Scottish Parliament - Health and Sport Committee
Call for Views
COVID – 19 testing

The Royal College of Physicians of Edinburgh is an independent clinical standard setting body and professional membership organisation, which aims to improve and maintain the quality of patient care. Founded in 1681, we support and educate doctors in the hospital sector throughout Scotland and the world with over 13,000 Fellows and Members in over 90 countries, covering 54 medical specialties and interests. The College is pleased to submit a response to this call for views on COVID – 19 testing.

What role should testing play in helping to tackle the pandemic?

Fellows of the College who are specialists in infectious diseases, epidemiology and public health have stated that the role of testing is critical. It is a crucial tool for delivering some but not all strategies for suppressing transmission.

The message from the WHO has been consistent – to "test, test, test", especially for contact tracing, until a vaccine or a cure are discovered. Testing in carefully selected populations is essential for public health surveillance and medical research to establish the incidence, prevalence and outcomes of the disease. These data are required for formulating and adjusting plans through ongoing feedback, including on the impact of interventions.

Testing, in itself, is not a "strategy" for COVID-19 control. Different uses may require massively different numbers of tests per day. A headline count of the number of tests per day is almost meaningless in terms of its contribution to epidemic management. What matters is the strategy the testing helps to deliver.

One benefit of detecting the virus or the viral antigen in suspected cases is accurate diagnosis for appropriate clinical management (including protection of staff) and to permit quarantine of proven cases. Tracing of their contacts is then possible so they can be isolated to minimise spread. This is better than asking everyone with respiratory symptoms to isolate without doing tests but it requires an excellent public health infrastructure and access to laboratories and testing kits.

However, it is important to recognise that testing to confirm suspected cases already being managed as infected does not suppress transmission further. A major potential benefit of testing is the detection of infection during the pre-symptomatic phase (24-48 hrs). To realise this benefit test results must be available rapidly (same day) and/or be sufficiently sensitive to detect infection early in the incubation period. Speed is as important as scale. Strategies to suppress transmission benefit from being linked to much more rapid testing. Testing to identify false positives (based on symptoms) – the 'back to work' test – does not suppress transmission at all. Currently only

symptomatic health care and social care staff are being tested. However, it is becoming increasingly clear that the number of asymptomatic staff who are COVID – 19 positive is much higher than originally thought. While the infectiousness of such individuals is as yet unknown it is possible that these staff contribute to spread amongst other colleagues and patients.

Throughout the epidemic the experience of Fellows is that there is little accurate knowledge of what is going on in the community: there is information about those individuals requiring hospital admission etc who have been tested, but not more widely. Separately, there is data about prevalence of the infection in healthcare workers, care workers and care homes.

It is likely that different solutions will need to be found for management of patients in residential care including secondary care, hostels and care homes and for prevention of outbreaks in the community. Intensive testing of cases, contacts and healthcare workers should continue in suspected outbreaks particular amongst vulnerable patients groups (e.g. care homes, prisons, homeless shelters) in order to help stem outbreaks.

Health care and social care staff are the top priority for testing given their exposure to people at high risk of severe complications from the infection and the danger of them both acquiring the infection and passing it on to their patients/clients. Other frontline workers are also a priority e.g. the police firefighters and the retail sector, particularly in essential services involved in the food chain. The secondary benefit, extremely important for the economy, especially essential workers, is that by testing we do not isolate those who have non-COVID-19-non-influenza, respiratory illnesses.

Testing for virus and antigen will also be useful to check whether people recovered from COVID-19 can get back to their normal way of life. Even once released from quarantine people who have recovered will need to be cautious as their immunity may be partial and some will, unfortunately, continue to shed the virus. Having identified the people who have had the disease and have recovered (presumably with at least temporary immunity), ideally they should be tested to make sure they are not shedding the virus. Recurrence of infection has been reported and this argues for a monitored return into the community. Most people with COVID-19 in essential services have already returned to work even without such monitoring. In many places testing will not be practicable and there will have to be acceptance that a proportion of people will still be shedding. Whether these people are contagious needs to be researched urgently. Pragmatically, such people will come out of isolation and quarantine but will need to continue to take precautions, whether hygiene, social distancing or masks or both.

<u>What is the role of antibody testing?</u>

Immunity to viruses including memory is achieved in complex ways but is mainly cellular. Antibody, whether IgM or IgG (immunoglobulin), is a marker of potential immunity but its absence does not necessarily imply lack of immunity. People who have recovered from proven COVID-19 and who do not have this marker must be at least partially immune. The level of antibody is likely to correlate with the severity and length of the clinical illness. We need to have a much better understanding

whether these antibodies are truly protective and how long they last for. People with mild or even asymptomatic illnesses may not mount a strong antibody response. However, they probably have a strong, innate defence system.

As most countries have not done comprehensive testing of all people with relevant symptoms, and large numbers of cases are asymptomatic or have very mild symptoms, we need an accurate antibody test to identify them retrospectively (at least sensitivity 80%, specificity 99% is required if the population prevalence is 5%).

People who have been self-isolating because of typical respiratory symptoms in themselves or their contacts could be tested retrospectively. If antibody response is demonstrable it would be reasonable to assume they have had COVID-19 and are partially immune. As no test is 100% accurate there will be some people who are informed they have had the virus when they have not (false positive), and others who will be told they have not had the infection when they have had (false negative). So, everyone will still need to be careful and follow social distancing guidelines wherever practicable. But, importantly, many will have an opportunity to return to a reasonably normal life and serve others. Doctors, nurses and care workers are already doing this, even without 100% certainty they are immune and that they are no longer contagious. This is not ideal but it is pragmatic.

What do we need to deliver this?

Fellows are clear that excellent public health infrastructure, including IT systems and access to laboratories and testing kits is required to deliver this. All testing needs to be available with very quick turnaround to be clinically helpful and useful from a public health point of view. Currently, Fellows have found access to laboratories to be unpredictable, despite good capacity being available. It is therefore necessary to implement a clear strategy on the utilisation of available laboratory capacity. Lessons should be learnt from experiences in countries such as Germany and South Korea where there have been lower mortality rates.

In addition to testing, resources must be put into public health to support the delivery of appropriate interventions (test, trace, isolate). A test result alone will not help: an intervention will have to follow. We therefore need an 'army' of testers and contact tracers.

It is essential that all test results feed into the NHS and national data. It is currently not clear if testing being carried out by all independent laboratories feeds back to the NHS. This is essential so the NHS can provide appropriate care to the patient and from a public health perspective to follow up contacts and track and trace. If all test results are not being included in national data then there will not be an accurate view of the prevalence of COVID – 19. To deliver this, good linked up IT systems must be in place for test results to get to right place, to advise GPs/ the wider NHS and to give the correct advice in order to contact trace, detect outbreaks and respond.