

## 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

<b>TITLE (PROVISIONAL)</b>	Community Engagement Approaches for Malaria Prevention, Control and Elimination: A Scoping Review Protocol
<b>AUTHORS</b>	Awasthi, Kiran Raj; Jancey, Jonine; Clements, Archie; Leavy, Justine

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Olufemi Ajumobi Nigeria Field Epidemiology and Laboratory Training Programme
<b>REVIEW RETURNED</b>	27-Mar-2021

<b>GENERAL COMMENTS</b>	<p>General comments</p> <p>Delivery of malaria intervention is well researched. There has been significant support by the United President's Malaria Initiative, the Global Fund for HIV/AIDS, Tuberculosis and Malaria, and others with the goal of attaining malaria elimination by 2030 in line with the WHO Global Technical Strategy for Malaria. Undoubtedly, community engagement is an important approach to ensure impactful and sustainable delivery of evidence-based intervention. In the context of malaria, this is not new.</p> <p>Moreover, the author needs to define what is meant by "community engagement"? Is this in the context of community based participatory research (CBPR)? If yes, this is an entirely different thing, which focused on population experiencing health disparities. Community engagement research is often operationalized through CBPR and thus the need for clarity of definitions. That said, community engagement in the context of the proposed scoping review needs to be defined for clarity (not assuming this is operationalized through what Adhikari, et al. 2016 has done earlier). In the abstract, "paucity of evidence on CEIs" seems inaccurate. Approaches such as engagement of community leadership, house to house visits, use of schools etc; for malaria interventions are not new. These are actually processes for implementation of intervention in communities (and this does not have to be in rural communities). The authors may wish to read papers published by IkeOluwapo Ajayi (community-case management of malaria, home-based care, home management of malaria), Paul Milligan (LSHTM) and Jean Ndiaye (Cheikh Anta Diop University, Senegal) for publications on seasonal malaria chemoprevention.</p> <p>I found inaccurate use of terminologies about malaria interventions (e.g., community engagement, community engagement interventions) and methodological concerns about conducting a scoping review. These are critical. This sentence "CE has been deployed as a prevention and treatment strategy in a variety of countries in a range of national programs, such as: mass drug administration for malaria prevention in Myanmar and Laos." Is inaccurate. I suggest authors familiarize themselves with this book authored by US CDC indicated below and clarify concepts and</p>
-------------------------	---

	<p>definitions.  Clinical and Translational Science Awards Consortium, Community Engagement Key Function Committee Task Force on the Principles of Community Engagement (2011). Principles of Community Engagement (2nd Ed.).  <a href="http://www.atsdr.cdc.gov/communityengagement/pdf/PCE_Report_508_FINAL.pdf">http://www.atsdr.cdc.gov/communityengagement/pdf/PCE_Report_508_FINAL.pdf</a></p> <p>The use of “community engagement” in the protocol the way it is used currently, might not add to the body of knowledge significantly. There is a need to refine the purpose of the study that will contribute significantly to the body of knowledge.</p> <p>Methodological concern  Other than Arksey and O'Malley's 2005 paper, the authors may want to pay closer attention to the listed articles that have advanced how to conduct scoping review and revise the methodology. For example, librarian does not inform the scoping review process but rather assist with developing a search strategy iteratively. Beyond identifying research gaps and answering broad questions, scoping review is conducted to identify, map, clarify and discuss certain concepts in published and unpublished literature among other reasons ('authors do not have to follow this strictly'). There is a need to refine the purpose of the study.</p> <p>Scoping review is beyond published sources. It includes review of relevant conference publications, hand-searching key journals ('authors do not have to follow this strictly' and could state as limitations), and most importantly contextualizing the information retrieved in line with research question, and purpose of the review pre-defined by outcome measures. This will entail communicating with network of experts (consultative meeting, which has been described as the 6th stage of Arksey and O'Malley's framework) and relevant organizations to increase depth and breadth of information retrieval.</p> <ol style="list-style-type: none"> <li>1. Peterson J, Pearce PF, Ferguson LA, Langford CA. Understanding scoping reviews: Definition, purpose, and process. J Am Assoc Nurse Pract. Jan 2017;29(1):12-16. doi:10.1002/2327-6924.12380</li> <li>3. Munn Z, Peters MDJ, Stern C, Tufanaru C, McArthur A, Aromataris E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. BMC Med Res Methodol. 11 2018;18(1):143. doi:10.1186/s12874-018-0611-x</li> <li>4. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. Implement Sci. Sep 2010;5:69. doi:10.1186/1748-5908-5-69</li> <li>5. Khalil H, Peters M, Godfrey CM, McInerney P, Soares CB, Parker D. An Evidence-Based Approach to Scoping Reviews. Worldviews Evid Based Nurs. Apr 2016;13(2):118-23. doi:10.1111/wvn.12144</li> <li>6. Peters MD. In no uncertain terms: the importance of a defined objective in scoping reviews. JBI Database System Rev Implement Rep. Feb 2016;14(2):1-4. doi:10.11124/jbisrir-2016-2838</li> <li>7. Moher D, Liberati A, Tetzlaff J, Altman DG, Group P. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med. Jul 2009;6(7):e1000097. doi:10.1371/journal.pmed.1000097</li> </ol> <p>Conclusively, the authors may wish to check malERA paper series which has identified research gaps and build on these.</p>
--	--

