular practice or

84   intervention.[5] The findings from systematic reviews are often used to guide decision-making.

85   Therefore, the need to include knowledge users who are a part of the community (patients), or work

86   in policy and government throughout the conduct and reporting of systematic reviews is imperative.

87   However, scoping reviews are conducted to identify the available evidence in a field, knowledge

88   gaps, and clarify concepts, characteristics and are potentially a precursor to systematic reviews. The

89   need for knowledge users may not seem obvious, as the findings of scoping reviews, even though

90   they are used for decision-making, are not used in the same way that systematic reviews do (i.e., to

91   specifically guide clinical and policy decision-making). However, the opportunity for engagement

92   with knowledge users may strengthen the reason why scoping reviews are being conducted, how

93   they are conducted and reported, and in the dissemination of their findings to those who would be

94   impacted by them.

95   There are many benefits from including knowledge users in the development, conduct and

96   reporting of evidence syntheses, such as less research waste through increasing research relevance,

97   increased transparency and rigor, and improved dissemination of the findings.[6] Challenges include

98   increased time to completion, the provision of support and guidance for knowledge users' in the

99   conduct and process of research, and the financial implications of these steps.[7] Nevertheless,

100   engagement is considered important in the evidence synthesis process, particularly moving from a

101   tokenistic consultation to a more in-depth co-creation (or co-production) model, where appropriate.

102   While Arksey and O'Malley's framework for scoping studies acknowledged that consultation could

103   be considered as an optional step, evidence addressing the inclusion of knowledge users in scoping

104   reviews has yet to be explored. A scoping review exploring the conduct and reporting of scoping

105   reviews found that 14% (n=84 documents) reported a process for including knowledge users in the

106   conduct of scoping reviews[8]. There is a need to discuss the benefits, disadvantages, and process of

107   knowledge user engagement within scoping reviews. Using current evidence and professional

108   experience of including knowledge users, this guidance paper will address how scoping reviewers

109   and knowledge users can co-create scoping reviews. This guidance paper provides a pragmatic how-

110   to guide to help encourage scoping reviewers to include knowledge users within the conduct and

111   reporting of scoping reviews. This guidance will discuss how scoping reviewers can promote

112   knowledge user engagement, discuss key principles of engagement, develop strategies in how to

113   engage with knowledge users and activities that researchers and knowledge users can undertake,

114   how to report, and evaluate engagement. This guidance paper will furthermore discuss ethical

115   considerations, remuneration, challenges, and key tips on how scoping reviewers can engage with

116   knowledge users in scoping reviews.

117   **Methods in the development of this guidance**

118 This guidance was initially developed by the JBI Scoping Review Methodology Group. JBI is a global

119 research organization that specializes in the development of methodological guidance. Both the JBI

120 Scoping Review Methodology Group and JBI Scientific Committee comprise of methodologists,

121 researchers, and clinicians who are evidence synthesis experts. The recommendations presented

122 within this guidance is based on the available evidence, and from the expert opinion of members from

123 the JBI Scoping Review Methodology group who have varying experiences of including knowledge

124 users in the conduct and reporting of scoping reviews. The guidance was then reviewed by the JBI

125 Scientific committee and further feedback was incorporated into the development of this guidance

126 paper. The recommendations made within this guidance article should be seen as suggestive practices

127 to encourage the inclusion of knowledge users within scoping reviews

128 **What is knowledge user engagement?**

129 The knowledge user does not need to be involved in all stages of the review process, but it is highly

130 encouraged. The Authors and Consumers Together Impacting on eVidencE (ACTIVE) framework

131 provides a practical structure for how knowledge users can be involved in systematic reviews and

132 describes five levels of involvement for knowledge users, which are: leading, controlling, influencing,

133 contributing and receiving[9]. These levels range from a knowledge user making key decisions about

134 the review (leading); developing or defining the inclusion criteria (controlling); to assisting with data

135 extraction or searching (influencing); helping to prioritize research priorities as a participant

136 (contributing); to listening to the results of the review (receiving).[9] There is no one approach or

137 absolute level of involvement of knowledge users in research that make it any more or less impactful

138 (pg 1).[9] However, optimally, review teams should be moving towards knowledge users 'leading'

139 research, which can be considered co-creation. Co-creation has been defined as '*the collaborative*

140 *generation of knowledge by academics working alongside knowledge users from other sectors'*.(pg

141 393),[10] whilst co-production is similar, but also emphasizes the discussion of power and working

142 together to develop the agenda, design and implement the research, and interpret, disseminate, and

143   implement the findings.[11] Both co-creation and co-production approaches are considered high levels

144   of engagement and can be aspired to in appropriate circumstances.

