## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

## ARTICLE DETAILS

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| **TITLE (PROVISIONAL)** | Co-production of healthcare services with immigrant patients: protocol of a scoping review |
| **AUTHORS** | Radl-Karimi, Christina; Nicolaisen, Anne; Sodemann, Morten; Batalden, Paul; von Plessen, Christian |

## VERSION 1 – REVIEW

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| **REVIEWER** | Ricardo Batista<br>University of Ottawa, Canada |
| **REVIEW RETURNED** | 28-Sep-2017 |

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| **GENERAL COMMENTS** | This is an important topic and very relevant in the current context of migration movements worldwide. The authors properly present the rationale for conducting the review; however, there are some points that should be considered.<br><br>Introduction<br>1. The review will examine influencing factors in co-production of healthcare services. Healthcare services can have different approaches, they can be more medically-oriented, focusing on services at health facilities, or more community-oriented services, actions or activities. Thus, how healthcare services are defined for the purpose of this review? And how the findings of the review will be discussed considering the approach used?<br>2. What is the geographic scope of the review? Is it worldwide perspective or is it focused on Europe or on industrialized nations? Is not clearly stated. I see Australian experiences are included.<br><br>Methodology<br>1. Systematic reviews on co-production could be included among the references for the review, and they could include primary studies that would also be identified individually. If so, how the authors will deal with the of overlapping of references?<br><br>2. It is also stated that conference abstracts will be identified for the review. It is known that abstracts can be an important source of bias, thus how the authors will use this source of information? How will the authors obtain relevant insights for the review from the abstracts?<br><br>3. It would be helpful for the reader to have more information on how the authors will summarize and discuss the results? Based on the purpose and the conceptual framework used, which are the categories or key factors to be discussed? |

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| | 4. For example, given that there are two potential arenas of co-production (as the authors stated in the 'Stage 1'), how the results will be presented and discussed? The two arenas can reflect very different contexts and in different settings, so they could have quite different implications on healthcare and health outcomes. Also, how the findings would relate to the type of healthcare approach used, medically or socially-community oriented.<br><br>5. Please review the reference formatting. The Institution in Reference 20 seems to be missing. |

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| **REVIEWER** | Kerry McBrien<br>University of Calgary<br>Canada |
| **REVIEW RETURNED** | 02-Oct-2017 |

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| **GENERAL COMMENTS** | This manuscript presents a well-organized protocol for a scoping review to identify factors influencing coproduction of health and social services with immigrant patients. I have a few comments for the authors to consider.<br><br>1. The first is that I would appreciate a more clear definition of coproduction. Are the authors referring to just what happens in the encounter between patient and provider and how the patient voice is included, or is it a more formal involvement of patient in the design of health services, or both? I think this is going to be a tricky review to carry out unless the definition of coproduction is very explicit. There may also be a need to revise and refine the definition part way into the review.<br><br>2. Second, in the description of data synthesis, there is no reference back to the study questions. How will the authors answer these questions with their results summary? Further, what are the implications of these results (which are only vaguely alluded to in the 'Implications' section).<br><br>3. The authors may wish to consider having their search strategy peer-reviewed (PRESS is one option).<br><br>4. I would suggest changing "secondary data" to "published data" when discussing ethics. Secondary data often refers to data collected for non-research purposes (e.g., administrative health data) that are then used in research. In these cases ethics is almost always required.<br><br>5. I noticed a few typos and encountered some confusing phrasing which could be corrected with another round of editing. |

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| **REVIEWER** | Dr. Vivian R Ramsden<br>University of Saskatchewan, Canada |
| **REVIEW RETURNED** | 03-Oct-2017 |

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| **GENERAL COMMENTS** | This manuscript, “Coproduction of healthcare services with immigrant patients – protocol of a scoping review”, is of great interest within healthcare communities around the world. |

