COVID-19 existing resource response #2

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.

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**

<table>
<thead>
<tr>
<th>Groups leading a living evidence synthesis focused on drug treatments and vaccines (and key contacts)</th>
<th>Status of living evidence syntheses focussed on vaccines</th>
<th>Comments from the groups on the specific question posed</th>
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</table>
| **COVID-NMA**  
- COVID-END intermediary: David Tovey, senior advisor to both COVID-END and COVID-NMA (daviditovey@gmail.com)  
- 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  
• They will report it once there are data to report |
| **Copenhagen trial unit**  
- Living vaccines review protocol  
- Living vaccines review contact: Steven Kwasi Korang (steven.korang@ctu.dk)  
- 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 the 2-9 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)  
• The efficacy of the vaccines to prevent vaccinated individuals from transmitting the disease to others’ is not one of their prespecified outcomes |
<table>
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<tr>
<th>McMaster</th>
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<tbody>
<tr>
<td><strong>First edition and updates:</strong> BMJ (but note that these don’t yet include vaccines)</td>
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<tr>
<td><strong>Senior staff contact:</strong> Jessica Bartoszko (<a href="mailto:bartosi@mcmaster.ca">bartosi@mcmaster.ca</a>)</td>
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<tr>
<td><strong>Senior scientific contact for the bigger team:</strong> Romina Brignardello Petersen (<a href="mailto:rominabp@gmail.com">rominabp@gmail.com</a>)</td>
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| | • 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 |
| | • 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 |
| | • 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.

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