




Rapid Review: How have affected jurisdictions handled previously positive COVID-19 cases in the context of re-exposure/re-infection?



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Executive Summary

Background

Jurisdictions may develop approaches to managing cases of people who are considered recovered from COVID-19 infection, and subsequently test positive. Although the evidence related to immunity and the potential for re-infection is still emerging, jurisdictions may seek to establish policies and guidance to address this issue.

This rapid review was produced to support public health decision makers' response to the coronavirus disease 2019 (COVID-19) pandemic. This review seeks to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making.

This rapid review includes evidence available up to May 27, 2020.

In this rapid review, we provide the most recent research evidence to answer the question: **How have affected jurisdictions handled previously positive COVID-19 cases in the context of re-exposure/re-infection?**

Key Points

- Very few jurisdictions have described policy approaches related to previously positive cases who are considered recovered and subsequently test positive.
- Evidence from South Korea shows that 're-positive' cases resulted in no transmitted infections. They suggest that these cases do not reflect a 're-positive' status, but only that a previous negative result was in error. As policy, they do not treat 're-positive' cases as re-infections and consider these cases to be discharged from isolation.
- Other jurisdictions note that there is currently no evidence of re-infection and have not developed policy to address the management of potential re-infection in previously positive cases.
- The concept of an 'immunity passport', which could certify previous infection and current immunity, is being considered, but no jurisdictions have developed policy to move in this direction. Given that there is currently no evidence that people who have recovered from COVID-19 and have antibodies are protected from a second infection, the assumption behind an immunity passport is not supported.

Overview of Evidence and Knowledge Gaps

- There are very few policy examples in this area. This review should be updated as more evidence emerges related to the potential for re-infection and subsequent transmission, and as jurisdictions may begin to develop policy and guidance documents.

Methods

Research Question

How have affected jurisdictions handled previously positive COVID-19 cases in the context of re-exposure/re-infection?

Search

On May 2020, the following government and public health websites were searched:

- [World Health Organization](#)
- [European Centre for Disease Prevention and Control](#)
- [United Kingdom Government](#)
- [Centers for Disease Control and Prevention](#)
- [New York State Department of Health](#)
- [Texas Department of State Health Services](#)
- [Korean Centres for Disease Control and Prevention](#)
- [Seoul National University](#)
- [Federal Ministry of Health](#) (Germany)
- [The State Council: The People's Republic of China](#)
- [National Health Commission of the People's Republic of China](#)
- [Servizio Sanitario Nazionale](#) (Italy)
- [Ministry of Health](#) (New Zealand)
- [Public Health Agency of Sweden](#)
- [Health Protection Scotland](#)
- [Public Health Agency](#) (Northern Ireland)
- [The Australian Government](#)
- [Federal Office of Public Health](#) (Switzerland)
- [The Norwegian Institute of Public Health](#)
- [Ministry of Health](#) (Singapore)
- [National Institutes of Health](#) (United States)
- [Trip Medical Database](#)

A copy of the search strategy is available on request.

Selection Criteria

The search first included recent, high-quality syntheses. If no syntheses were found, single studies and grey literature were included. English-language, peer-reviewed sources and sources published ahead-of-print before peer review were included. Guidance documents, jurisdictional policies, and expert opinion were included as relevant to the question.

Data Extraction and Synthesis

Data on study design, setting, location, population characteristics, interventions or exposure and outcomes were extracted when reported. We synthesized the results narratively due to the variation in methodology and outcomes for the included studies.

Data on release date, country and the nature of the policy considerations were extracted when reported. We have provided a narrative description of the nature of the policy or guidance.

Quality assessment was not done on these sources, given the very limited policy-relevant evidence.

