

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	A scoping review protocol of potential social marketing applications for knowledge translation in healthcare
AUTHORS	Colquhoun, Heather; Ellen, Moriah; Brehaut, Jamie; Kline Weinreich, Nedra; Morvinski, Coby; Zarshenas, Sareh; Nguyen, Tram; Presseau, Justin; McCleary, Nicola; Proctor, Enola

VERSION 1 – REVIEW

REVIEWER	Fillol, Amandine University of Montreal, School of Public Health
REVIEW RETURNED	19-May-2022

GENERAL COMMENTS	<p>I fully embraced the approach because social marketing strategies can be a great help in developing knowledge transfer practices. I look forward to reading the scoping review article. However, I have a few points of clarification and also some comments on the analytical aspect.</p> <p>General Comments:</p> <ul style="list-style-type: none">- I enjoyed the introduction, but I think Arksey and O'Malley's framework for systematizing the steps of scoping review would be much more relevant to get the reader to start by asking the question and defining the concepts, and then considering the literature search- Thus, all of these steps would be in the method whereas here the research question and objectives are in the introduction. The research question and objectives, in this conception (with Arksey and O'Malley's framework), should flow from the work on the concept of social marketing.- I do not fully agree with the research question. To me you don't want to describe the differences between social marketing and knowledge transfer so much as you want to strengthen knowledge transfer with the new knowledge you will have about social marketing- In the objectives, you talk about "context/mechanism/effect". To my knowledge, this is a realism approach. You should elaborate on why you choose this method. Is this ultimately a realistic review? Clarify this point. Thus, you will have to justify the need to use this approach in relation to the research question and how the behavior comes in addition to these three areas. Can't behavior be / be part of a mechanism?- In this sense, it may be necessary to identify how you will manage disciplinary differences in the collection of data (behavioral/psychological approach? public health? KT?) What will be the basic disciplinary framework into which the other disciplines will be integrated?
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	<p>- Why restrict yourself to randomized studies? Why not include qualitative, realist studies that do not use quantitative studies?</p> <p>- It seems to me that by reinforcing the knowledge of the realist approach, it may be easier to develop the way in which the objectives will each respond in their own way to the main objective. Also, the different objectives and the extraction grid are presented in a very descriptive way but it could be useful to move from the descriptive to the analytical by proposing a conceptual basis following the realist approach.</p>
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REVIEWER	Khaliq, Mahmooda University of South Florida
REVIEW RETURNED	10-Oct-2022

GENERAL COMMENTS	<p>The primary purpose behind this protocol submission is to show the overlap between Social Marketing (SM) and Knowledge Translation. While the main research question seeks to address this, in reviewing the paper the main focus is on reviewing SM based intervention that employed a controlled intervention design and to summarize the process, and the outcomes. The goal being that this will in turn inform future KT based activities.</p> <p>In reviewing this protocol the authors share the overlap between SM and KT, however, there is not a visual representation of the processes/steps to show where the overlap takes place. Also, from a definition perspective. Whereas, KT is about the dissemination and scale of evidence-based interventions (EBIs), bridging the knowledge to practice divide; SM is about the design, implementation and evaluation of new, potentially innovative EBIs. SM is knowledge generation first and second, it is true that SM can be used to tailor EBIs for scale. The way the authors discuss SM in this paper, it speaks from the knowledge generation perspective and the dissemination and scale could be an outcome they discuss in the result/discussion section.</p> <p>As the authors will review SM literature from 1971 and onwards based on study design, I have some questions about how they will manage the various topics that will come up. Comparing and contrasting studies that work on different content areas and thus outcomes, may be difficult. If the aim is KT at the end, there needs to be some level of specificity (topic) to guide this work.</p> <p>A suggestion to improve the protocol is to include the search strategy within the document. What terminology/words/phrases will be used to describe the various elements of the research question. I don't see that represented in the methods and that is an important factor, especially as this research question tackles SM and KT, which are defined by various words and terminology.</p> <p>A final suggestion – within the SM criteria, I don't see a reference to whether research was used guide the development of the messages and intervention. While this could be an assumption, I think it is important to understand that some level of formative research was done to develop/design the intervention.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer #1: Thank you for the encouragement. We too are looking forward to examining this literature.

