

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Effectiveness of contact tracing apps for SARS-CoV-2: a rapid systematic review
AUTHORS	Jenniskens, Kevin; Bootsma, Martin; Damen, Johanna; Oerbekke, Michiel; Vernooij, Robin; Spijker, René; Moons, Karel; Kretzschmar, Mirjam; Hooft, Lotty

VERSION 1 – REVIEW

REVIEWER	Hideo Inaba Kanazawa University, Emergency Medical Science
REVIEW RETURNED	07-Mar-2021

GENERAL COMMENTS	<p>Thank you for giving me an opportunity to review this paper. As stated in Introduction, previous reviews on studies for effectiveness of CTAs lack a quantitative effectiveness measure of CTAs on clinically relevant outcomes. This review provide a considerable evidence on the effect on total number of infections and mortality.</p> <p>Major comments</p> <ol style="list-style-type: none">1.It is surprising to see a large number of studies on this topic. However, only 17 studies were reviewed by authors. Although the authors show their method for critical appraisal of empirical studies In Supplemental Fig 4 and the reasons for exclusion in Supplemental Fig.3, it is difficult to understand how these factors are incorporated in Flow chart (Supplemental Fig.2).2. Effectiveness of CTAs on outcomes in a community might be dependent on the proportion of citizens who use CTAs. Did you evaluate this important issues.3. In Japan, the government provide a CTA. Please provide a information on the source of CTAs.
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REVIEWER	Nethmi Kearns Medical Research Institute of New Zealand
REVIEW RETURNED	01-Apr-2021

GENERAL COMMENTS	<p>This rapid systematic review explores the effectiveness of contact tracing in COVID-19. This is a useful and well written systematic review that addresses a gap in the literature. Whilst the literature available does not lend itself to a meta-analysis, the authors have successfully provided an in-depth descriptive review.</p> <p>Minor comments:</p> <ul style="list-style-type: none">-A well defined list of outcomes for this systematic review would be useful-The page numbers in the PRISMA checklist did not correspond with the manuscript. The pages were one off, presumably due to the
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	insertion of the page containing 'strengths and limitations of this study'.
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Dr. Hideo Inaba, Kanazawa University

Comments to the Author:

Thank you for giving me an opportunity to review this paper.

As stated in Introduction, previous reviews on studies for effectiveness of CTAs lack a quantitative effectiveness measure of CTAs on clinically relevant outcomes. This review provide a considerable evidence on the effect on total number of infections and mortality.

Reply: We would like to thank Dr. Hideo Inaba for the kind words

Major comments

1. It is surprising to see a large number of studies on this topic. However, only 17 studies were reviewed by authors. Although the authors show their method for critical appraisal of empirical studies In Supplemental Fig.4 and the reasons for exclusion in Supplemental Fig.3, it is difficult to understand how these factors are incorporated in Flow chart (Supplemental Fig.2).

Reply: Alike the reviewer, we were also positively surprised by the total number of papers (81) that were assessed on full text. Indeed, once the full text of these papers was assessed, quite a few appeared to not satisfy our prespecified inclusion criteria. The reasons for exclusion of 64 of the 81 papers are reported in the flowchart provided (Supplemental file 2).

Also, the reason for exclusion per study is reported in Supplemental file 3 (these reasons correspond to the aggregated numbers mentioned in the flowchart). Finally, all 17 included studies were subjected to critical appraisal, the methodology of which is provided in Supplemental file 4 and 5.

Prompted by the comment of the reviewer, we have changed the wording in the bottom part of the flowchart from “analyzed” to “critical appraisal and data extraction” for clarification.

2. Effectiveness of CTAs on outcomes in a community might be dependent on the proportion of citizens who use CTAs. Did you evaluate this important issues.

Reply: We very much agree with the reviewer. The adoption rate of CTAs is indeed evaluated in all of the included model-based studies. This adoption rate refers to the proportion of citizens using the CTA.

Prompted by this comment, we now added a clarification of the term adoption rate the first time it is mentioned in the text: *The percentage of CTA adoption (i.e. the proportion of citizens using, and following recommendations provided by, the CTA) was varied...*

3. In Japan, the government provide a CTA. Please provide a information on the source of CTAs.

Reply: If existing CTAs were used, the names of those CTAs were added to table 1 under 'intervention' per study.

Reviewer: 2

Dr. Nethmi Kearns, Medical Research Institute of New Zealand

Comments to the Author:

This rapid systematic review explores the effectiveness of contact tracing in COVID-19. This is a useful and well written systematic review that addresses a gap in the literature. Whilst the literature available does not lend itself to a meta-analysis, the authors have successfully provided an in-depth descriptive review.

Reply: We would like to thank Dr. Nethmi Kearns for the kind words

Minor comments:

-A well defined list of outcomes for this systematic review would be useful

Reply: We agree with the reviewer and provide a list of outcomes that were assessed in the methods section, including reproduction number (R, total number of infections, hospitalization rate, mortality rate, and other epidemiologically and clinically relevant outcomes. We also better clarified these outcomes in the corresponding subheadings in the results. Finally, overall narrative conclusions are provided in the Discussion with regard to each of these outcomes.

-The page numbers in the PRISMA checklist did not correspond with the manuscript. The pages were one off, presumably due to the insertion of the page containing 'strengths and limitations of this study'.

Reply: We acknowledge this discrepancy and changed the page numbers.

VERSION 2 – REVIEW

REVIEWER	Nethmi Kearns Medical Research Institute of New Zealand
REVIEW RETURNED	28-Apr-2021

GENERAL COMMENTS	Thank you for the changes. I have no further comments to add.
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