Findings

Quality of Evidence

This document includes two Scientific Briefings & Guidance Documents, two Expert opinion and one website for a total of five publications included in this evidence review addressing two distinct questions. The quality of the evidence included in this review is as follows:

		Total	Quality of Evidence
Scientific Briefings & Guidance Documents	Completed	2	N/A
Expert Opinion	Completed	2	N/A
Website	Completed	1	N/A

Warning

Given the need to make emerging COVID-19 evidence quickly available, many emerging studies have not been peer reviewed. As such, we advise caution when using and interpreting the evidence included in this rapid review. We have provided a summary of the quality of the evidence as low, moderate or high to support the process of decision making. Where possible, make decisions using the highest quality evidence available.

Table 1: Scientific Briefings and Guidance Documents

Title	Release Date	Country	Description of document
<p>Korean Centres for Disease Control and Prevention (2020, May 19). Findings from investigation and analysis of re-positive cases.</p>	<p>May 19, 2020</p>	<p>South Korea</p>	<p>The Korean Centres for Disease Control and Prevention (KCDC) had previously been managing cases that tested positive after discharge from isolation in the same way as they manage confirmed cases. In monitoring contacts of these “re-positive” cases, they found no new cases resulting from exposure. Beginning 19 May 2020, KCDC has stopped using protocols for the management of confirmed cases for these discharged cases, and no additional tests are required for cases that have been discharged from isolation. They now use the term “PCR re-detected after discharge from isolation” as opposed to the previous “re-positive”.</p>
<p>World Health Organization. (2020, April 24). “Immunity Passports” in the context of COVID-19.</p>	<p>Apr 24, 2020</p>	<p>International</p>	<p>The WHO notes that some jurisdictions are considering whether the detection of antibodies to the virus that causes COVID-19 could serve as the basis for an “immunity passport”, assuming that they are protected against re-infection. They conclude that there is currently no evidence that people who have recovered from COVID-19 and have antibodies are protected from a second infection. Therefore, the accuracy of an “immunity passport” could not be guaranteed, and could increase the risks of transmission.</p>

Table 2: Expert Opinion

Title	Release Date	Country	Description of document
<p>Phelan, A.L. (2020). COVID-19 Immunity Passports and Vaccination Certificates: Scientific, Equitable, and Legal Challenges. <i>Lancet</i>, 395(10237), 1595-1598.</p>	<p>May 23, 2020</p>	<p>United States</p>	<p>Several jurisdictions (Chile, Germany, Italy, the UK, and the USA are cited) have indicated an interest in “immunity passports” that certify an individual has been infected and is purportedly immune to SARS-CoV-2.</p> <p>Citing the WHO (April 24, 2020 cited above), the author notes that it is not yet established whether the presence of detectable antibodies to SARS-CoV-2 confers immunity to further infection in humans and, if so, what amount of antibody is needed for protection or how long any such immunity lasts. Thus, an “immunity passport” cannot be supported with current evidence.</p>
<p>ECRI institute. (2020, April 13). Prudent use of SARS-CoV-2 antibody testing: Avoiding false assumptions.</p>	<p>Apr 13, 2020</p>	<p>International</p>	<p>ECRI concludes that, currently, antibody test results should not be used as the basis for policy decisions, given a limited and emerging understanding of what antibody tests show and how the findings can be applied.</p>

Table 3: Websites

Title	Release Date	Country	Description of document
Centres for Disease Control and Prevention. (2020, May 24). Coronavirus Disease 2019 (COVID-19): Frequently Asked Questions.	May 24, 2020	United States	The CDC has not established policy with respect to re-positive cases, given the lack of evidence related to COVID-19 re-infection.

References

Centres for Disease Control and Prevention. (May 24, 2020). [Coronavirus Disease 2019 \(COVID-19\): Frequently Asked Questions.](#)

ECRI institute. (April 13, 2020). [Prudent use of SARS-CoV-2 antibody testing: Avoiding false assumptions.](#)

Korean Centres for Disease Control and Prevention (April 15, 2020). [Findings from investigation and analysis of re-positive cases.](#)

Phelan, A.L. (2020). [COVID-19 Immunity Passports and Vaccination Certificates: Scientific, Equitable, and Legal Challenges.](#) Lancet, 395(10237), 1595-1598.

World Health Organization. (April 24, 2020). ["Immunity Passports" in the context of COVID-19.](#)