145   The JBI Scoping Review Methodology Group recommends that the inclusion and level of involvement

146   of knowledge users in a scoping review should be determined by the available resources a research

147   team has, such as funding, personnel support, and the individual research objectives and questions.

148   Due to the added benefits to the research team, knowledge users and to the review itself, it is

149   recommended, that where appropriate and feasible, knowledge users be included from the start of

150   the review process, i.e., from conceptualization to the development of the question, throughout the

151   conduct, reporting, and dissemination of the review.

152   **The principles of knowledge user engagement in health research**

153   There are established principles for knowledge user engagement that apply across health research,

154   including scoping reviews. These principles should be committed to by research teams prior to

155   engaging with knowledge users to enhance authentic partnership, and avoid tokenistic engagement,

156   whereby knowledge users are not given a say over decisions.[12] Tokenistic engagement can occur

157   when the relationship is only one way – so as an example, the researcher includes the knowledge

158   user to get a grant but then does not consult them after funding is obtained. This can occur when

159   there are power imbalances between the researchers and knowledge users.[12] Ultimately, tokenistic

160   engagement can lead to limited impact, where the voice of the knowledge user is not heard, nor

161   incorporated into the evidence that they could be impacted by. [12] Therefore, it is important to

162   promote, and commit to the following key principles: ongoing bi-directional partnerships where

163   consumers are valued throughout; co-learning and co-benefit for all parties; power and

164   responsibility equally shared with roles clear; and trust, transparency and honesty.[13,14] These

165   principles should inform the way in which engagement activities are planned, conducted, and

166   evaluated to work towards authentic partnership and avoid tokenistic engagement.

167   **Scoping review guidance and Knowledge User Engagement**

168   There are differing perspectives on the need to include knowledge users in scoping reviews. The

169   seminal work by Arksey and O'Malley [15] stated that consultation of knowledge users in the conduct

170   of scoping reviews was optional and did not specifically add it to their five-step guidance. However,

171   Arksey and O'Malley [15] acknowledged that the process of consultation did add value to their work.

172   Following on the work of Arksey and O'Malley, both JBI and Levac, Colquhoun et al offer

173   methodological guidance that suggest knowledge user consultation be included in the review process.

174   They both agree there is need for knowledge user engagement in the conduct of scoping reviews. In

175   the most recent JBI guidance (as seen in appendix 1), it is clear that this consultation should be

176   conducted throughout each stage of the scoping review, including in the topic prioritization, planning,

177   execution and dissemination, and not be limited to a single step or stage (Table 1).[16] However, none

178   of the guidance presents clear steps on how to conduct this 'consultation' and what the level of

179   involvement by knowledge users should be in scoping reviews.[2,17]

180   **When and at what stages should we incorporate knowledge users in scoping reviews?**

181   Scoping reviewers can be guided by the ACTIVE framework despite its focus on systematic reviews.[9]

182   However, as the conduct processes of systematic and scoping reviews are similar, bar the exclusion of

183   the assessment for risk of bias, the ACTIVE framework could offer guidance for scoping reviewers. The

184   ACTIVE framework provides 12 stages in which a knowledge user could be engaged in the review and

185   ranges from the first stage being the development of a question, to writing and publishing a protocol,

186   to selecting studies, to knowledge translation and impact. Table 2 has incorporated the suggestions

187   made in the ACTIVE framework and from the professional experience of the JBI Scoping Review

188   Methodology group, and suggests activities that scoping reviewers can utilize to engage knowledge

189   users throughout the entire process.

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192 INSERT- Table 1: Knowledge user engagement using JBI guidance for scoping reviews.