<b>REVIEWER</b>	Bipin Adhikari University of Oxford
<b>REVIEW RETURNED</b>	08-Jun-2021

<b>GENERAL COMMENTS</b>	<p>Awasthi and colleagues are undertaking an important review which will yield outcomes applicable for global malaria programmes. I have comments and suggestions below:</p> <p>Overall</p> <ul style="list-style-type: none"> <li>• There is not much description about the title itself. Example the lack of consensus on what is community engagement? This may lead to epistemic difficulties in documenting and reporting what constitutes CE and what does not. Please address this issue right in the beginning.</li> <li>• Why do you call community engagement interventions instead of community engagement alone? You might have rationales for it. Please do report them and justify the use of CEI. This may also due to the term itself as CE can refer to activities/interventions as well. But you can add more clarifications</li> <li>• What is the difference between malaria prevention, control and elimination? Please explain it in more prominence. Without clear delineation, it's hard for readers to understand the differences and similarities. And please add your preliminary findings on how CE varies for each of these components.</li> <li>• Can you revise strengths and limitations of the study? Having a librarian for your study is a strength? You have far more important findings to deliver inherent in your methods. And is conducting review on primary sources in English strength or limitation? Please specify clearly which are strengths and which are limitations.</li> </ul> <p>Introduction:</p> <ul style="list-style-type: none"> <li>• Add more background, specifically around how your review is going to add to the existing literature.</li> <li>• Line 37: CE can be effective.....Could you please add examples?</li> <li>• Can you specify which countries have adopted different CEI, better give examples of how CE has been contextualized and what benefit has it brought?</li> </ul> <p>Review Objectives:</p> <ul style="list-style-type: none"> <li>• Great that you categorically mentioned how your review is going to synthesize the evidence. But again, as mentioned earlier too, you would need to at least present some background in the introduction section to provide a context, what it means by those terms, what are the preliminary background around those objectives? You want to give a taste of what your review is going to cover for the readers.</li> </ul> <p>Expected results</p> <ul style="list-style-type: none"> <li>• Line 54: This scoping review is a component.....What do you mean by this? Can you define formative research here and shouldn't your review be informing CEI globally? You could of course use the findings of this review to design the intervention wherever you would like to. You would ideally do a formative research in the field, or in a country where you want to design the intervention. Review by its nature is a knowledge synthesis process, and you are drawing the knowledge from the global literature. Please check literature on what constitutes formative research, why it is needed, and how it fits in your review.</li> <li>• Check out the consecutive sentence as well. You are undermining the potential value of your findings. Your findings may be relevant for global studies?</li> <li>• Line 55: It is anticipated....If this is the case, you would have to have a specific study related to Nepal's malaria programs, policies, barriers and facilitator relevant to Nepal's local social and culture</li> </ul>
-------------------------	---

	context. • You could conduct a historical review, policy brief related to malaria programs of Nepal.
--	---

<b>REVIEWER</b>	Ruth Ashton Tulane University School of Public Health and Tropical Medicine
<b>REVIEW RETURNED</b>	10-Jun-2021

