

## 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>	Health Inequalities in Infectious Diseases: A Systematic Overview of Reviews
<b>AUTHORS</b>	Ayorinde, Abimbola; Ghosh, Iman; Ali, Ifra; Zahair, Iram; Olarewaju, Olajumoke; Singh, Megha; Meehan, Edward; Anjorin, Seun; Rotheram, Suzanne; Barr, Ben; McCarthy, Noel; Oyebode, Oyinlola

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Noriko Kitamura London School of Hygiene & Tropical Medicine
<b>REVIEW RETURNED</b>	04-Oct-2022

<b>GENERAL COMMENTS</b>	<p>This paper conducted systematic review and described the high risk groups for multiple infectious diseases. The research question, method and results were clearly described.</p> <p>I have several minor questions on this paper as below.</p> <p>1. method: page 6 line36 the authors said that 10% of the title and abstract were double screened for review, but in my understanding systematic review requires two reviewers to review title and abstract for selecting the articles which meet the inclusion criteria. Please clarify the guidelines which justifies only 10% can be screened by two reviewers.</p> <p>2.page9 line 59, Is helicobacter pylori a target disease for this review? I might have missed it but it was not included in the authors' interest. if included, please justify why H.pylori is included.</p> <p>3.page 11 lines 49-57, the authors described the association between age and some infectious diseases, such as HIV, STIs, HCV, HEV etc. Considering the natural history or cause of these diseases, it is obvious that age and these infectious diseases are associated. And the association between age and infectious disease were not determined by the social inequalities. I am afraid to include those results in this analysis, as this paper aims to identify the health inequality if my understanding is correct.</p> <p>page 14 line 48, it was mentioned that vaccinations are often offered at specific age. Before this sentence, it may be better to add that certain diseases are affected to the specific age groups, such as STI should be more common among sexually active ages, symptoms/complications of HCV infection should be manifested several decades after the first infection, therefore, the old age group are more likely to be affected.</p> <p>Similarly, on page 15 line 3, (current) marital status should not do anything on the childhood vaccination uptake, although it might be</p>
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	affected by the parent's marital status. These are not appropriate analysis (description) as the association between vaccination and marital status are not chronological. This part should be considered to be removed.
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<b>REVIEWER</b>	Dinah Jane Lope RMIT University, Mathematical Sciences
<b>REVIEW RETURNED</b>	16-Oct-2022

<b>GENERAL COMMENTS</b>	<p>The authors conducted a systematic overview of reviews to determine inequalities in infectious disease based on the 3 dimensions of inequality: inclusion health groups, protected characteristics and socioeconomic inequalities. The authors included clear supporting materials of the search strategy for data extraction, PRISMA flow diagram for study selection, evidence matrix and quality assessment of the individual reviews using AMSTAR2.</p> <p>Overall, it is relevant and very timely summary of inequalities in a range of infectious diseases across dimensions of interest. My recommendation is for a minor revision of the article. In the PRISMA 2020 checklist, Item #12 Effect measures is blank. Further, it was mentioned in the introduction that many infectious diseases are vaccine-preventable and most of the reviews were on vaccination based on Figure 2 - it would be helpful to include discussions on the availability or access to these health care resources if there's any mention in the reviews.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Dr. Noriko Kitamura, London School of Hygiene & Tropical Medicine

Comments to the Author:

This paper conducted systematic review and described the high risk groups for multiple infectious diseases. The research question, method and results were clearly described.

I have several minor questions on this paper as below.

Thank you for your comments. Please find our responses below.

1. method: page 6 line36 the authors said that 10% of the title and abstract were double screened for review, but in my understanding systematic review requires two reviewers to review title and abstract for selecting the articles which meet the inclusion criteria. Please clarify the guidelines which justifies only 10% can be screened by two reviewers.

This is a usual strategy adopted when there are time and resources constraints. However, as highlighted in the manuscript, screening of full text articles was performed by two reviewers. We have also mentioned the limitations introduced by single title and abstract screening in the discussion.

2. page9 line 59, Is helicobacter pylori a target disease for this review? I might have missed it but it was not included in the authors' interest. if included, please justify why H.pylori is included.

We wanted to provide an overview of evidence inequalities in infectious disease based on three dimensions of inequalities. We stated in the eligibility criteria "Despite specific interest in TB, HIV, STIs, HCV, immunisation, and AMR, we included reviews relating to any infectious diseases, except reviews focused on COVID-19." There are many others that were not the focus which we have also included. This allowed us to capture evidence of inequalities for various infectious diseases.