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| | In looking at the references, it was clear that community-based participatory research and/or participatory research were not terms utilized but many of the concepts found within those approaches/methods apply to the scoping review being proposed e.g. Jagosh J, Bush PL, Salsberg J, Macaulay AC, Greenhalgh T, Wong G, Cargo M, Green LW, Herbert CP, Pluye P. A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects. BMC Public Health. 2015 Jul 30;15:725. doi: 10.1186/s12889-015-1949-1; Jagosh J, Macaulay AC, Pluye P, Salsberg J, Bush PL, Henderson J, Sirett E, Wong G, Cargo M, Herbert CP, Seifer SD, Green LW, Greenhalgh T. Uncovering the benefits of participatory research: implications of a realist review for health research and practice. Milbank Q. 2012 Jun;90(2):311-46. doi: 10.1111/j.1468-0009.2012.00665.x.<br><br>The title talks about co-producing healthcare services with immigrant patients but the text within the manuscript talks about “on” rather than “with”. This needs to be congruent if the work is to be seen as being credible e.g. …. a model of coproduction of healthcare services for immigrant patients. Having been engaged in participatory research for several decades, each group of immigrant patients (e.g. South Asian, South American) will need to be engaged in coproducing healthcare services that are meaningful to them but there will be some principles that can be applied in the development of a model.<br><br>In the Introduction, I was unable to understand what was being referred to in this statement, “Immigrant patients do not only differ from the native population, but they also form themselves as a heterogeneous group.” What is meant by “native population”? This is a term within the Canadian context has evolved to Indigenous communities but seems out of place in this paragraph. Within the second paragraph in the Introduction, there is a judgement being made about individuals that may not have adequate health literacy. This in and of itself may or may not be true but it is important to keep an open mind; however, the authors go on to indicate that immigrants are challenging and complex. The authors go on in the section entitled Coproduction of healthcare service to indicate that “some patients with the greatest need for a service may tend to coproduce the least”. This has not been my experience but I had to spend time building a relationship with each individual which in turn built trust so that they were able to co-produce tools that were meaningful to them. Thus, I would encourage the authors to secure an English Editor so that the language and concepts can be clear but non-judgmental given the focus of the review.<br><br>The research questions are clearly stated; however, the authors indicate that a scoping review is particularly useful for systematically examining broad areas of evidence from disparate and heterogeneous sources and identify key concepts, theories, evidence, or research gaps. They go on to indicate that scoping reviews do not focus on the effectiveness of a specific intervention but are used to map key concepts of a certain research area and/or to clarify the conceptual boundaries of a topic. Thus, I am unsure whether the first question can be answered without the literature that would evolve from the terms community-based participatory research and/or participatory research.<br>I would encourage the authors to reflect and re-frame next steps because this scoping review has the potential to change practice not only in Denmark but in the rest of the world. |

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## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Introduction
1. The review will examine influencing factors in co-production of healthcare services. Healthcare services can have different approaches, they can be more medically-oriented, focusing on services at health facilities, or more community-oriented services, actions or activities. Thus, how healthcare services are defined for the purpose of this review? And how the findings of the review will be discussed considering the approach used?

RESPONSE: Healthcare services as we understand them in the context of this scoping review, are the medically oriented ones. This is now specified in the introduction and has also been defined in the section called “context” on page 10 in regards to which healthcare services we include in the search process. We have elaborated more on how the findings of the review will be presented and discussed on page 12.

2. What is the geographic scope of the review? Is it worldwide perspective or is it focused on Europe or on industrialized nations? Is not clearly stated. I see Australian experiences are included.

RESPONSE: The section “Stage 2: Identifying relevant studies” on page 7-8 has been re-structured. Changes/additions are highlighted with the track/trace function. The geographic scope of the review is now clearly defined. The scope and potential of the review is now also stated more explicitly under “Implications” on page 13.

Methodology
1. Systematic reviews on co-production could be included among the references for the review, and they could include primary studies that would also be identified individually. If so, how the authors will deal with the of overlapping of references?

RESPONSE: We appreciate the comment on the potential overlap of results being identified as individual studies and as part of a review. It has given us the opportunity to reflect on how to deal with the issue (if necessary). In case, we identify a reference as an individual article and as part of a review, we would not exclude either of them, since both articles might give valuable knowledge on either the method or outcomes of a co-production process. However, after the first round of title/abstract screening we have not found an overlap in our results yet.

2. It is also stated that conference abstracts will be identified for the review. It is known that abstracts can be an important source of bias, thus how the authors will use this source of information? How will the authors obtain relevant insights for the review from the abstracts?

RESPONSE: We acknowledge that conference abstracts can be a source of bias and have them excluded as information source for the review.

