Review 2: "High Rates of Rapid Antigen Test Positive After 5 days of Isolation for COVID-19"

Iain E. Buchan

University of Liverpool

Published on: Jun 08, 2022

URL: https://rapidreviewscovid19.mitpress.mit.edu/pub/54f6sh3u

License: Creative Commons Attribution 4.0 International License (CC-BY 4.0)
RR:C19 Evidence Scale rating by reviewer:

- **Strong.** The main study claims are very well-justified by the data and analytic methods used. There is little room for doubt that the study produced has very similar results and conclusions as compared with the hypothetical ideal study. The study’s main claims should be considered conclusive and actionable without reservation.

Review:

This is an important and well reported, timely study, even if the sample is relatively small. It clearly shows a problem with the CDC recommendation for healthcare workers to return to work from COVID-19 isolation after day 5 if symptoms have improved. It also indicates high utility of rapid antigen test based, rather than time based, return from isolation into high consequence settings. In addition, the study highlights the need for policy makers to consider viral dynamics, epidemic dynamics and population immunity dynamics with reasonable predictive rationale, rather than relying on crude calibration with previous variants, waves and vaccination/prior-infection patterns.

In the background on trade-off between pathogen and staff-shortage risks to patient safety the authors might emphasise a little more the dynamics and local context of those difficult decisions, and that a one-size policy cannot fit all contexts (in time, place and person) - test-based responses allow greater/empirical context-sensitivity than time-based policies.

It is not clear whether the used lateral flow devices were photographed. If so, relatively simple image analysis can be used to measure relative intensity of T/C areas giving more ordinal information for approximating antigen shedding load (albeit moderated by swabbing variation).

In discussing vaccination status regarding symptom timing and presentation for return to work, the authors might acknowledge that this status may also be an instrumental variable for behaviours. The biology is clearly more directly relevant, however, and is well described.

It may be better to wait for the culture results, pending approvals, than to speculate on cultivability. Prior studies may not port well to the studies variant-epidemic-immunity
contextual union. Note a similar study in Liverpool, UK (NHS SMART Release & Return https://www.dropbox.com/s/hna8rusxf64d2h5/SMART_Release_Return.pdf) has reported interim results to the UK Health Security agency including culture results on a sample of those healthcare workers who were still testing antigen positive by day 7 – most were culture negative but a substantial proportion were not.

The word “recent” in the paper may be replaced with date references.

A meta-analysis of similar studies across heterogeneous contexts would be valuable to policy makers globally.