<b>GENERAL COMMENTS</b>	<p>This manuscript presents a protocol for a scoping review of community engagement initiatives related to malaria control and elimination. The topic is relevant and study objectives are generally well defined. The review approach follows relevant PRISMA standards.</p> <p>I have only a few minor suggestions / clarifications:</p> <ol style="list-style-type: none"> <li>1. I would recommend widening the language criteria if possible, particularly since you plan to include program and project reports as primary sources in the review. I expect some grey literatures describing CEI activities in francophone and lusophone countries will not be available in English. Limiting the review to sources in English will likely result in some relevant information being excluded.</li> <li>2. The dates of the study should be included in the protocol. I note that the start date (January 2000) is included, but no specific end date for compilation of source material is provided.</li> <li>3. The review objectives are separated to independently describe CEI for 1) malaria prevention, 2) malaria control, 3) malaria elimination, and 4) the barriers, facilitators, and outcomes of CEI. Will the scoping review findings be reported separately for these four objectives? If so, how will you approach situations where a source is relevant to more than one of these categories (e.g. if a CEI activity was related to both malaria prevention &amp; control)?</li> </ol>
-------------------------	--

### VERSION 1 – AUTHOR RESPONSE

#### Comment 1

Moreover, the author needs to define what is meant by “community engagement”? Is this in the context of community based participatory research (CBPR)? If yes, this is an entirely different thing, which focused on population experiencing health disparities. Community engagement research is often operationalized through CBPR and thus the need for clarity of definitions. That said, community engagement in the context of the proposed scoping review needs to be defined for clarity (not assuming this is operationalized through what Adhikari, et al. 2016 has done earlier). In the abstract, “paucity of evidence on CEIs” seems inaccurate. Approaches such as engagement of community leadership, house to house visits, use of schools etc; for malaria interventions are not new. These are actually processes for implementation of intervention in communities (and this does not have to be in rural communities). The authors may wish to read papers published by IkeOluwapo Ajayi (community-case management of malaria, home-based care, home management of malaria), Paul Milligan (LSHTM) and Jean Ndiaye (Cheikh Anta Diop University, Senegal) for publications on seasonal malaria chemoprevention.

#### Response 1

Thank-you for the additional references.

No, this is not for community based participatory research and is for CE in the context of working collaboratively with the groups for malaria prevention, control and elimination. The community engagement has been defined in the body, please refer to page 3 line 14.

- Community engagement (CE) is defined as “a process of working collaboratively with groups of people who are affiliated by geographic proximity, special interests, or similar situations, with respect to issues affecting their wellbeing” (p9).

The term intervention has been now changed to 'approaches' throughout the manuscript to remove any ambiguity and for better clarity.

The sentence "paucity of evidence" has been removed please refer to page 2 line 11.

- This review will examine different approaches for malaria prevention, control and elimination including the potential barriers, facilitators and their outcomes.

Additional information has been added in the body of the manuscript based on the suggestion, please refer to page 3, line 31 and 35

- Public health interventions can incorporate CE in different forms: providing information; consultation; joint decision-making; acting collaboratively; and supporting the community interests independently.
- Internationally a range of community engagement approaches have been used to best suit the context and the target community. For example in Malawi the community based health animators have been used by the national program to improve awareness and promote positive behavioural change in the community 16, whilst in Nigeria integrated community case management has been used to detect and treat malaria cases in remote areas using trained community health workers thereby also minimizing the travel time and the cost for the patients 17. Similarly, in Cameroon and Cambodia local volunteers and village malaria workers have been used to conduct proactive and reactive case detection in communities for preventing transmission<sup>11,18</sup>, whilst the Interactive Malaria Awareness Program (MAP) in South Africa have successfully used home-based care workers to form local level partnerships and also educate communities on malaria prevention and control<sup>19</sup>. All these different CE approaches have contributed to improved awareness, early detection of cases and improved access and wider community acceptance for malaria prevention and treatment in the afore mentioned countries.<sup>16-19</sup>

#### Comment 2

I found inaccurate use of terminologies about malaria interventions (e.g., community engagement, community engagement interventions) and methodological concerns about conducting a scoping review. These are critical. This sentence "CE has been deployed as a prevention and treatment strategy in a variety of countries in a range of national programs, such as: mass drug administration for malaria prevention in Myanmar and Laos." Is inaccurate. I suggest authors familiarize themselves with this book authored by US CDC indicated below and clarify concepts and definitions.

#### Response 2

Thank-you for the suggestion and the reference. The term interventions has been replaced with "approaches". Additional information added in the background for better clarity, please refer to page 3 line 31

Public health intervention activities can incorporate CE in different forms: providing information; consultation; joint decision-making; acting collaboratively; and supporting the community interests independently.