3. page 11 lines 49-57, the authors described the association between age and some infectious diseases, such as HIV, STIs, HCV, HEV etc. Considering the natural history or cause of these diseases, it is obvious that age and these infectious diseases are associated. And the association between age and infectious disease were not determined by the social inequalities. I am afraid to include those results in this analysis, as this paper aims to identify the health inequality if my understanding is correct.

page 14 line 48, it was mentioned that vaccinations are often offered at specific age. Before this sentence, it may be better to add that certain diseases are affected to the specific age groups, such as STI should be more common among sexually active ages, symptoms/complications of HCV infection should be manifested several decades after the first infection, therefore, the old age group are more likely to be affected.

Similarly, on page 15 line 3, (current) marital status should not do anything on the childhood vaccination uptake, although it might be affected by the parent's marital status. These are not appropriate analysis (description) as the association between vaccination and marital status are not chronological. This part should be considered to be removed.

We agree. We have also mentioned that other factors besides equity issues may contribute to the association with age. We have expanded on this by including a sentence ""For example, people in the most sexually active age groups are more likely to contract STIs whereas people of older ages, where immunity is weaker, are more likely to get infectious diseases associated with low immunity."

We did not imply that current marital status is associated with childhood vaccination uptake. We stated that "Reviews exploring marital status focused on vaccination and generally reported higher vaccination uptake among those who are married." We have rephrased this to make it clearer. The revision is as follows:

"Reviews exploring marital status focused on vaccination, particularly seasonal influenza vaccine in older adults, tetanus vaccination among pregnant women and MMR vaccination in children. Reviews generally reported higher vaccination uptake among adults who are married and children whose parents are married."

Reviewer: 2

Ms. Dinah Jane Lope, RMIT University

Comments to the Author:

The authors conducted a systematic overview of reviews to determine inequalities in infectious disease based on the 3 dimensions of inequality: inclusion health groups, protected characteristics and socioeconomic inequalities. The authors included clear supporting materials of the search strategy for data extraction, PRISMA flow diagram for study selection, evidence matrix and quality

assessment of the individual reviews using AMSTAR2.

Overall, it is relevant and very timely summary of inequalities in a range of infectious diseases across dimensions of interest. My recommendation is for a minor revision of the article.

Thank you for your comments. Please find our responses below.

In the PRISMA 2020 checklist, Item #12 Effect measures is blank.

The item has now been filled.

Further, it was mentioned in the introduction that many infectious diseases are vaccine-preventable and most of the reviews were on vaccination based on Figure 2 - it would be helpful to include discussions on the availability or access to these health care resources if there's any mention in the reviews.

We have included a sentence "It is important to note that there is inequality in access to vaccinations as shown in reviews included in this overview of reviews and beyond. Since many infectious diseases are vaccine preventable, identified inequalities in infectious diseases that we have noted in this overview of reviews, may also be related to inequalities in access to vaccination."

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Noriko Kitamura London School of Hygiene & Tropical Medicine
<b>REVIEW RETURNED</b>	23-Jan-2023

<b>GENERAL COMMENTS</b>	Thank you for addressing my comments in the previous review. I acknowledged that all my comments were incorporated in the manuscript now.
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<b>REVIEWER</b>	Dinah Jane Lope RMIT University, Mathematical Sciences
<b>REVIEW RETURNED</b>	06-Feb-2023

<b>GENERAL COMMENTS</b>	The authors have addressed my concerns in the revised manuscript.  I seemed to have overlooked in the first review, there's an odd data on Page 12, line 60. It says '(pooled OR 1.76, 95 % CI: 1.14–1.49) [78]', should this be '(pooled OR 1.76, 95 % CI: 1.15–2.71)'?  Once addressed, I recommend to accept the manuscript.
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#### VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Dr. Noriko Kitamura, London School of Hygiene & Tropical Medicine

Comments to the Author:

Thank you for addressing my comments in the previous review. I acknowledged that all my comments were incorporated in the manuscript now.

Thank you.

Reviewer: 2

Ms. Dinah Jane Lope, RMIT University

Comments to the Author:

The authors have addressed my concerns in the revised manuscript.

I seemed to have overlooked in the first review, there's an odd data on Page 12, line 60. It says '(pooled OR 1.76, 95 % CI: 1.14–1.49) [78]', should this be '(pooled OR 1.76, 95 % CI: 1.15–2.71)'?

Once addressed, I recommend to accept the manuscript.

Thank you for spotting this error. We have amended it.