3. It would be helpful for the reader to have more information on how the authors will summarize and discuss the results? Based on the purpose and the conceptual framework used, which are the categories or key factors to be discussed?

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4. For example, given that there are two potential arenas of co-production (as the authors stated in the 'Stage 1'), how the results will be presented and discussed? The two arenas can reflect very different contexts and in different settings, so they could have quite different implications on healthcare and health outcomes. Also, how the findings would relate to the type of healthcare approach used, medically or socially-community oriented.

RESPONSE to 3. & 4. : This very constrictive feedback on the two co-production arenas resulted in an important reflection on how we understand co-production in our concept. We are aware of the differences between a healthcare and community setting in relation to context, aim, implications etc. Further, we assume that co-production in a community setting happens on more of a voluntary basis – compared to the medical healthcare setting, in which the patient unavoidably is a (positive or negative) co-producer of his/her own service. However, looking at the mechanisms of co-production with the ethnic minority group might still give valuable and useful input for our research.

5. Please review the reference formatting. The Institution in Reference 20 seems to be missing.

RESPONSE: The reference has been corrected.

Reviewer: 2

1. The first is that I would appreciate a more clear definition of coproduction. Are the authors referring to just what happens in the encounter between patient and provider and how the patient voice is included, or is it a more formal involvement of patient in the design of health services, or both? I think this is going to be a tricky review to carry out unless the definition of coproduction is very explicit. There may also be a need to revise and refine the definition part way into the review.

RESPONSE: We appreciate the call for a more clear definition on co-production. We have now further explained how we understand the concept co-production in the section “Co-production of healthcare service” on page 4-5 and what we will be aware of when looking for co-production in the literature in the section “Concept” on page 9.

2. Second, in the description of data synthesis, there is no reference back to the study questions. How will the authors answer these questions with their results summary? Further, what are the implications of these results (which are only vaguely alluded to in the 'Implications' section).

RESPONSE: We have now elaborated more on how results will be presented in the section “Stage 5: Collating, summarisng and reporting the results” on page 12.

3. The authors may wish to consider having their search strategy peer-reviewed (PRESS is one option).

RESPONSE: We did not know about the possibility to have ones search strategy peer-reviewed. Since we already are in the full-text reading phase, we do not see a possibility to do it for this review. However, now that we have learned about this option, we will take the idea further for future reviews.

4. I would suggest changing "secondary data" to "published data" when discussing ethics. Secondary data often refers to data collected for non-research purposes (eg, administrative health data) that are then used in research. In these cases ethics is almost always required.

RESPONSE: “Secondary data” has been changed to “published data”.

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5. I noticed a few typos and encountered some confusing phrasing which could be corrected with another round of editing.

RESPONSE: The manuscript has been proof read.

Reviewer: 3

1. In looking at the references, it was clear that community-based participatory research and/or participatory research were not terms utilized but many of the concepts found within those approaches/methods apply to the scoping review being proposed e.g. Jagosh J, Bush PL, Salsberg J, Macaulay AC, Greenhalgh T, Wong G, Cargo M, Green LW, Herbert CP, Pluye P. A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects. BMC Public Health. 2015 Jul 30;15:725. doi: 10.1186/s12889-015-1949-1; Jagosh J, Macaulay AC, Pluye P, Salsberg J, Bush PL, Henderson J, Sirett E, Wong G, Cargo M, Herbert CP, Seifer SD, Green LW, Greenhalgh T. Uncovering the benefits of participatory research: implications of a realist review for health research and practice. Milbank Q. 2012 Jun;90(2):311-46. doi: 10.1111/j.1468-0009.2012.00665.x.

RESPONSE: We are thankful for the comment on the relevance of community-based participatory research to co-production work. Co-production of healthcare service is a tricky concept to define and work on: If defined too broadly, the results become muddy and intangible, if defined too narrowly, one ends up with too little to work with. For the purpose of this research, we have used a very specific definition of how we look at the co-production of healthcare service. We have not included CBPR in the initial search strategy due to several reasons: 1) In healthcare service, the users´ participation in co-production may be of an involuntary nature, whereas the participation in research usually is based on a voluntary basis. 2) Including CBPR in the initial search would have resulted in accessing the literature of research production with citations only marginally related to our focus. 3) Participation in CBPR is sometimes limited to a “consultation” with the target group and does not always end with the target group getting a direct benefit of participating/co-producing.
We have used terms such as “community participation” in our search strategy and we seem to have captured a large amount of CBPR literature. If we evaluate, that the target group indeed co-produced the research and received value of this co-production, we will include these publications in our results.