1. I enjoyed the introduction, but I think Arksey and O'Malley's framework for systematizing the steps of scoping review would be much more relevant to get the reader to start by asking the question and defining the concepts, and then considering the literature search. Thus, all of these steps would be in the method whereas here the research question and objectives are in the introduction. The research question and objectives, in this conception (with Arksey and O'Malley's framework), should flow from the work on the concept of social marketing.

Response: I have always used Arksey and O'Malley (plus the enhancements by Levac et al) in my scoping reviews but decided to use Joanna Briggs Institute guidance for this scoping review since it is the most current guidance. I agree that Arksey and O'Malley has a particular strength to its structure and will consider returning to A&O in subsequent scoping reviews. We do agree, however, that the placement of the question and objectives would be better in the methods and have moved this in the manuscript as you suggested.

2. I do not fully agree with the research question. To me you don't want to describe the differences between social marketing and knowledge transfer so much as you want to strengthen knowledge transfer with the new knowledge you will have about social marketing.

Response: Agreed. Our question required some editing. Our aim is to determine the unique (from KT) and potentially promising elements found in social marketing and suggest applications to KT science. We have revised the question to "What are elements of social marketing interventions that are unique to social marketing compared to KT and have potential to be effective in KT interventions?"

3. In the objectives, you talk about "context/mechanism/effect". To my knowledge, this is a realism approach. You should elaborate on why you choose this method. Is this ultimately a realistic review? Clarify this point. Thus, you will have to justify the need to use this approach in relation to the research question and how the behavior comes in addition to these three areas. Can't behavior be / be part of a mechanism?

Response: We are not conducting a realist review at this time and expect the literature we are synthesizing to be too heterogenous to be able to properly synthesize in a realist review. Perhaps our future work can consider this. The context/mechanism/outcome approach is based on Pawson's theory but is being used in our study as a framework to code important elements of the interventions. We see mechanism as an explanation for why the intervention would cause change in behaviour. We have added a sentence on page 5, just before the methods start, to clarify that this is not a realist review.

4. In this sense, it may be necessary to identify how you will manage disciplinary differences in the collection of data (behavioral/psychological approach? public health? KT?) What will be the basic disciplinary framework into which the other disciplines will be integrated?

Response: We agree that integrating a diverse literature is always a challenge, particularly in an area new to a research team. We do have a proposed list of topics in our section on extraction but know that this might be a starting point only and that an iterative approach to describing the various topics and approaches will be needed. We anticipate that our team members who work in the field of marketing will be helpful in this regard.

5. Why restrict yourself to randomized studies? Why not include qualitative, realist studies that do not use quantitative studies?

Response: We are limiting inclusion to controlled studies (both randomized and non-randomized). We want to find specific social marketing interventions that show promise to KT science and thus need a clear sense of the interventions and their effects. We expect that best set of studies to begin to determine this is controlled studies and studies that tested an intervention. I expect that our subsequent work will broaden included studies.

6. It seems to me that by reinforcing the knowledge of the realist approach, it may be easier to develop the way in which the objectives will each respond in their own way to the main objective. Also, the different objectives and the extraction grid are presented in a very descriptive way but it

could be useful to move from the descriptive to the analytical by proposing a conceptual basis following the realist approach

Response: We appreciate this comment. We do need a better analytic framework for determining the areas of overlap and uniqueness between social marketing and KT. We have added additional detail to support our analytic framework on p 8 (paragraph related to objective 3).

Reviewer #2:

1. In reviewing this protocol the authors share the overlap between SM and KT, however, there is not a visual representation of the processes/steps to show where the overlap takes place. Also, from a definition perspective. Whereas, KT is about the dissemination and scale of evidence-based interventions (EBIs), bridging the knowledge to practice divide; SM is about the design, implementation and evaluation of new, potentially innovative EBIs. SM is knowledge generation first and second, it is true that SM can be used to tailor EBIs for scale. The way the authors discuss SM in this paper, it speaks from the knowledge generation perspective and the dissemination and scale could be an outcome they discuss in the result/discussion section.

Response: Reviewer #1 also suggested a need for clarity in terms of the analytic frame. We agree. We have added additional detail to support our analytic framework on p 8 (paragraph related to objective 3). Re definitions, and EBIs and using SM for dissemination and scale. Your comment is interesting and we will consider this in our results and discussion. Both SM and KT share so many similarities (SM is also about bridging the knowledge-behaviour gap) and I suspect both have applications for knowledge generation as well as dissemination, scale (in particular for SM from what I can see) and EBIs.

