

Rapid Diagnostic Testing for COVID-19 in a fully vaccinated population

Summary

There is minimal evidence that speaks directly to the issue of rapid diagnostic testing (RDT) in a fully vaccinated population. Three studies from the primary review suggest that RDT will continue to have a role amongst other public health tools when individuals are vaccinated and when the population reaches herd immunity. This is because of the potential for vaccines not being effective for variants of concern and that not all individuals will be willing or eligible (i.e., <12 years old) to receive a vaccine. Content experts and public members concurred, suggesting that specific applications including in workplaces, schools, health care facilities and places of travel are particularly relevant for RDT. Equity considerations should also be considered (i.e., rural/remote and First Nations contexts).

Implications

While there is limited direct evidence on RDT within a fully vaccinated context, it is likely that RDT should continue to be made available even when the Canadian population reaches herd immunity. An argument can be made for this position both from economic and equity perspectives.

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What is the current situation?

Vaccination rollout in Canada could fully vaccinate 75% or more of the population by Fall 2021. While this rollout proceeds, testing remains a key component of Canada's pandemic strategy to mitigate and contain COVID-19. However, it is increasingly important to consider emerging evidence on how testing policies should be modified for those who have been vaccinated and in the context of a population in which herd immunity has been reached.

What is the objective?

Other recent reviews have examined the effectiveness of various point-of-care and rapid diagnostic tests (RDT). The intention with the current review was not to duplicate these efforts but rather to look at RDT in the context of fully vaccinated populations. Specifically, we looked for evidence pertaining to effectiveness of RDT and international guidance on RDT in fully vaccinated populations. We also sought information on the social and economic considerations with RDT when there is high vaccine uptake.

How was the review conducted?

A systematic rapid review was conducted June 14-18, 2021 to retrieve studies published in 2020 and 2021. The search was designed by a library scientist and executed in Medline, Embase, the Cochrane Library, the Web of Science Core Collection, the L-OVE Platform, COVID-END, ClinicalTrials.gov (COVID-19), and the WHO Covid-19 database. A targeted grey literature search was also conducted and websites of health agencies in 18 countries were reviewed to determine existing international guidance. Based on timelines, literature sources were screened independently by four reviewers for inclusion. Data was extracted independently by one reviewer with quality assessments confirmed by another member.

What did the review find?

No relevant papers or reports were found in the grey literature. After screening of 1797 published papers, 3 sources describing potential SARS-CoV-2 tests which could be deployed in a vaccinated population were included for data extraction. Minimal international guidance on the topic at hand was identified through cross-country review.

Literature and guidance

Noting breakthrough cases and variants of concern, limited existing evidence suggests that RDT can be useful for individuals who have been vaccinated and in the context of herd immunity. Having RDT as a testing option provides policy makers with a further tool in their public health toolbox. We did not find guidance on this topic from other countries.

Content experts and public members

Experts in the field strongly expressed the need for continued deployment and use of RDT even when the population is fully vaccinated. A key equity argument for First Nations and other rural/remote contexts was put forward. Public members held that RDT would be an important tool to have access to in time-sensitive scenarios.