

# COVID-19 Daily Briefing: May 6<sup>th</sup>

*DISCLAIMER: Scientists for Labour are a voluntary organisation, and collating this research takes a significant amount of time. We cannot claim that this document is comprehensive, necessarily accurate in all regards, or that it covers all developments. Expert fact checking has been performed by the Boyd Orr Centre for Population and Ecosystem Health at the University of Glasgow.*

## 1. Summary

### CONTACT TRACING

- **UK SYMPTOM TRACKER APP**: A US-designed symptom tracking app was launched in the UK on 24 March 2020. The app queries demographic features (e.g. age and location) and potential health risk factors, and respondents regularly report their general health and wellbeing (including any symptoms) regardless of whether they have been tested for COVID-19. In South Wales, the app correctly predicted two spikes 5–7 days in advance of traditional methods such as positive testing, hospital admissions or mortality.
- **TRACKING COVID-19 IN HEALTHCARE WORKERS**: These authors use a symptom tracking app to investigate the difference between infections of healthcare workers and the community at-large in the UK and the USA. Results showed that healthcare workers were 12 times more at risk of testing positive for COVID-19; and that those with inadequate PPE were at a 23% increased risk compared to those with adequate PPE and those not working in COVID-19 wards.

### CASE REFERRALS

- **TRIAGE**: A study compared triage systems between countries with different case fatality rates using various patient scenarios. The UK system discriminated too early and failed to pick up clear signs of severe COVID-19 infection or other life-threatening conditions. Triage systems are likely to become even more important as nations move towards relaxing restrictions.

### TESTING

- **VIRUS MUTATIONS**: A study found that, from 7,818 SARS-CoV-2 samples tested, all had undergone some form of mutation, with the nucleocapsid (N) gene found to be the least conserved. The N gene is used for all primers and probes used in the US and many other countries around the world and may increase the proportion of false negative diagnoses over time.
- **PROLONGED PCR POSITIVITY**: Authors of a study conducted in New York City found that 35% of recovered patients with mild symptoms tested positive in PCR tests 5–22 days after symptoms had ceased. Repeat tests showed that some patients were PCR-positive up to 28 days after symptoms ceased. More research is required to determine if PCR-positivity is related to transmission. The authors also found that IgG antibodies developed in 99% of COVID-19 patients within 7–50 days of symptom onset. It is unclear if this development leads to immunity being achieved.

### INTERNATIONAL RESPONSE

- **CANADA**: These authors have developed a model informed by interviews and direct observations to estimate PPE needs in healthcare systems. In Ontario, the demand for PPE changed throughout the course of the pandemic (with the highest demand at peak infection rate, followed by a decline in demand as the incidence of COVID-19 decreases). The model can also be applied to care homes and hospices. The authors stress that PPE demand in Ontario is high and the government should prepare for a worst case, non-restrictive PPE scenario (maximum need with no reuse of PPE).

### MODELLING

- **IMPERIAL COLLEGE MODEL**: The Imperial College transmission modelling code is now available to run on the UK national supercomputer cluster (ARCHER).

### 3. Quick Summaries

#### [Has COVID-19 subverted global health?](#)

- **GLOBAL HEALTH AND COVID-19:** *Perspective article.* The SARS-CoV-2 pandemic will disproportionately hit poorer nations, but the strategies that nations in the West are using are being promoted as one-size fits all solutions which are inappropriate for less well-resourced nations. Global health rests on context and equity, thus these countries should develop specific policies tailored to their demographics and societal structure.

#### [Protecting medical trainees on the coronavirus disease 2019 \(COVID-19\) frontlines saves us all](#)

- **MEDICAL STUDENTS DURING THE OUTBREAK:** *Editorial article.* Many nations have recruited final year medical students to assist in the response to the pandemic. This puts these students at risk – they are three times more likely to contract and transmit the disease than the general public, as per China's figures. The American Heart Association states: "Protect medical trainees on the COVID-19 frontlines, or do not send them in".

### 4. Longer Reading

#### [COVID-19 herd immunity strategies: walking an elusive and dangerous tightrope](#)

- **HERD IMMUNITY IN THE UK:** *Preprint of a journal article.* A modelling study outlining the effects of a range of non-pharmaceutical interventions on COVID-19 transmission in the UK showed that achieving herd immunity is not a practical objective. Social distancing would have to be implemented for a duration of over six months to achieve herd immunity and there are fine margins between successful disease suppression and overwhelming hospitals.

#### [Warmer weather and global trends in the coronavirus COVID-19](#)

- **SEASONAL INFECTION RATES:** *Preprint of a journal article.* A model proposes a new mechanistic formulation of infection rate as a function of the decay of aerosol droplets due to weather conditions. This model predicts (for the Northern Hemisphere) a high infection rate from December to February, followed by increasing spatial distribution through April, then shrinking spatial distribution from April. The infection rate is expected to decline after April, but at higher latitudes it may remain elevated through May.

#### [Patient-led COVID-19 triage systems and case fatality rates: a comparative study between Singapore, Japan, Norway, the USA and the UK](#)

- **EFFECT OF TRIAGE ON FATALITY RATE:** *Preprint of a journal article.* A study using 36 test scenarios, with varying levels of severity, tested the triage systems in the UK, USA, Singapore, Japan and Norway. Responses from the triage systems were compared to the fatality rates of the countries. The USA and the UK's systems performed poorly and missed signs of severe complications, and triaged most cases to self-care with no further healthcare input.