2. As the authors will review SM literature from 1971 and onwards based on study design, I have some questions about how they will manage the various topics that will come up. Comparing and contrasting studies that work on different content areas and thus outcomes, may be difficult. If the aim is KT at the end, there needs to be some level of specificity (topic) to guide this work.

Response: Reviewer #1 had a similar comment and we agree this will be a challenge. We are anticipating a wider variety of topics, indeed we are hoping for a wide variety to be able to learn about the scope in SM and thus, the potential scope to apply to KT. At this point, our aim is to describe the various topics and we anticipate organizing the topics iteratively once extracted. Perhaps we can create frameworks for organizing this data that can be applied to subsequent reviews.

3. A suggestion to improve the protocol is to include the search strategy within the document. What terminology/words/phrases will be used to describe the various elements of the research question. I don't see that represented in the methods and that is an important factor, especially as this research question tackles SM and KT, which are defined by various words and terminology.

Response: We agree that adding some details of the search strategy within the body of the text would be useful and we have done this (bottom of p 7).

4. A final suggestion – within the SM criteria, I don't see a reference to whether research was used guide the development of the messages and intervention. While this could be an assumption, I think it is important to understand that some level of formative research was done to develop/design the intervention.

Response: We have learned that determining what constitutes social marketing is every bit as complex and contested in the SM field as KT is in the KT field! I anticipate gathering useful information about how to best operationalize the SM criteria based on our experiences I this review. There are aspects of these criteria that seem present but not directly stated which adds to the challenge. I think formative research best fits under the "citizen/consumer/civic society orientation focus" criterion, which requires data in order to know what specifically to focus on in the program. It could also be part of the "relationship building," especially if the audience is involved in providing input on the design and implementation of the program itself. I will definitely keep this in mind.

VERSION 2 – REVIEW

REVIEWER	Fillol, Amandine University of Montreal, School of Public Health
REVIEW RETURNED	24-Nov-2022

GENERAL COMMENTS	<p>The article is interesting as the first one. Some questions / concerns remain.</p> <p>INTRODUCTION At the beginning of the introduction (P3L1). I'm not sure knowledge translation is only about making relevant and timely research. If we consider other definition, it is more about all efforts done to make research available and useful (making relevant and timely research as one of the strategies of knowledge translation). It is what it's said in the second sentence. I would change the order of the two sentences and say the relevancy of research is one of the strategy.</p> <p>P3L18 : The reference doesn't refer to what is said. The BCT is more about behavioral change in intervention than learning process. In general, references for knowledge translation are not the most representative of the field and not updated.</p> <p>In the introduction, some conclusion are made by the authors about knowledge translation but specific issues of the field seem not to be understood. A rapid review of actual knowledge translation strategies and issues should be done.</p> <p>METHOD The primary question is interesting. but specific objectives are not linked to the primary question. There should be other questions, or specific objectives should be a way to respond the primary question. This is not the case. For exemple, "3) Propose some strategies for integration of novel social marketing interventions (i.e., concepts and techniques) into KT Science", this objective is essential but its not a specific objective to respond the primary question.</p> <p>Moreover, the 1,2 and 3 objectives are described with different methods. The 3rd objectives can be a step of the scoping review but not an other anlysis in the same protocole. Exemple in the litterature using the adapted framework of arksey and O'Malley must be read to frame the method if the 3rd objectiv is included in the scoping review protocol.</p> <p>Eligibility criteri / Population : population is about the eligibility criteria and not the way the authors get the knowledge. Either it's about social marketing for adults or social marketing for researchers. This can't change depending the objectives.</p> <p>Eligibility criteri / Concept : In my comprehension, the concepts are normally described to define the keywords used to elaborate search strategy. For exemple, knowledge translation, if it's one of the keyword, must be defined to have some other key word to include article which are not citing the word knowledge translation but which are dealing with the concept (knowledge exchange, sharing, etc.). The same for social marketing, maybe some article don't use this word but deals with this topic. The table used by the authors can be used in the second part of the exclusion/inclusion process.</p>
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	<p>Keywords for search strategy must be developed.</p> <p>Data extraction : I don't understand why CMO is used as a framework for data extraction. If it is chosen, why not doing a realist review ?</p>
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VERSION 2 – AUTHOR RESPONSE

1. At the beginning of the introduction (P3L1). I'm not sure knowledge translation is only about making relevant and timely research. If we consider other definition, it is more about all efforts done to make research available and useful (making relevant and timely research is one of the strategies of knowledge translation). I would change the order of the two sentences and say the relevancy of research is one of the strategy.