The sentence "CE has been deployed... Laos" has been rewritten to improve clarity. Please refer to page 3 line 18.

CE has been used to co-design public health interventions and approaches for prevention and control of malaria in a variety of countries in a range of national programs, such as: mass drug administration for malaria prevention in Myanmar and Laos;<sup>9,10</sup> increasing the use of LLINs and promoting early testing and treatment in Cambodia and Kenya;<sup>11</sup> and improving access for diagnosis and management of malaria in communities in Zambia.<sup>12</sup>

#### Comment 3

The use of “community engagement” in the protocol the way it is used currently, might not add to the body of knowledge significantly. There is a need to refine the purpose of the study that will contribute significantly to the body of knowledge.

#### Response 3

Thank-you for your suggestion. The purpose of the paper has now been refined please see page 2 line 11 and page 4 line 1.

This review will examine the existing evidence on the various CE approaches adopted by malaria programs and their outcomes.

#### Comment 4

Other than Arksey and O'Malley's 2005 paper, the authors may want to pay closer attention to the listed articles that have advanced how to conduct scoping review and revise the methodology. For example, librarian does not inform the scoping review process but rather assist with developing a search strategy iteratively. Beyond identifying research gaps and answering broad questions, scoping review is conducted to identify, map, clarify and discuss certain concepts in published and unpublished literature among other reasons ('authors do not have to follow this strictly'). There is a need to refine the purpose of the study.

#### Response 4

Thank-you for the comments.

The search methodology will follow the Joanna Briggs Institute Guide (Peters et al., 2017), which incorporates frameworks and recommendations from multiple authors. Please refer to Page 2 line 14 (abstract) and page 4 line 36.

- The review methodology will follow the updated Joanna Briggs Institute guide for scoping reviews, 2017, which is based on Arksey and O'Malley<sup>24</sup> and further developed by Levac Colquhoun and O'Brien<sup>25</sup>.

We agree a Librarian does not inform the scoping review process and the sentence has been rewritten. Please refer to page 2 line 37

- The University Health Science reference librarian will assist in developing a search strategy for the scoping review, is a strength.

The scope of the review has been explained in methodology section, Please refer to page 4 line 36.

- reviews in 2017,<sup>22</sup>, <sup>23</sup> which is based on the framework developed by Arksey and O'Malley<sup>24</sup> and further developed by Levac Colquhoun and O'Brien.<sup>25</sup> A scoping review is a valid process of synthesizing evidence on a given topic providing an excerpt of the volume of the literature or studies without seeking to analyse it.<sup>26</sup> Primarily an exploratory approach, scoping reviews can shed light on the types of evidence available, the way studies have been conducted and help identify and map the evidence that is available in the area of interest.<sup>26,27</sup>

The purpose of the study has been refined as explained in Response 3 Comment 5

Scoping review is beyond published sources. It includes review of relevant conference publications, hand-searching key journals ('authors do not have to follow this strictly' and could state as limitations), and most importantly contextualizing the information retrieved in line with research question, and purpose of the review pre-defined by outcome measures. This will entail communicating with network of experts (consultative meeting, which has been described as the 6th stage of Arksey and O'Malley's framework) and relevant organizations to increase depth and breadth of information retrieval.

#### Response 5

Thank-you for the suggestion and this has now been addressed as one of the limitations, please refer to page 2 line 38.

The review will include peer reviewed published primary sources in English, therefore publications in languages other than English and unpublished articles will not be excluded, a limitation of this study.

#### Reviewer 2

##### Comment 1

There is not much description about the title itself. Example the lack of consensus on what is community engagement? This may lead to epistemic difficulties in documenting and reporting what constitutes CE and what does not. Please address this issue right in the beginning.

