McMaster University | HEALTH FORUM

COVID-END COVID-19 Evidence Network to support Decision-making ... in Canada

# COVID-19 existing resource response #2

(Last updated 4 February 2021)

## Question

- Can people who are vaccinated develop asymptomatic COVID-19 infection and transmit the virus to other individuals? If so, how large is the risk, in comparison to unvaccinated people?

### Sub-questions

- Should close contacts in the community who are fully immunized be required to quarantine in a similar fashion to those who are not fully immunized?
- Should health care workers who are not wearing adequate PPE and have a low and/or high-risk contact with a patient with COVID-19, but who are fully immunized, be required to quarantine and be off work in a similar fashion to those who are not fully immunized?

## Background to the question

The bulk of the messages to date have been about the vaccine protecting against infection of the vaccinated individual, whereas this question is about protecting against transmission.

Current practice is "immunization changes nothing" given equity concerns regarding who is able to receive vaccination at this time and concern around immunization leading to changes in PPE and distancing practices. This will likely change as vaccination and evidence both increase, so a living review would be particularly useful here. B.C., Ontario and Quebec are likely to have the most informative and developed guidelines.

**Box 1: Our approach**

COVID-END in Canada responds to requests for evidence syntheses about topics related to COVID-19 that are likely to be explicitly considered by high-level decision-makers in multiple Canadian jurisdictions. This includes conducting rapid evidence profiles, living evidence profiles, rapid syntheses and living evidence syntheses. Examples of these evidence products can be viewed here.

Sometimes requests are submitted about questions that have already been addressed by one or more recently updated, high-quality evidence syntheses or will be addressed soon by work underway (e.g., through a rapid synthesis underway with or being planned by a Canadian team, registered synthesis protocol or CIHR funding to conduct a synthesis). In these situations, we prepare a response that profiles these existing resources. These responses are typically prepared by a combination of: 1) searching both the COVID-END domestic inventory and the COVID-END global inventory; and 2) contacting 40+ Canada evidence-synthesis teams to identify any additional resources or work underway that is relevant to the question posed in a request. Such an existing resource response is equivalent to a rapid evidence profile prepared with the same turn-around time.

We followed this approach to prepare this existing resource response, which was prepared in two business days (and hence the equivalent to a two-day rapid evidence profile) to inform next steps in evidence synthesis, guideline development and/or decision-making related to the question that was posed.

## What we found

### Response for best evidence

Three of the top evidence synthesis teams in the world (Table 1) are addressing questions about vaccine safety and effectiveness through living evidence syntheses. One team (COVID-NMA) has already published the first edition of their review. None of the teams are aware of studies

examining transmission, but they did note that one study examines effects on asymptomatic infection, which may be a relevant surrogate measure. All teams will include additional measures that may be relevant to transmission if/when data become available.

COVID-END in Canada will report their findings (as they become available) in twice-a-month global inventory spotlights.

*Addenda*

- *After further discussion with the requester, we are planning to commission a living evidence synthesis of observational studies (e.g., to examine vaccine effectiveness in reducing transmission) to complement living evidence syntheses of trials being maintained by others.*
- *We have also become aware of a country-level vaccine tracking system being developed by Pan American Health Organizations, and key findings from this system can be incorporated into the living evidence profile, living evidence synthesis or both.*

**Response for jurisdictional scan**

COVID-END in Canada can capture experiences (especially in large provinces like B.C., Ontario and Quebec) as part of their twice-a-month updates to their living evidence profile about vaccine updates.

**Table 1: Top evidence synthesis teams in the world addressing questions about vaccine safety and effectiveness through living evidence syntheses**

| Groups leading a living evidence synthesis focused on drug treatments and vaccines (and key contacts) | Status of living evidence syntheses focussed on vaccines | Comments from the groups on the specific question posed |
|---|---|---|
| COVID-NMA<br>• COVID-END intermediary: David Tovey, senior advisor to both COVID-END and COVID-NMA (daviditovey@gmail.com)<br>• General contact: Isabelle Boutron (isabelle.boutron@aphp.fr) | • Their list of all identified trials and current evidence profile are available here | • They have not yet come across studies reporting the reduction of onward transmission<br>• They will report it once there are data to report |
| Copenhagen trial unit<br>• Living vaccines review: protocol<br>• Living vaccines review contact: Steven Kwasi Korang (steven.korang@ctu.dk)<br>• Senior scientific contact for the bigger team: Sophie Juul (sophie.juul@ctu.dk) | • Cannot yet give an exact ETA for the first edition of the living vaccines review, but we can check back in the2-9 February window | • They will assess the efficacy of the vaccines to prevent both symptomatic and asymptomatic infection (the latter of which can be considered a relevant surrogate measure for the question)<br>• The efficacy of the vaccines to prevent vaccinated individuals from transmitting the disease to others' is not one of their prespecified outcomes |

| | | |
|---|---|---|
| | | • However, if they come across relevant data they would consider it as an exploratory outcome/ post-hoc analysis |
| McMaster<br>• First edition and updates: BMJ (but note that these don't yet include vaccines)<br>• Senior staff contact: Jessica Bartoszko (bartosj@mcmaster.ca)<br>• Senior scientific contact for the bigger team: Romina Brignardello Petersen (rominabp@gmail.com) | • They are capturing and grouping randomized trials of vaccines for COVID-19 as part of their living systematic review, but they have not yet dived into that literature | • Because they have not dived into that literature yet, they do not have a systematic sense of the availability of this outcome<br>• They are wondering how this outcome would be reported; they are not aware of any randomized trials quantifying the herd effect of a COVID-19 vaccine<br>• However, one of the three phase 3 trials they've included so far (see here) does quantify the efficacy of the covid-19 vaccine to prevent asymptomatic infection, which could be a surrogate measure of the efficacy of the covid-19 vaccine to prevent further transmission |

Lavis JN. COVID-END in Canada existing resource response #2: Can people who are vaccinated develop asymptomatic COVID-19 infection and transmit the virus to other individuals? If so, how large is the risk, in comparison to unvaccinated people?. Hamilton: McMaster Health Forum, COVID-END in Canada, 4 February 2021.

The COVID-19 Evidence Network to support Decision-making (COVID-END) is supported by an investment from the Government of Canada through the Canadian Institutes of Health Research (CIHR). To help Canadian decision-makers as they respond to unprecedented challenges related to the COVID-19 pandemic, COVID-END in Canada is preparing rapid evidence responses like this one. The opinions, results, and conclusions are those of the evidence-synthesis team that prepared the rapid response, and are independent of the Government of Canada and CIHR. No endorsement by the Government of Canada or CIHR is intended or should be inferred.