Response: We agree with your understanding of KT. What we meant was that KT is about the 'process by which relevant and timely research is integrated into practice', not making relevant and timely research itself. We have re-worded this sentence to make this more clear.

2. P3L18 : The reference doesn't refer to what is said. The BCT is more about behavioral change in intervention than learning process. In general, references for knowledge translation are not the most representative of the field and not updated.

Response: This reference is for the Behaviour Change Wheel and is being used to illustrate that the most commonly 'mined' fields in KT have been from behavioural psychology and the Behaviour Change Wheel is one of the most widely applied approaches to behaviour change interventions in KT. The learning process we were referring to was the process of learning that can be achieved from 'borrowing' from other fields. We have adjusted this sentence to be more clear. We have updated some referencing to include more recent articles.

3. In the introduction, some conclusion are made by the authors about knowledge translation but specific issues of the field seem not to be understood. A rapid review of actual knowledge translation strategies and issues should be done.

Response: We were not sure what was being asked here in terms of doing a rapid review of KT strategies and issues. The intent of our work here is to conduct a scoping review of interventions used in the field of social marketing, such that we can determine if there are helpful approaches in an adjacent field (social marketing) that we could apply to KT. Determining if social marketing can offer lessons to KT has been a suggested direction from thought leaders in the field - see Enola Proctor editorial referenced in our protocol. A rapid review of KT strategies is far too broad to consider given the scope of potential literature. Even limiting this to something like cancer care would still yield a very large body of evidence and we are not sure this is suitable as a rapid review nor specific enough to yield value. Many members of our team have conducted multiple reviews of KT interventions, KT intervention design methods, behaviour change technique mapping, use of KT theories, reviews of audit and feedback in KT, etc. We believe we have the needed expertise to conduct this review. It is true that much of our KT content in the introduction is broad and brief. This is mostly because it is a protocol and also because we thought that the more important field to describe was social marketing. We are not sure if perhaps the suggestion amounts to us doing two knowledge syntheses (a rapid review and a scoping review) or doing just a rapid review instead of our planned scoping review. We appreciate the suggestion but we are seeking to keep a clear protocol focused on this particular study, and if we or other teams might seek to do a rapid review on an adjacent topic, that would be exciting as part of a broader research program – but this protocol is designed to be transparent about the review we plan to do. The reviewer also is recommending that we do a realist review (see comment #7 further down). As we outlined in our first response to reviewer #1, this is not an unreasonable suggestion, but as with any research question, there are multiple methods that could be brought to bear to answer it. Our review is seeking to bridge two areas of research (one being completely new and outside of the core of the field of KT) and we feel that the first key step in achieving that aim is to conduct a scoping review to chart this literature for the first time. Understanding a new field seems squarely within the purview of a scoping review and the most defensible first step towards bringing this literature together to inform future approaches to synthesis.

4. The primary question is interesting, but specific objectives are not linked to the primary question.

There should be other questions, or specific objectives should be a way to respond the primary question. This is not the case. For example, "3) Propose some strategies for integration of novel social marketing interventions (i.e., concepts and techniques) into KT Science", this objective is essential but its not a specific objective to respond the primary question. The 1,2 and 3 objectives are described with different methods. The 3rd objectives can be a step of the scoping review but not an other analysis in the same protocol. Example in the literature using the adapted framework of Arksey and O'Malley must be read to frame the method if the 3rd objective is included in the scoping review protocol.

Response: Our ultimate question is related to whether there are elements of social marketing interventions that are unique to social marketing as compared to KT and could be effective if applied to KT. The objectives to meet this primary question are to first describe this literature in general. Next, we will describe the social marketing interventions according to key social marketing criteria and also according to the context, mechanism and outcome of the interventions. Lastly, we will use our research team expertise to propose 'best bet' interventions or intervention elements to apply to KT. We do see congruence between this question and the objectives. Perhaps this is more about having an analysis approach for obj 3 that is different from obj 1 and 2. From our experiences and published methods, scoping reviews can have objectives that take different analyses plans. We think the most important thing is that the analysis is 'fit' to the objective. In our case, we are using the expertise of our research team to examine the outputs from obj 1 and 2 in order to achieve obj 3. The Joanne Briggs Institute (JBI) methodological guidance is the most current guidance for a scoping review and the method of choice. The suggestion by the reviewer is that the Arksey and O'Malley methodology has a provision for addressing the issue of different analyses plans for different objectives but outside of the optional consultation exercise (which we are not doing in our work) there is no provision for this in Arksey and O'Malley.