##### Response 1

Thank-you for the suggestion, this has been added, please refer to page number page 3 line 29 and 35 respectively

- Health interventionists' use CE to harness communities in health promotion practice, research and policy related decision making to advance knowledge and support behavioural and environmental change to improve health outcomes.<sup>13</sup> Public health intervention can incorporate CE in different forms: providing information, consultation, joint decision-making, acting collaboratively and supporting the community interests independently. <sup>14</sup>
- Internationally a range of community engagement has been used to best suit the context and the target community. For example in Malawi the community based health animators have been used by the national malaria program to improve awareness and promote positive behavioural change in the community <sup>16</sup>, whilst in Nigeria integrated community case management has been used to detect and treat malaria cases in remote areas using trained community health workers thereby also minimizing the travel time and the cost for the patients <sup>17</sup>. Similarly, in Cameroon and Cambodia local volunteers and village malaria workers have been used to conduct proactive and reactive case detection in communities for preventing transmission<sup>11,18</sup>, whilst the Interactive Malaria Awareness Program (MAP) in South Africa have successfully used home-based care workers to form local level partnerships and also educate communities on malaria prevention and control<sup>19</sup>. All these different CE approaches have contributed to improved awareness, early detection of cases and improved access and wider community acceptance for malaria prevention and treatment in the afore mentioned countries.<sup>16-19</sup>

##### Comment 2

Why do you call community engagement interventions instead of community engagement alone? You might have rationales for it. Please do report them and justify the use of CEI. This may also due to the term itself as CE can refer to activities/interventions as well. But you can add more clarifications

##### Response 2

Thank you for this comment, we have reviewed the manuscript and will use the term CE "approaches" throughout the manuscript for greater clarity.

### Comment 3

What is the difference between malaria prevention, control and elimination? Please explain it in more prominence. Without clear delineation, it's hard for readers to understand the differences and similarities. And please add your preliminary findings on how CE varies for each of these components.

### Response 3

The difference between each of the three phases has been incorporated into the text for better understanding for the reader, please refer to page 3 line 9

Whilst some countries focus their strategies on malaria prevention by enabling and promoting use of LLINs/ IRS/ larvicides and chemoprophylaxis alongside malaria control programs that target a reduction of the disease burden to a level where it is no longer a public health concern; countries with fewer malaria cases aim for elimination that is to ensure sustained zero local transmission of malaria in the population within a set geographic boundary through a strengthened surveillance system. 1

### Comment 4

Can you revise strengths and limitations of the study? Having a librarian for your study is a strength? You have far more important findings to deliver inherent in your methods. And is conducting review on primary sources in English strength or limitation? Please specify clearly which are strengths and which are limitations.

### Response 4

Thank-you for the suggestion and the strengths and limitations have been refined accordingly. Please refer to page number 2, line 35 under the subheading "Strengths and limitations of the study"

- To our knowledge, this is the first scoping review to be undertaken on CE approaches for malaria prevention, control and elimination.
- The University Health Science reference librarian will assist in developing a search strategy for the scoping review, is a strength.
- The review will include peer reviewed published primary sources in English, therefore publications in languages other than English and unpublished articles will be excluded, a limitation of this study.
- As this will be a scoping review, the study will be limited to providing existing evidence on the topic with an aim to identify and conduct a narrative synthesis only of the various CE approaches.

### Comment 5

Add more background, specifically around how your review is going to add to the existing literature.

### Response 5

Additional background information has now been included, please refer to page 3 line 9, 29 and 35

Whilst some countries focus their strategies on malaria prevention by enabling and promoting use of LLINs/ IRS/ larvicides and chemoprophylaxis alongside control programs that target a reduction of the disease burden to a level where it is no longer a public health concern; countries with lower number of cases are have embarked on an elimination phase where the aim is to achieve sustained zero local transmission of malaria cases in the population within a set geographic boundary through a strengthened surveillance system.

- Health interventionists' use CE to harness communities in health promotion practice, research and policy related decision making to advance knowledge and support behavioural and environmental change to improve health outcomes.<sup>13</sup> Public health interventions can



incorporate CE in different forms: providing information; consultation; joint decision-making; acting collaboratively; and supporting the community interests independently. 14

- Internationally a range of community engagement approaches have been used to best suit the context and the target community. For example in Malawi the community based health animators have been used by the national malaria program to improve awareness and promote positive behavioural change in the community 16, whilst in Nigeria integrated community case management has been used to detect and treat malaria cases in remote areas using trained community health workers thereby also minimizing the travel time and the cost for the patients 17. Similarly, in Cameroon and Cambodia local volunteers and village malaria workers have been used to conduct proactive and reactive case detection in communities for preventing transmission<sup>11,18</sup>, whilst the Interactive Malaria Awareness Program (MAP) in South Africa have successfully used home-based care workers to form local level partnerships and also educate communities on malaria prevention and control<sup>19</sup>. All these different CE approaches have contributed to improved awareness, early detection of cases and improved access and wider community acceptance for malaria prevention and treatment in the afore mentioned countries.<sup>16-19</sup>

#### Comment 6

Line 37: CE can be effective.....Could you please add examples? Can you specify which countries have adopted different CEI, better give examples of how CE has been contextualized and what benefit has it brought?