2. The title talks about co-producing healthcare services with immigrant patients but the text within the manuscript talks about “on” rather than “with”. This needs to be congruent if the work is to be seen as being credible e.g. …. a model of coproduction of healthcare services for immigrant patients. Having been engaged in participatory research for several decades, each group of immigrant patients (eg, South Asian, South American) will need to be engaged in coproducing healthcare services that are meaningful to them but there will be some principles that can be applied in the development of a model.

RESPONSE: The phrasing throughout the manuscript has been aligned to focus on the co-production of healthcare services between ethnic minorities and service providers as collaborative co-producers.

3. In the Introduction, I was unable to understand what was being referred to in this statement, “Immigrant patients do not only differ from the native population, but they also form themselves as a heterogeneous group.” What is meant by “native population”? This is a term within the Canadian context has evolved to Indigenous communities but seems out of place in this paragraph. Within the second paragraph in the Introduction, there is a judgement being made about individuals that may not have adequate health literacy. This in and of itself may or may not be true but it is important to keep an open mind; however, the authors go on to indicate that immigrants are challenging and complex.

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The authors go on in the section entitled Coproduction of healthcare service to indicate that “some patients with the greatest need for a service may tend to coproduce the least”. This has not been my experience but I had to spend time building a relationship with each individual which in turn built trust so that they were able to co-produce tools that were meaningful to them. Thus, I would encourage the authors to secure an English Editor so that the language and concepts can be clear but non-judgmental given the focus of the review.

RESPONSE: The term “native population” has been changed to “main population” to create a clearer understanding of who is meant. The addressed statements throughout the introduction have been rephrased to avoid judgements.

4. The research questions are clearly stated; however, the authors indicate that a scoping review is particularly useful for systematically examining broad areas of evidence from disparate and heterogeneous sources and identify key concepts, theories, evidence, or research gaps. They go on to indicate that scoping reviews do not focus on the effectiveness of a specific intervention but are used to map key concepts of a certain research area and/or to clarify the conceptual boundaries of a topic. Thus, I am unsure whether the first question can be answered without the literature that would evolve from the terms community-based participatory research and/or participatory research.

RESPONSE: Our revised research questions go better in line with the aim of a scoping review. The CBPR issue has been addressed above under question 1.

**VERSION 2 – REVIEW**

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| **REVIEWER** | Ricardo Batista<br>University of Ottawa, Canada |
| **REVIEW RETURNED** | 19-Nov-2017 |

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| **GENERAL COMMENTS** | Thank you for responding to the comments. The authors have appropriately addressed most of the observations. However, there are new aspects that should be considered.<br>1. The switch to ethnic minorities as the target group of the review is a major change. It implies the inclusion of aboriginal or indigenous people and other groups, as the authors have defined (page 8). This might have implications on the results, as there would be important differences in the way co-production is created among the numerous ethnic groups. For instance, among immigrants versus non-immigrants. How the review will address those differences? Although the search strategy looks for these categories, the background and analysis/ discussion of results is still focused on migrant’s groups. Also, there is still a direct reference to immigrants in the purpose of the review (last sentence of the 3rd paragraph on page 5). Thus, if immigrants are no longer the focus of the review, it should be further clarified.<br>2. In their response, the authors specified that abstracts will be “excluded as information source for the review”. However, in the inclusion criteria (Table 1, page 11), ‘conference abstracts’ are still included.<br>3. In-text referencing formatting needs to be revised, a comma is missing between numbers. |

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| REVIEWER | Kerry McBrien<br>University of Calgary, Canada |
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| REVIEW RETURNED | 21-Nov-2017 |

| GENERAL COMMENTS | The authors have carefully addressed reviewer comments. I have just a few more comments at this stage.<br>1. The most important relates to the authors' change in focus in the introduction to "medical" healthcare services. It appears to be in response to Reviewer 1's comments. However, I am confused by this change as they continue to include social services and community service provision in their definition of services in the methods section. I am not certain the addition of 'medical' addresses Reviewer 1's comment and I find it confusing. Perhaps what was needed was more emphasis in the introduction on the fact that the review focuses on a comprehensive set of services that include healthcare (i.e., medical) services as well as community and social services.<br>2. I don't understand the meaning behind: "In contrast to the medical healthcare sector, co-production in the community sector is usually of a voluntary nature. However, we decided to include the community sector to investigate whether these findings can be applied within a healthcare context after all." Why is co-production in healthcare mandatory? And how are findings from the community sector being applied to the healthcare sector?<br>3. The use of "secondary data" still appears in the final paragraph |
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## VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

