



Impact of rapid diagnostic testing on school closures

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Summary

TRDT may be a useful tool for limiting transmission of Covid-19 in schools and more limited interventions such as Test-to-Stay may be particularly worth further study with respect to impact on school closures.

School RDT as reported in the literature tends to take place on site, using trained staff members rather than health care professionals, which adds burden to those in schools and thus in practice pose practical challenges.

Access to RDT for at home testing may be a practical approach but this shifts burden to families; there have been no studies on the cost-effectiveness of this approach at home and there may also be equity implications.

Implications

RDT for COVID-19 may well be a useful tool to limit school closures but the precise contribution of RDT amongst other public health measures is not yet known. Studies reviewed were mostly positive about RDT in schools, as were public members. Rather than widespread administration, it is likely that a more nuanced approach focusing in places where there is high prevalence and/ or specific uses such as for field trips or with more vulnerable student groups will be most fruitful.

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What is the current situation?

Rapid diagnostic testing (RDT) for COVID-19 has a place in the public health toolkit. Previous work has shown that it is effective but what do we know about the use specifically in the realm of school closures? It is important to inform school districts and other key stakeholders of the latest evidence on RDT for limiting transmission in schools and thus in turn keeping schools open.

What is the objective?

Other recent reviews for COVID-END have examined the effectiveness of various point-of-care and rapid diagnostic tests as well as examined the social and economic impacts of RDT more generally. This review sought to examine the evidence on the use of RDT in school settings (K-12) as a tool to limit school closures.

How was the review conducted?

A systematic rapid review was conducted Nov 6-8, 2021 to retrieve studies published in 2020 and 2021. The search was designed by a library scientist and executed in Medline, EMBASE and Web of Science. A targeted grey literature search was also conducted with Google, McMaster Health Forum and the CADTH COVID-19 Evidence platform. Based on tight turnaround timelines, literature sources were screened independently by two reviewers for inclusion. Full text data was then extracted independently by one reviewer. Five public members were asked to complete a short questionnaire and two further public members provided feedback on the draft final report.

What did the review find?

After screening almost 1600 published papers, 3 modeling studies and 11 empirical papers were included for data extraction.

Literature and guidance

RDT is being used by some schools, across a number of jurisdictions, as an additional strategy within a multi-faceted suite of policy instruments to prevent Covid-19 transmission and limit loss of instructional days or school closures. While some studies claim that RDT produces positive results, it has not been evaluated independently of the other measures in place. Given the variability of school settings, and local Covid-19 contexts, it seems that tailored approaches to screening would be best, developed in conjunction with meaningful local stakeholder engagement.

Content experts and public members

Respondents suggested that school testing could limit lost instructional days but most felt that testing should be limited to particular circumstances, for instance in high outbreak areas, in schools or class with children who are medically or otherwise vulnerable, or in advance of field trips or other activities which might bring students in possible close contact with unknown others. Potential challenges were identified including ability of school staff to take on the added responsibility as well as whether widespread testing would generate anxiety amongst students.