

THE NEED FOR ROUTINE COVID-19 TESTING FOR FRONTLINE HOSPITAL AND CARE WORKERS IN SCOTLAND

25 April 2020

This briefing presents analysis by Scottish Green Party researchers of the evidence behind Covid-19 testing of hospital and care workers. It is informed by a paper published in The Lancet on April 18 2020, *COVID-19: the case for health-care worker screening to prevent hospital transmission*, and full references are provided.

Introduction

The Scottish Greens are calling for hospital and care workers who are on the frontline of the Covid-19 pandemic to be given routine tests regardless of whether they are showing symptoms. This will address serious concerns that infected healthcare workers and carers who are either pre-symptomatic, asymptomatic or suffering mild symptoms may be spreading Covid-19 to patients and others; reduce anxiety and better protect NHS staff; and ensure needless isolation does not take place. With testing capacity finally expanding in Scotland but a significant proportion of this capacity going unused we believe this is achievable and practical.

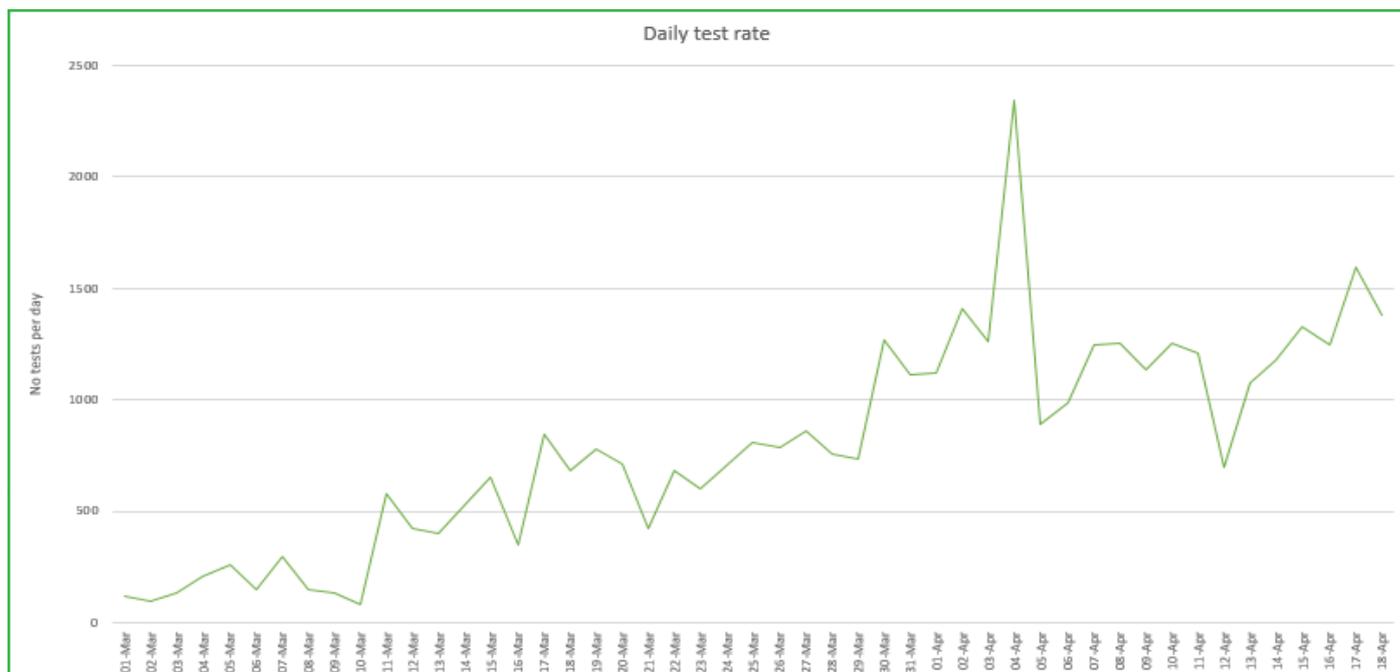
This follows concerns that hospitals may be becoming hotspots for infection and the announcement that the UCL Hospital in London is piloting routine testing and calling for others to follow suit¹. In addition, consideration should also be given to routine testing for carers working with infected individuals given this is the other front line in Scotland's fight against the Covid-19 pandemic.

Testing capacity and rates in Scotland

Whilst testing capacity is growing in Scotland it is not being used to its full. On 5 April 2020 2345 tests were carried out in a day (figure 1). Since then on average 1186 tests have been carried out a day, suggesting that at most 50% of existing testing capacity is being used.

1 <https://www.theguardian.com/world/2020/apr/16/healthcare-workers-screened-covid-19-every-week-infectious-unethical>

Figure 1 Number of Covid-19 tests carried out per day as reported by the Scottish Government



Experts suggest that this is because the “demand” is not there. Allan Wilson, President of the Institute of Biomedical Science, explained to BBC Scotland² that:

“We are in the rather bizarre situation where we could be doing more testing than we are doing at the moment. We’ve got the capacity in some labs, but the demand isn’t there because the strategy is focusing on just symptomatic key workers, their families and symptomatic patients in hospital. There simply aren’t enough of these groups around to use the capacity we have.”