Review Stage	Review task according to JBI Guidance	Activities on how to include knowledge users in Scoping Reviews
BEFORE THE START OF THE SCOPING REVIEW PROCESS (STRATEGY DEVELOPMENT)	Planning for Knowledge user Engagement	Researchers should reflect on why they want to engage with knowledge users in their review.[1] This could include identifying which knowledge users you want to include, how you will find those knowledge users, what engagement methods you intend to use, etc.
	Development of relationships with knowledge users	Ideally, you would develop relationships with knowledge users prior to the conceptualisation and development of your scoping review. You can engage with knowledge users in various ways, such as reaching out to local hospitals or organisations with consumer advisory boards and patient advocacy groups, emailing community organisations/ charities that support these organisations. If this is your topic of expertise, consider volunteering for these organisations. Advertise or put out an open call for nominations to join research projects. During the development of this relationship you can work together to develop a knowledge user engagement policy for research which can detail issues such as remuneration,

		authorship, etc. Concannon[1] suggests writing an engagement plan which can detail the approach for the review (or program of research).
		There may be a time when the researcher also has a lived experience, and is a content expert. There is still a need to reach out to others within the community to ensure it is not just one voice representing throughout the review.
	Pre-planning and conceptualisation of the review	Ask knowledge users what they feel is needed in research. This could be through informal discussions, or, through research priority setting workshops and surveys where knowledge users prioritise what area needs further exploration.
		Alternatively, you may already have some idea of the potential review scope. You can form a consumer advisory board or steering committee with knowledge users to shape the review further.
PROTOCOL DEVELOPMENT	Defining and aligning the objective/s and question/s	The next three steps of the JBI methodological guidance form the development of your protocol. Consumers can be actively involved during this stage. This can include the following: • Helping to develop or approve the research questions- this will make sure that the work is relevant to the knowledge user.
	Developing and aligning the inclusion criteria	

	with the objective/s and question/s	• Knowledge users can help develop the search strategy by identifying colloquial key terms. • Knowledge users can review the protocol manuscript.
	Describing the planned approach to evidence searching, selection, data extraction, and presentation of the evidence.	
DURING THE SCOPING REVIEW PROCESS	Searching for the evidence	During this stage, knowledge users may advise in their role on the consumer advisory board or steering committee. Depending on their level of involvement, knowledge users can take an active role through helping to screen, select and extract articles. If knowledge users wish to take an active role in the scoping review process, researchers should be generous in their efforts to include and train in this area. Knowledge users can check over the results to see if they 'make sense.' This may be particularly pertinent if the scoping review is
	Selecting the evidence	
	Extracting the evidence	
	Analysis of the evidence	

| | Presentation of the results | developing a framework or theory, or if there was qualitative evidence that was then categorised.

Knowledge users can also offer suggestions on the presentation of the results to ensure that they are meaningful to the community they represent. |
|---|---|---|
| | Summarizing the evidence in relation to the purpose of the review, making conclusions and noting any implications of the findings | Knowledge users can play an active role in this section. They can help develop or review the implications of the findings to ensure that they are meaningful to the community. |
| AFTER THE SCOPING REVIEW | Dissemination of research findings | Knowledge users are able to participate in the development of evidence summaries, or science communication strategies for social media such as Facebook posts, Twitter messages, etc. They are then able to share the findings from the scoping review through the community.

Knowledge users alongside with researchers can advocate for findings to be shared in relevant community and political organisations to ensure that they are reaching decision-makers. |

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196   1. Concannon TW, Grant S, Welch V, Petkovic J, Selby J, Crowe S, et al. Practical Guidance for
197   Involving Stakeholders in Health Research. Journal of General Internal Medicine. 2019; 34(3):458-63.

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199

200   **Table 1: Knowledge user engagement using JBI guidance for scoping reviews.**

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202   **How to find/recruit knowledge users for scoping reviews**

203   Review teams should plan time in the development of the scoping review initial stages to include

204   recruitment strategies to identify and engage with specific knowledge users relevant to the review.

205   This step should not be underestimated in terms of time, cost, and effort but the benefits to the final

206   review and subsequent impact are worth it.

207   The type of knowledge users required will differ depending on your review objective and purpose. Co-

208   creation can only be achieved through meaningful engagement, which requires the development of

209   relationships with the targeted knowledge users and their community.[18] Relationships with knowledge

210   users and communities can take many years to form and strengthen. Ideally, these relationships are

211   developed prior to formal research being conducted to be involved in the conceptualization of the

212   project and involved in any subsequent grant applications. These relationships should be based on

213   mutual respect and engagement and requires that the researcher put aside pre-conceived ideas and

214   actively listens to the knowledge user/community.[18] Therefore, prior to formal engagement with

215   knowledge users in a research project, the development of a co-creation policy which highlights the

216   values, roles and other concerns will be useful to ensure a transparent approach in the inclusion of

217   knowledge users. This policy should be co-written with various knowledge users.   Specific

218   considerations should be dependent on the type of knowledge user that will be included, for example,

219   patient partners may require reimbursement, either monetary or through alternative compensation,

220   for their time and experience.[18]

221   To find/recruit patients to a scoping review project, relationships could be developed by initially

222   reaching out to local hospitals or organizations (with consumer advisory boards), or by emailing

223   community organizations/charities that support those patients. You could also advertise or put out an

224   open call for nomination to join the scoping review project through various channels (such as social

225   media) and other avenues.[19] Patient advocacy groups or organizations may also be willing to support

226   the scoping review project. During the recruitment stage, it is important to ensure knowledge users

227   understand the expectations and time commitment that their role requires and the support that will

228   be provided.