1. The switch to ethnic minorities as the target group of the review is a major change. It implies the inclusion of aboriginal or indigenous people and other groups, as the authors have defined (page 8). This might have implications on the results, as there would be important differences in the way co-production is created among the numerous ethnic groups. For instance, among immigrants versus non-immigrants. How the review will address those differences? Although the search strategy looks for these categories, the background and analysis/ discussion of results is still focused on migrant's groups. Also, there is still a direct reference to immigrants in the purpose of the review (last sentence of the 3rd paragraph on page 5). Thus, if immigrants are no longer the focus of the review, it should be further clarified.

RESPONSE: Thank you for this very important comment. It made us reflect further on the focus of our review. Immigrants (and not ethnic minorities) are still the focus of our research. Thus, we have again changed from 'ethnic minorities' to 'immigrants'. Nevertheless, we want to include 'ethnic minorities' to enrich our search with potentially important insights from research on ethnic minorities. This approach is in accordance with the intentions of scoping reviews that often aim for a wider scope.

2. In their response, the authors specified that abstracts will be "excluded as information source for the review". However, in the inclusion criteria (Table 1, page 11), 'conference abstracts' are still included.

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RESPONSE: ‘Conference abstracts’ has been deleted from table 1.

3. In-text referencing formatting needs to be revised, a comma is missing between numbers.

RESPONSE: Referencing in the manuscript follows the BMJ reference style, which does not have a comma between numbers.

Reviewer: 2

1. The most important relates to the authors' change in focus in the introduction to "medical" healthcare services. It appears to be in response to Reviewer 1's comments. However, I am confused by this change as they continue to include social services and community service provision in their definition of services in the methods section. I am not certain the addition of 'medical' addresses Reviewer 1's comment and I find it confusing. Perhaps what was needed was more emphasis in the introduction on the fact that the review focuses on a comprehensive set of services that include healthcare (i.e., medical) services as well as community and social services.

RESPONSE: We agree that adding ‘medical’ to healthcare service can be confusing. The focus of our research is on the co-production of healthcare service in the clinical setting. Nevertheless, we will include literature on co-production from social/community services; they might still be relevant because of the broader and longer experience with coproduction in this sector. We now only use the term ‘healthcare service’.

For Reviewer 1 – We hope the first sentence of the introduction (page 3) and the description of healthcare services (page 10) clarifies what we mean.

2. I don't understand the meaning behind: "In contrast to the medical healthcare sector, co-production in the community sector is usually of a voluntary nature. However, we decided to include the community sector to investigate whether these findings can be applied within a healthcare context after all." Why is co-production in healthcare mandatory? And how are findings from the community sector being applied to the healthcare sector?

RESPONSE: Involuntary co-production in healthcare means that patients have to co-produce, if they want better health. We have added a more detailed explanation in the respective paragraph on page 7 based on the reference by Osborne & Radnor, 2016.

3. The use of "secondary data" still appears in the final paragraph

RESPONSE: ‘Secondary data’ has been replaced with ‘published data’.

**VERSION 3 – REVIEW**

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| **REVIEWER** | Ricardo Batista<br>University of Ottawa |
| **REVIEW RETURNED** | 27-Dec-2017 |

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| **GENERAL COMMENTS** | Thank you for the responses. In my view, the authors have properly addressed the comments. |

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| | The healthcare services are better defined and clearly distinguished from community services. Community factors might certainly have important contributions in the co-production of healthcare services. However, the challenge for the authors would be to identify those potential values and to provide some insights on how they may influence the co-production of healthcare services (3rd research question). |

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| **REVIEWER** | Kerry McBrien<br>University of Calgary<br>Canada |
| **REVIEW RETURNED** | 03-Jan-2018 |

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| **GENERAL COMMENTS** | The authors have addressed my previous comments to my satisfaction. |

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