We understand that one of the Scottish Government’s aims in building testing capacity is to allow testing of all suspected cases post-lockdown as part of a test-trace-isolate strategy. However we note that many countries where testing rates are already higher are faring better and have more data to inform their exit from lockdown. Whilst Scotland is testing more people per head than the rest of the UK, it compares poorly to our European neighbours.

Routine testing for hospital workers and carers

Expanding testing by phasing in routine tests for hospital workers and carers would help employ unused capacity and have significant positive impacts on frontline staff morale, protection and on the spread of Covid-19. As one NHS Trust in England explained in The Lancet on 16 April³:

“Our own NHS Trust at University College London Hospitals, London, UK, will soon be testing asymptomatic HCWs. In partnership with the Francis Crick Institute in London, UK, where COVID-19 testing will be performed, this initiative is an attempt to further limit nosocomial transmission. It could also alleviate a critical source of anxiety for HCWs. A

2 BBC Scotland The Nine, 20 April 2020

3 [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30917-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30917-X/fulltext)

healthy, COVID-19-free workforce that is not burned out will be an asset to the prolonged response to the COVID-19 crisis. As testing facilities increase in number and throughput in the coming weeks, testing should aim to accommodate weekly or fortnightly screening of HCWs working in high-risk areas.”

In addition to extending this approach to hospital workers working in high-risk areas in Scotland we suggest that consideration be given to routine testing for carers working with infected individuals given that recent NRS statistics show that this is Scotland’s other front line in the fight against Covid-19, with a third of Covid-19 deaths taking place in care homes⁴.

The role of individuals not showing symptoms in spreading Covid-19

Covid-19 is spread via liquid droplets, for example through coughing and sneezing, however research has shown that these droplets can be tiny and are also produced when, for example, an individual speaks or clears their throat. Recent research suggests that infected people shed more virus during early stages of the disease rather than the later stages. For example, a paper published in Nature on 15 April found that:

“We observed the highest viral load in throat swabs at the time of symptom onset, and inferred that infectiousness peaked on or before symptom onset. We estimated that 44% (95% confidence interval, 25–69%) of secondary cases were infected during the index cases’ presymptomatic stage.”⁵

This suggests that infected individuals are at their most contagious just before and when symptoms show. Waiting for symptoms to show before high-risk individuals suffer symptoms could therefore be too late when it comes to preventing transmission and slowing the spread of the virus. Indeed, it has been speculated that “patients with COVID-19 had the highest viral load near presentation, which could account for the fast-spreading nature of this epidemic”⁶. There is also some evidence of high levels of infection amongst front-line hospital staff. For example, about half of A&E consultants and nurses at the Royal Gwent Hospital in Newport tested positive for Covid-19⁷.

Why testing those without symptoms can be effective

The sensitivity of the PCR tests currently in use means that it can pick up small amounts of virus shed a few days after infection, even before symptoms arise⁸. Though estimates of the proportion of overall cases vary, it’s well established that there are a large number of

| COVID-19 tests per 1000 people | |
|--------------------------------|-------------|
| Luxembourg | 55.06 |
| Estonia | 31.01 |
| Lithuania | 22.45 |
| Italy | 22.08 |
| Germany | 20.94 |
| Austria | 20.41 |
| Spain | 20.02 |
| Slovenia | 19.82 |
| Latvia | 18.96 |
| Ireland | 18.55 |
| Portugal | 17.87 |
| Denmark | 16.26 |
| Czech Rep. | 15.81 |
| Belgium | 13.2 |
| Finland | 10.19 |
| Netherlands | 9.02 |
| Slovakia | 8.12 |
| Sweden | 7.37 |
| Scotland | 7.26 |
| France | 7.06 |
| UK | 5.54 |
| Hungary | 4.82 |
| Greece | 4.80 |
| Poland | 4.74 |
| Romania | 4.69 |

Data from Our World In Data COVID-19 dataset on 20 April 2020 © the Scottish Government.

4 <https://www.nrscotland.gov.uk/files//statistics/covid19/covid-deaths-report-week-16.pdf>
 5 <https://www.nature.com/articles/s41591-020-0869-5>
 6 <https://www.thelancet.com/journals/laninf/article/PIIS1473-3099%2820%2930196-1/fulltext>
 7 <https://www.bbc.co.uk/news/uk-wales-52263285>
 8 <https://www.sciencemediacentre.org/expert-comments-on-different-types-of-test-for-covid-19/>

asymptomatic Covid-19 cases, and a series of studies that have involved blanket testing have detected significant numbers of infected individuals. For example:

Half of the positive cases on the Diamond Princess cruise ship were asymptomatic at the time of testing⁹

A recent article in the BMJ found that 78% of new infections identified in China were asymptomatic¹⁰

Testing of all residents of a village of 3000 people in Italy found 89 cases, the majority of which were not showing symptoms at the time¹¹

Testing of all residents in a nursing home in the US found 1/3rd were infected, half of which were not showing symptoms at the time¹²

9 <https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e1.htm>

10 <https://www.bmj.com/content/369/bmj.m1375>

11 <https://www.regenhealthsolutions.info/wp-content/uploads/2020/04/Covid-19-identifying-and-isolating-asymptomatic.pdf>

12 <https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e1.htm>