Please summarize the main theme of the review.

This scoping review addresses a gap in the public health literature with respect to how causal loop diagrams are created and used for complex systems thinking in public health research. It also provides recommendations for building knowledge and skill in creating and using CLDs for future public health research.

Please highlight the limitations and strengths.

Limitations:
The articles included in the review were not comprehensive. However, they provide scope for a continual building of knowledge and skill in using CLDs in public health research.

Strengths:
This paper identified a quality sample of recent articles which use CLDs and have implications for public health research. Moreover, the literature review was conducted by three authors, which allows for a high degree of confidence in the results reported. Ultimately, the review also provides novel recommendations for the building of knowledge and capacity to both create and use CLDs for public health research.

Please provide your detailed review report to the authors, structured in major and minor comments.

Thank you for preparing this review on creating and using causal loop diagrams in complex systems thinking and public health research.

I was surprised to see that there were no reviews synthesizing how CLDs are created and used in public health research.

The review conducted is rigorous and the manuscript is not only well-written but also provides novel recommendations for the building of knowledge and capacity to both create and use CLDs for public health research.

Some minor comments:
- The authors may want to consider including a PRISMA flow diagram for the scoping review process to better illustrate how articles were included/excluded throughout the scoping review process (http://www.prisma-statement.org/Extensions/ScopingReviews)
- It is unclear whether the line spacing between lines 255 and 256 is necessary. Is the text between lines 256-259 a direct quote from ref. 44? If so, the authors may wish to consider putting this section in quotations.
- There appears to be an unnecessary space and indent between lines 362 and 363 (in the mixed methods section of the Discussion)
The conclusion and/or discussion sections could benefit from the inclusion of clearer links drawn to the wider international or global implications of applying CLDs in complex systems thinking in public health research.

**PLEASE COMMENT**

**Q4** Does the reference list cover the relevant literature adequately and in an unbiased manner?  
Yes

**Q5** Does this manuscript refer only to published data? (unpublished data is not allowed for Reviews)  
Yes.

**Q6** Does the manuscript cover the issue in an objective and analytical manner  
Yes.

**Q7** Was a review on the issue published in the past 12 months?  
No.

**Q8** Does the review have international or global implications?  
The review has international/global implications for complex systems thinking in public health research, but these could be made more apparent.

**Q9** Is the title appropriate, concise, attractive?  
Yes

**Q10** Are the keywords appropriate?  
Yes

**Q11** Is the English language of sufficient quality?  
Yes

**Q12** Is the quality of the figures and tables satisfactory?  
Yes.

**QUALITY ASSESSMENT**
| Q 13 | Quality of generalization and summary | ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ |
| Q 14 | Significance to the field | ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ |
| Q 15 | Interest to a general audience | ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ |
| Q 16 | Quality of the writing | ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ |

**REVISION LEVEL**

| Q 17 | Please take a decision based on your comments: |

Minor revisions.