#### Response 6

Additional information has been added on the benefits of using a CE approach in other countries, please refer to page 3 line 35

- Internationally a range of community engagement approaches have been used to best suit the context and the target community. For example in Malawi the community based health animators have been used by the national malaria program to improve awareness and promote positive behavioural change in the community 16, whilst in Nigeria integrated community case management has been used to detect and treat malaria cases in remote areas using trained community health workers thereby also minimizing the travel time and the cost for the patients 17. Similarly, in Cameroon and Cambodia local volunteers and village malaria workers have been used to conduct proactive and reactive case detection in communities for preventing transmission<sup>11,18</sup>, whilst the Interactive Malaria Awareness Program (MAP) in South Africa have successfully used home-based care workers to form local level partnerships and also educate communities on malaria prevention and control<sup>19</sup>. All these different CE approaches have contributed to improved awareness, early detection of cases and improved access and wider community acceptance for malaria prevention and treatment in the afore mentioned countries.<sup>16-19</sup>

#### Comment 7

Great that you categorically mentioned how your review is going to synthesize the evidence. But again, as mentioned earlier too, you would need to at least present some background in the introduction section to provide a context, what it means by those terms, what are the preliminary background around those objectives? You want to give a taste of what your review is going to cover for the readers.

#### Response 7

Thank-you for the suggestion, the background section has been revised and more information has been added for clarity. Please refer to page 3, line 9, 29, 35

#### Comment 8

Line 54: This scoping review is a component.....What do you mean by this? Can you define formative research here and shouldn't your review be informing CEI globally? You could of course use the findings of this review to design the intervention wherever you would like to. You would ideally do a formative research in the field, or in a country where you want to design the intervention. Review by its nature is a knowledge synthesis process, and you are drawing the knowledge from the global literature. Please check literature on what constitutes formative research, why it is needed, and how it fits in your review.

#### Response 8

This has been removed based on the recommendation.

#### Comment 9

Check out the consecutive sentence as well. You are undermining the potential value of your findings. Your findings may be relevant for global studies?

#### Response 9

We agree with the reviewers comment and this has been removed.

#### Comment 10

Line 55: It is anticipated....If this is the case, you would have to have a specific study related to Nepal's malaria programs, policies, barriers and facilitator relevant to Nepal's local social and culture context. Response 10

Thank-you for the suggestion, this line has been removed as advised.

#### Comment 11

You could conduct a historical review, policy brief related to malaria programs of Nepal.

#### Response 11

Thank-you for the suggestion and we will look into the possibility of doing this in the future but it is beyond the scope of this review.

#### Reviewer 3

##### Comment 1

I would recommend widening the language criteria if possible, particularly since you plan to include program and project reports as primary sources in the review. I expect some grey literatures describing CEI activities in francophone and lusophone countries will not be available in English. Limiting the review to sources in English will likely result in some relevant information being excluded.

##### Response 1

Thank-you for the suggestion and recommendation. During preliminary search of the literature, minimal papers were found in languages other than English which is why we have decided to only consider publications in English for our review. However, this has been addressed as a limitation. Please refer to page 1 line 38.

The review will include peer reviewed published primary sources in English, therefore publications in languages other than English and unpublished articles will be excluded, a limitation of this study

## Comment 2

The dates of the study should be included in the protocol. I note that the start date (January 2000) is included, but no specific end date for compilation of source material is provided.

## Response 2

Thank-you for the suggestion. The study period has now been clearly defined in the abstract (page 2, line 17) as well as page 4 line 16.

- Data Source: Proquest, Web of Knowledge, and Medline will be searched for publications from January 2000 to 31st March 2021 while Google search engine will be used to find any grey literature.
- The review will only consider interventions studies published from 2000 onwards till the end of March 2021, a period encompassing two important landmarks, the advent of the Millennium Development Goals (2000-2014) and the Sustainable Development Goals (2015-2030).21

## Comment 3

The review objectives are separated to independently describe CEI for 1) malaria prevention, 2) malaria control, 3) malaria elimination, and 4) the barriers, facilitators, and outcomes of CEI. Will the scoping review findings be reported separately for these four objectives? If so, how will you approach situations where a source is relevant to more than one of these categories (e.g. if a CEI activity was related to both malaria prevention & control)?