229   **Engaging, collaborating, and co-creating scoping reviews with knowledge users**

230   When possible, knowledge users can be engaged throughout the conceptualization, development,

231   conduct,[9] and reporting of the scoping review. Knowledge user engagement can occur through

232   various ways and times throughout the review processes. For example through the use of consumer

233   advisory panels, steering groups or project management groups, where knowledge users form the

234   overall management of the review and have equal input to researchers.[9,19] This approach in

235   engagement may also be complemented by other engagement for example, engaging a larger

236   number of people at particular stages, particularly early, to determine review scope or research

237   priorities. The role of these groups would be considered as providing high-level advice where they

238   may not necessarily undertake data screening or extraction. Knowledge users on the panel can

239   direct researchers in prioritization of research area, question development, ensuring the findings

240   are theoretically sound, and in the translation of those findings to the broader community with the

241   development of evidence summaries.[20] Decisions over how regular and how long each meeting is,

242 how many knowledge users should be included on the panel are made by the review team. Other

243 considerations in managing a panel include:

244 • if there are meeting adaptions that need to be made i.e. appropriate and accessible spaces

245   for knowledge users

246 • a clear agenda being sent out prior to the meeting (online and/or paper versions)

247 • using formal processes in meetings to ensure everyone gets a say and to mitigate power

248   imbalances.

249 • being flexible and asking knowledge users to advise on how they would find it easiest to

250   contribute (by email, phone call before or after meeting etc).

251 • ensuring it is a brave space so that everyone is able to share openly.

252 There should be a discussion between researchers and knowledge users about the potential outputs

253 from the research and their desire to be named authors. This discussion should occur prior to the

254 conduct of a review in the planning stage and if possible formalized into a policy. Where knowledge

255 users contribute substantially to the work they are entitled to authorship rights when they meet

256 International Committee of Medical Journal Editors (ICMJE) riteria.[21]

257 Scoping review teams can include and should assess the possibility of including knowledge users as

258 co-researchers on the review team, which could even include knowledge users and user engagement

259 in the screening, extraction or write up of the article.[9] For example, in a scoping review exploring

260 patient involvement in surgical wound care, the chair of the local hospital consumer advisory group

261 became a co-researcher and contributed expertise in the analysis of the scoping review.[22] Including

262 knowledge users who have no prior experience in research may be challenging in terms of time,

263 cost, and training, however, their unique insights at each stage of the review process is invaluable to

264 ensure it is relevant to the community it aims to serve.

Scoping review team expertise and guidance

Scoping review teams should include expertise in scoping review methodology and given the current lack of knowledge user engagement in scoping reviews, research teams should consider putting in place mechanisms to support knowledge user engagement, and to bring in or consult with experts in this field to inform these activities. Much of the guidance in similar fields (such as knowledge user engagement in guideline development) may be useful for author teams to refer to during their work.[23] Review teams need to have a commitment to increasing their capacity in knowledge user engagement. This includes being open to the experience and expertise of others who have involved knowledge users in their work and undertaking training and research in this area. This will help researchers to ensure they have the skill set (i.e. communication, networking and research) before embarking on these activities.[23]

Reporting Knowledge User Engagement in Scoping Reviews

Despite the consultation stage being advocated in the JBI [2] and Levac, Colquhoun [17] guidance for the conduct of scoping reviews, this has not been translated into the Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR)[24] which is a tool to assist in the reporting of scoping reviews, as it was an extension of the PRISMA Statement for systematic reviews and recognized in PRISMA-ScR that knowledge users should be engaged in all types of evidence synthesis.

