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Don't Dismiss Boris Johnson's 'moonshot' plan for mass Covid-19 testing

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Recent rises in Covid-19 cases show that the virus hasn't gone away. More testing cannot account for all the uplift. With more cautious personal behaviour than in March, we will hopefully dodge significant rises in hospitalisations and deaths by avoiding too much transmission to vulnerable groups. But the Government's ban on social gatherings of more than six people suggests they worry about the threat of a second wave.

Another full national lockdown in response would be an unmitigated economic and social disaster. An emergency pause when we were ignorant about the features or whereabouts of the virus and hospitals were being overwhelmed was one thing. Now, we can surely devise more surgical approaches, mitigating the largest risks and allowing much ordinary life to continue.

An obvious place to start is testing. A mass-testing regime would help suppress transmission. Boris Johnson's talk on Wednesday of a "moonshot", daily, at-home test showed that he understood the power of testing widely and regularly. Despite being ridiculed by some commentators for the idea, incorporating the novel, cheap, 15-minute result "no swab" saliva strip test into our public health armoury could be a game changer.

To convince us, Boris will have to defeat misconceptions. It is tempting to believe that more accuracy in testing is always better, for example. The PCR tests used now are more sensitive than the novel at-home strip tests. The latter have a higher false negative rate, meaning more people will be wrongly told they aren't infected, compared with using PCR tests each day.

For the public health goal of avoiding out-of-control spread, however, it's not so much diagnosing the virus's presence that matters, but isolating those currently infectious. This subtle distinction is crucial. The lower sensitivity is not as important as you might think, because those infections that this test fails to detect will tend to be among the less infectious and therefore least likely to spread the disease anyway. The test will still catch biological "superspreaders" or those at their infectious peak.

Yet there are two massive advantages of frequent, rapid saliva testing that, combined, dwarf this sensitivity problem. First, given they are cheaper, the strip tests can be undertaken frequently, meaning you're more likely to identify asymptomatic cases at the time a person is actually infectious than with an occasional PCR test.

Second, because the results are provided rapidly (in 15 to 20 minutes, compared to one to three days for PCR tests), infectious people can isolate immediately. These advantages minimise the

window of transmission between someone becoming infectious and ultimately isolating – ie, the time the person would be out spreading the disease.

Sure, it obviously would be better if the cheap spit tests were more accurate as well. But public health policy should be about stopping the spread of the disease across the population in the most effective way, acknowledging real-world trade-offs. In that regard, both economists and medics have concluded that Covid-19 tests that give up a bit of accuracy for speed and frequency would help control the virus better.

Our failure to mass-test means we experience lots of effective “false negatives” each day anyway, of course, as people don’t know they are actually infected. Matt Hancock, the Health Secretary, even went out of his way this week to tell people to avoid getting tests if they don’t have symptoms, making this problem worse.

As a result, we all have to experience the life of a “false positive” – finding our activities severely restricted, despite not being infected. Already, we aren’t allowed to go to theatres or football matches. The new curbs on social interactions suggest the Government wouldn’t hesitate from reintroducing harsher restrictions still, policed by their new “Covid marshals”.

The Government has recently been akin to a person running from end to end of a see-saw, trying to press down to balance “normal” activity at one end and containing Covid at the other. But human interaction cannot easily be controlled. Their attempt to fine-tune us has instead led to wild swings – most recently ordering people back to the office and then banning social gatherings of more than six people within a week. Clearly, we need policies that provide more certainty and isolate the infectious at lower cost.

The mocking of Johnson for suggesting home screening, in this context, is bizarre. Chris Whitty, the chief medical officer, is right that such a system could take a while to roll out. Chief scientific adviser Patrick Vallance’s warning this isn’t a “slam dunk” is well taken. But these tests are not some science fiction. They are being used already on US university campuses. True, the whole population being tested every day, as Boris implied, would be overkill and expensive. At times of low prevalence, there’d be risks of false positives too – keeping people at home needlessly. But you know what is extremely costly? The whole population living as if everyone else is positive! At least with frequent, cheap testing false positives would only be kept wrongly at home for a very short time.

As it happens, University of California economists Ted Bergstrom, Carl Bergstrom, and Haoran Li have shown that compliance with a rapid test (even with a 30pc false negative rate) would only require testing every three days to keep the reproduction rate of the disease below one (meaning infections would not spiral).

Perhaps that scale of testing or obtaining public buy-in for it would be difficult. But, at the very least, proactive cheap screening tests hold huge promise in institutions with significant socialising and large numbers of potential asymptomatic spreaders, such as schools and universities, or in hospitals, care homes, sports stadiums and theatres. That people are so dismissive of their potential is a sign of our increasing hopelessness.

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