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NEWS

Covid-19: Test and trace programmes are important but no silver bullet, say scientists

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The success of test, trace, and isolate programmes to control the covid-19 pandemic will depend on how quickly tests can be performed and results delivered, public compliance, and monitoring, a data analytics group convened by the Royal Society has said.

A test, trace, and isolate system to tackle the covid-19 outbreak was launched in England and Scotland on 28 May,[1] with one planned for Wales and one already operating in Northern Ireland.

The DELVE (data evaluation and learning for viral epidemics) group said that such programmes can only help control the UK covid-19 epidemic if they are effectively implemented and form part of a wider package of interventions that include social distancing, infection control, and hygiene measures.

A report from the group was shared with the Scientific Advisory Group for Emergencies (SAGE) earlier this month.

Venki Ramakrishnan, president of the Royal Society and DELVE committee chair, said, "Countries that have managed to, at least temporarily, control their covid-19 epidemics have almost all enacted and maintained substantial testing and contact tracing efforts from early in their epidemics. Our report suggests that a test, trace, and isolate programme, if effectively delivered, can play an important part in bringing this pandemic under control but that it should not be considered a silver bullet."

The report indicates that contact tracing based on confirmed cases rather than symptoms would be the most efficient approach because of the large proportion of people with symptoms not having covid-19.

DELVE estimates that contact tracing for confirmed cases would reduce the number of new infections by 5-15%. But it warned that the upper end of this range can only be achieved when the time it takes to test someone and trace their contacts takes no more than three days, as then infected contacts will be quarantined before they become most infectious.

Yee Whye Teh, from the University of Oxford's department of statistics, said "With the R value so close to 1 even such a modest reduction can be very important, in terms of managing the epidemic." The extent to which the public participate and comply with the test, trace, and isolate guidance strongly affects its usefulness, as there are many steps in the process where cases and contacts can be lost, said the report.

Asked about her key message for SAGE and the government, Anne Johnson, professor of infectious disease epidemiology at University College London, said, "We would like them to focus on speedy testing, encouraging the population to participate, and to build this into a programme of combined test, trace, and isolate balanced with other interventions, in particular good surveillance, and to move on the 'big fires' [significant outbreaks] as fast as we can."

She said, "We have got a very long way to go in ensuring lockdown is reducing incidence, which makes it much more feasible to introduce contact tracing at this level of detail," adding that "we need to make sure that it's focused on where the epidemic has happened."

1 Prime Minister's Questions. 20 May 2020. https://www.parliament.uk/business/news/2020/may/prime-ministers-questions-20-may-2020/