5. Eligibility criteria/Population: population is about the eligibility criteria and not the way the authors get the knowledge. Either it's about social marketing for adults or social marketing for researchers. This can't change depending the objectives.

Response: In this case the population does change given the nature of the objectives. The studies included in the scoping review are social marketing intervention studies applied to adults. For the objective to determine which of these interventions might apply to KT, we are enlisting the expertise of our team. We described it this way for clarity but have now removed this sentence that is specific to the population for obj 3 to limit confusion.

6. Eligibility criteria / Concept: In my comprehension, the concepts are normally described to define the keywords used to elaborate search strategy. For example, knowledge translation, if it's one of the keyword, must be defined to have some other key word to include article which are not citing the word knowledge translation but which are dealing with the concept (knowledge exchange, sharing, etc). The same for social marketing, maybe some article don't use this word but deals with this topic. The table used by the authors can be used in the second part of the exclusion/inclusion process. Keywords for search strategy must be developed.

Response: Searching in the field of social marketing is very challenging. Thus, we have done the following: We have enlisted the support of 2 social marketing experts on our team, the strategy is largely based on existing social marketing reviews, we have used a highly experienced information specialist to design the strategy, and our search strategy was reviewed using the Peer Review of Electronic Search Strategies (PRESS) criteria.

7. Data extraction: I don't understand why CMO is used as a framework for data extraction. If it is chosen, why not doing a realist review?

Response: Context, Mechanism, Outcome (CMO) is a very useful framework to describe interventions outside of its use in realist reviews. We have chosen to use CMO as we believe we will need more than just the social marketing criteria to describe the interventions in sufficient detail. CMO will help us systematically describe the intervention details. We are not conducting a realist review at this time. As described under comment #3 above, our review is seeking to bridge two areas of research and we feel that the first key step in achieving that aim is to conduct a scoping review to chart this literature for the first time and that understanding a new field seems appropriately within the purview of a scoping review. We appreciate there could be alternative and future options but starting with a scoping review seems the most defensible first step towards bringing this literature together to inform

future approaches to synthesis.

VERSION 3 – REVIEW

REVIEWER	Fillol, Amandine University of Montreal, School of Public Health
REVIEW RETURNED	28-Feb-2023

GENERAL COMMENTS	<p>I agree with most of the authors' responses. There are still points of disagreement but I believe that the protocol can be published with minor revisions.</p> <ul style="list-style-type: none">- For the analytical part :- The analysis process has not yet been described. Do you conduct thematic analysis to categorize the data into the CMO framework ? If so, it would be useful to mention this.- I am not sure that I was well understood in the realist analysis comment. I do not recommend using the realist method. I mentioned that it is not rigorous to use a realist framework without mobilizing the realist paradigm, because the mechanism is a very specific concept. Do you differentiate between the mechanism and process for an example ? If not, it would be fine to use a context, process, and outcomes framework if you do not mobilize the realist paradigm. However, it is just advice and not a condition for revision.
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VERSION 3 – AUTHOR RESPONSE

Reviewer #1:

1. The analysis process has not yet been described. Do you conduct thematic analysis to categorize the data into the CMO framework? If so, it would be useful to mention this.

Response: As our goal is to examine studies to see if they contain elements not currently found in KT, we are planning to examine the studies individually and not synthesizing across the studies. Thus, we will not need to conduct a thematic analysis, but rather describe elements of context, mechanism and outcome for each study on its own. We have added a clarifying statement to this effect in the manuscript:

'A descriptive summary of the CMO variables will be developed for each study individually'.

2. I am not sure that I was well understood in the realist analysis comment. I do not recommend using the realist method. I mentioned that it is not rigorous to use a realist framework without mobilizing the realist paradigm, because the mechanism is a very specific concept. Do you differentiate between the mechanism and process for an example? If not, it would be fine to use a context, process, and outcomes framework if you do not mobilize the realist paradigm. However, it is just advice and not a condition for revision.

Response: Thank you for this. We have chosen to maintain the CMO framework in its original form (i.e., context, mechanism, outcome) as we believe it will best meet the needs of our review and is consistent with how we have used this framework in other work.