If scoping reviews are co-created with knowledge users, this approach should be transparently reported. The process of how co-creation has occurred at conceptualization and development stage, and how these partnerships will continue to be managed should be discussed within the protocol, and in the methods section of the full manuscript (including any deviations from the protocol). Currently there are no formal reporting tools for the inclusion of knowledge users in evidence synthesis. However, the GRIPP2 reporting checklist, which offers both short and long checklists, to assist in the reporting of engagement within health and social care research could be useful in

290   providing guidance for reviewers on how to report this engagement.[25] The GRIPP 2 short form

291   checklist describes the following:

292   • The need to report the aim of engagement,

293   • Provide a clear description of the approach and process,

294   • If the use of engagement with knowledge users impacted on the interpretation of results,

295   • The extent to which engagement influenced the overall study, and;

296   • A reflection/critical perspective of how engagement went as a learning experience[25].

297   **Evaluating Knowledge user engagement**

298   There is a need to evaluate how knowledge users and researchers have engaged in any project,

299   including evidence synthesis. Consideration of simple or more complex evaluation of engagement is

300   important. Evaluations can offer reflection regarding the inclusion process of including knowledge

301   users, whether tokenistic engagement has been avoided, and to ensure review teams learn from the

302   experience.

303   There are various ways to evaluate knowledge user engagement. NIHR guidance has four options that

304   can be adopted, including:

305   1. *the impact log* to record the outcomes of public involvement.

306   2. *the cube framework* which can be used to evaluate the process and/or quality of public

307   engagement;

308   3. *the Public Involvement Impact Assessment Framework* (PiiAF) Guidance), which is a

309   comprehensive evaluation involved from the planning and designing of the project to measure

310   impact of participant engagement; and

311   4. *Realist evaluation* which identified the outcome, context and mechanisms in the project to be

312   able to understand the individual factors that would shape the impact of patient

313   engagement.[26]

314   Two further tools that could also be used to evaluate how successful knowledge user engagement

315   was, are the Patient Engagement in Research Scale (PEIRS), and the Patient Engagement Evaluation

316   tool (PEET).[27] These options vary from constant reflective evaluation from both the researchers and

317   knowledge users throughout (Realist Evaluation) to a scale conducted at the end of the research

318   process (PEIRS).[28] The approach decided upon should be up to the team including knowledge users,

319   however, the outcomes from any of these assessments should be used as a learning tool, one that

320   promotes personal and professional reflection for all members of the team and an opportunity for

321   future learning.

322   **Ethical considerations in including knowledge users in scoping reviews**

323   Theoretically, ethical approval should be sought for all *research* activities that involve human

324   participation. This participation can be through surveys, focus groups, or interviews. These are all

325   methods that can be used when including knowledge users in evidence synthesis. The need for ethics

326   will differ between countries, institutions, and even the type of knowledge user. For example, ethical

327   approval to include knowledge users who are participating based on their professional skills, such as

328   a librarian or methodologist, or another researcher commonly do not require ethics as they are

329   advising the research project from a professional capacity. Ethical approval may become particularly

330   pertinent when including knowledge users lived experiences. Ethics can help protect the knowledge

331   user and researcher to ensure that the risk of harm has been considered, discussed, and managed to

332   avoid undue risk to the participant. Generally, participation in evidence synthesis, and specifically in

333   scoping reviews, would be considered of negligible risk, and for the most part, there is no need to seek

334   ethical approval where the process of collecting information from knowledge users is not done for

335   formal research purposes (and is not going to be published). However, the need for ethics should be

336   considered prior to starting the review process.

337   **Recognising, acknowledging, and compensating knowledge users for their engagement in scoping**

338   **reviews**

339   Knowledge users may have intrinsic desires to be involved in contributing to new knowledge, hearing

340   what research is occurring, and being part of a group with professional peers. However, their time and

341   knowledge to support the development and conduct of a scoping review should be appropriately

342   recognised. Recognition could take the form of compensation, financial or otherwise. For example, in

343   the form of professional training in reviews, which would in turn benefit the knowledge user,[29] or

344   monetary amounts,[30] for the time and effort taken in contributing to the review. Knowledge users

345   should be offered acknowledgement and thanks in formal publications and outputs from the scoping

346   review project, and where agreed, may become authors.

