

COVID-19 screening of healthcare workers offers reassurance and faster return to work

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Timely research from Newcastle Hospitals and University has shown that the rate of infection among NHS staff treating patients is no higher than for those in non-clinical roles.

These findings, published today in *The Lancet*, may offer some

reassurance to NHS [staff](#) on the frontline.

The work has been carried out by researchers and medics at the Newcastle Upon Tyne Hospitals NHS Foundation Trust and Newcastle University, UK—the key findings are:

1. Delivering staff testing during the pandemic is feasible.
2. The rates of positive tests in patient-facing staff were no higher than in those staff in clerical or administrative roles who have no patient contact.
3. The data provides a unique insight into the COVID-19 epidemic in England. The growth in cases clearly "flattened" after the introduction of social distancing measures.

Dr. Christopher Duncan, Research Fellow at Newcastle University and Honorary Consultant in Infectious Diseases within Newcastle Hospitals, corresponding author of the article, who led the research, said: "An efficient and robust system of testing has enabled 1,414 [health care workers](#) to return more rapidly to NHS service in Newcastle in the last three weeks, the vast majority returning directly into patient care."

Dr. Lucia Pareja-Cebrian, Director of Infection Prevention and Control within Newcastle Hospitals NHS Foundation Trust, who is also an author of the report, said: "The safety of our staff during the COVID pandemic has always been paramount and we're proud that in Newcastle, we have been a leader in staff testing from the very beginning of this crisis.

"Testing symptomatic staff has allowed us to identify cases early and we're able to provide support immediately to those who have become infected with [coronavirus](#), advising that they self-isolate from others until their symptoms disappear. This means that their families and

contacts remain safe. It's important to us that we continue to test symptomatic staff to protect our patients, our staff and their families and loved ones.

"We continue to work hard and to learn from the research so we improve what we do, and we now also provide testing and advice to household contacts of our staff to ensure we continue to protect them and our patients."

Testing

The research demonstrates how testing of NHS staff at volume is possible during a pandemic, with the development of an efficient model which returns results to staff within 48 hours of their initial contact.

From 10th to 31st March, the Trust tested 1,654 staff and in the subsequent two weeks not covered in this report, they have doubled this number. They tested mainly hospital employees from two hospitals in Newcastle, but also local GPs in Newcastle and employees of the North East Ambulance Service.

Staff contact Occupational Health by email and after an initial symptom screen, those with possible symptoms (new continuous cough and/or fever) are given an appointment within 24 hours for the standard PCR test (RdRP assay developed by Public Health England) in a designated screening pod, staffed by trained nurses. They are provided with written advice about self-isolation and receive an email with their [test](#) result within the next 24 hours.

Rate of positive tests

Data on the roles of 1,029 of the staff tested was used to identify three groups—those that were directly patient-facing e.g. nurses, doctors,

allied health professionals, porters; non-patient facing but potentially at higher risk of an infection caught in a hospital (nosocomial exposure) e.g. domestic and laboratory staff; and finally, non-clinical staff e.g. clerical, administrative, information technology, secretarial etc.

Comparison of the rates of those who tested positive showed no evidence of a significant difference between the three groups. This suggests that transmission of SARS-CoV-2 from patients to NHS staff may reflect wider patterns of SARS-CoV-2 transmission in the community—and is consistent with observations in China, where staff testing was widespread.

The researchers found rates of infection of 15.4% among directly patient facing staff; 16.3% among those non-patient facing, but in roles with a potentially higher risk; and 18.4% among non-clinical staff.

Given that non-clinical staff had similar positivity rates to 'frontline' staff, the researchers conclude that current isolation protocols and personal protective equipment appear sufficient to prevent hospital transmission.

The team admit limitations to the data as they were unable to identify roles among all of the staff tested. The small number of non-clinical staff tested also meant that it was not possible to meaningfully compare transmission dynamics between these groups, where more complex patterns may exist, but studies are ongoing.

Flattening following social distancing

Initially, rates of positive tests for Covid-19 were relatively low, at 5% on 10/11th March, but rose steadily throughout the testing period, to 20% on 30/31st March. There was a period of exponential growth from 10th March until around the 24th March with a doubling time of 2.2

days.

However, from around the 24th March onwards, when the UK Government introduced further social distancing measures, the rate of increase appeared linear.

Although it is not possible to assign causality, it seems plausible that these measures have reduced community transmission of SARS-CoV-2 in the Newcastle region.

Dr. Duncan is part of Newcastle Health Innovation Partners (NHIP), a recently designated National Institute for Health Research—NHS England / Improvement Academic Health Science Centre bringing the region's world-class research, NHS and city partners together. He adds: "Beyond the obvious benefits of protecting staff and helping return NHS workers to the frontline, we think that testing might have additional positive impacts on health behaviour.

"For example, it may provide healthcare workers with the confidence that they can self-isolate with mild symptoms, knowing that a rapid negative result will enable them to return to work in a timely manner. This might lessen the desire of staff with mild symptoms to 'soldier on', in fear of abandoning colleagues for between seven and 14 days, so inadvertently contributing to the spread of the disease."

Any health care provider or Trust looking for further information on the setting up of the testing system that is not provided in the academic paper should contact: Dr. Elizabeth Murphy, Consultant in Occupational Medicine, Newcastle Hospitals NHS Foundation Trust.

More information: First experience of COVID-19 screening of healthcare workers in England, *The Lancet* (2020). [DOI: 10.1016/S0140-6736\(20\)30970-3](https://doi.org/10.1016/S0140-6736(20)30970-3)

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