## Response 3

Thank-you for the comment. Data on prevention, control and elimination will be collected and reported. Possible overlap of the phases will be indicated using sign codes, wherever appropriate, during the data charting. The barriers, facilitators and outcomes will all be presented in the extraction table. Please refer to page 5 line 20.

- The data charting process will map the findings according to the attributes: author; date/year of publication; country/ site; aim/ objectives; study population; sample size; study design; phases; barriers; facilitators; outcomes.

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Bipin Adhikari University of Oxford
<b>REVIEW RETURNED</b>	30-Aug-2021

<b>GENERAL COMMENTS</b>	Awasthi and authors have well revised, I have only few comments below for them mostly to strengthen their presentation. Page 4, line 28-29: 'Internationally a range of community engagement.....' the statement needs improvement. It should add community engagement activities. Page 4, line 25 to 27: CE can be effective....Can you explain how CE can help in dealing with health inequalities among disadvantaged groups? The following publication can be helpful for your explanation: <a href="https://www.ncbi.nlm.nih.gov/books/NBK274412/">https://www.ncbi.nlm.nih.gov/books/NBK274412/</a> Page 4, line 29-34: It is not clear from your example how CE was best suited to the local context or target community. Please explore into those studies or I saw some of the studies from MDAs in GMS, such as Laos and Thai-Myanmar border, where contextualization of CE has been well explored.
-------------------------	--

<b>REVIEWER</b>	Ruth Ashton Tulane University School of Public Health and Tropical Medicine
<b>REVIEW RETURNED</b>	23-Aug-2021

<b>GENERAL COMMENTS</b>	My previous comments have been addressed.
-------------------------	---

## VERSION 2 – AUTHOR RESPONSE

### Reviewer 2

#### Comment 1

Page 4, line 28-29: 'Internationally a range of community engagement.....' the statement needs improvement. It should add community engagement activities.

#### Response 2

Thank-you for the suggestion.

This sentence has been revised please refer to Page 3 line 35

Internationally a range of CE approaches that best suit the context and the target community have been used.

#### Comment 1

Page 4, line 25 to 27: CE can be effective....Can you explain how CE can help in dealing with health inequalities among disadvantaged groups? The following publication can be helpful for your explanation: <https://www.ncbi.nlm.nih.gov/books/NBK274412/>

#### Response 2

Thank you for the suggested reading.

Information has been added, please refer to lines page 3, line 22-28 and line 35-47.

A variety of activities have been implemented for malaria prevention, control, and elimination based on CE. These include formation of community leadership groups comprising local decision-makers, elderly and youth; drama campaigns and health education programs conducted in local languages and delivered in schools and churches; house-to-house visits by community health volunteers to improve early detection and timely treatment in rural areas with high levels of migration; and participatory action malaria research led by the community.<sup>9-12</sup>

Internationally a range of CE approaches that best suit the context and the target community have been used to raise awareness of malaria prevention, and enable year-round access to free testing and treatment in rural hard-to-reach populations, whilst developing local level ownership. For example in Malawi the community based health animators (volunteers who conduct peer education in Malawi) have been used by the national malaria program as peer influencers to improve awareness and promote positive behaviour change in the community<sup>16</sup>. In Nigeria integrated community case management has been used to detect and treat malaria cases in remote areas using trained local community health workers, minimizing travel time and the cost for patients<sup>17</sup>. Similarly, in Cameroon and Cambodia local volunteers and village malaria workers have been used to conduct proactive and reactive case detection in communities to prevent transmission<sup>11,18</sup>, whilst the Interactive Malaria Awareness Program (MAP) in South Africa have successfully used home-based care workers to form local level partnerships and to also educate communities on malaria prevention and control<sup>19</sup>.

#### Comment 3

Page 4, line 29-34: It is not clear from your example how CE was best suited to the local context or target community. Please explore into those studies or I saw some of the studies from MDAs in GMS, such as Laos and Thai-Myanmar border, where contextualization of CE has been well explored.

#### Response 3

Thank you for your suggestion. The content has been refined as explained in Response 2.