347   **Exemplar projects**

348   A recent scoping review on fall prevention and detection technologies for adult hospital in-patients,

349   involved a mixed review team from evidence synthesis methodologists, an information specialist,

350   service users, a geriatrician, as well as a local health board Falls Lead, Patient Safety Manager and

351   Lead Moving and Handling Facilitator[31]. The contribution from all partners enabled the "so what?"

352   questions (what do the results tell us and what should we do now) from the results to be fully

353   explored and identified[31]. A similar approach was also taken in a recent scoping review on medical

354   education, where once the researchers had gathered preliminary findings, knowledge users were

355   asked to check whether the findings resonated with their experience. The authors then asked the

356   knowledge users to suggest topics for discussion and future research[32]. In a scoping review on the

357   characteristics of Indigenous primary health care service delivery models, the review was led by an

358   Aboriginal researcher, with the topic and priority conceived by a leadership group for a research

359   centre in Aboriginal Chronic Disease, Knowledge Translation and Exchange.[33] The review team

360   included methodologists and content experts, with the findings of the review discussed and

361   interpreted within the wider community.[33]

362   **Challenges in engaging knowledge users in scoping reviews**

363   The challenges to engaging knowledge users in scoping reviews are consistent with the challenges

364   that have been identified in evidence synthesis more generally.[34-37] Examples include lack of time,

365   lack of expertise in the content area, lack of research skills, geographic distance, and willingness to

366   participate.[34,36,37] These challenges are further exacerbated during times of urgent decision-making,

367   such as the COVID-19 pandemic, where it was difficult to identify patient partners and clinicians who

368   had the time to collaborate.

369   **Summary of the key considerations for research teams in engaging knowledge users**

370   The Strategy for Patient-Oriented Research (SPOR) Evidence Alliance has highlighted some further tips

371   and have been summarized below, with further considerations from the experience of this group[38].

372   • Review teams and organisations should develop a strategy for engaging knowledge users

373   through the development of a team/group policy that is applied across projects for the

374   engagement of knowledge users. For an example of this policy, the SPOR Evidence Alliance

375   has their 'Patient Partner Appreciation Policy and Procedure; policy and tracking form publicly

376   available,   which   was   co-created   with   patient   partners

377   (https://sporevidencealliance.ca/about/policies-procedures/)

378   • Ensure the research team has appropriate resources to conduct activities that promote

379   meaningful engagement with knowledge users i.e. staff, finances, access to training.[39]

380   Furthermore, ensure that knowledge users who wish to have active involvement in the

381   scoping review have access to the needed resources i.e. a computer with the adequate

382   software.

383 • Researchers should engage in training on how to engage and include knowledge users within

384 research projects, and communication strategies to ensure cohesive team environments.

385 Engagement with knowledge users should be meaningful (i.e. relationships built on respect),

386 transparent process so it is clear how knowledge users' input is used, and be an inclusive

387 process supporting knowledge users to take part (training, ongoing guidance, meeting

388 adaptations, if needed)

389 • Review teams should have a clear recruitment and screening strategy for knowledge users

390 including adequate time to conduct this prior to the scoping review starting

391 • Consider the potential barriers your knowledge users may be experiencing and strategize

392 solutions on how to manage these. For example, accessibility and challenges surrounding

393 digital literacy, transportation costs, accessibility of meeting notes (i.e. printing on hard copy

394 or in large print)

395 • Create a positive environment for engagement, by being genuine, curious, open to

396 experiences and ideas, and acknowledge contributions.

397 • Appropriate remuneration for knowledge users should occur (compensation of time, meeting

398 costs, travel or accommodation). Consider authorship for knowledge users who participated

399 in the review. Discussion of remuneration and authorship can be placed in a policy, and occur

400 as soon as possible. Always ask if knowledge users wish to be co-authors; do not assume that

401 they will always wish to be named.

402 • The inclusion of knowledge users should be transparently reported in the protocol and scoping

403 review. A separate section in the executive summary or results of the scoping review entitled

404 "Knowledge User Perspective" can help contextualize the results of the scoping review and

405 clearly highlight the knowledge user perspective.

406 • Evaluation of knowledge user engagement should occur and be used as future learning.

407 **Conclusion**

408   There needs to be a shift from consultation to co-creation in scoping reviews. Knowledge users

409   should be engaged from the conceptualization of the review; however, they can also be

410   incorporated throughout the review from the development of a question, to writing and publishing a

411   protocol, to selecting studies, ensuring the findings are relevant to the community, for knowledge

412   translation and impact. The relationship between knowledge users and researchers should be based

413   on mutual respect and open communication, and considerations of the knowledge users need to

414   remove any potential barriers to their engagement. This relationship should be evaluated for

415   learning opportunities and to strengthen partnerships between researchers and knowledge users.

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