

COVID-19 Daily Briefing: July 1st

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1. Summary

PUBLIC HEALTH

- **HOSPITALS:** South Korea, where only 1.4% of cases occurred in acute care hospitals and healthcare personnel accounted for just 2.4% of patients, provides a good example of application of multiple layered defences. Such defences should include improvements to education and training of staff, universal masking and hand hygiene, inpatient monitoring, hospital-gate screening, specialised clinics for COVID-19 cases, pre-emptive isolation, and high-throughput diagnostics via RT-PCR.
- **MENTAL HEALTH:** This preprint predicts the demand for crisis service in mental healthcare in the 12 months following the lockdown using data from previous years from the South London and Maudsley NHS Trust. In the 31 days since the start of lockdown on the 16 March, there were substantial reductions in use of inpatient care. Non-inpatient contact numbers did not change considerably in 2020 compared to previous years, although there has been a change from face-to-face to virtual contacts. The authors suggest that an adequate and timely monitoring system to assess service use should be set up to predict the crisis care required post-lockdown.
- **VITAMIN D:** A meta-analysis of five studies finds no *conclusive* evidence that Vitamin D helps protect against COVID-19; however, the report admits that the studies were not of the highest quality, so further analysis is required as more published studies become available.

TESTING

- **POPULATION SCREENING:** A preprint study of a city-wide screening of Wuhan (n = 9,899,828, 92.9% of the population) found no new patients and identified 300 previously undiagnosed asymptomatic cases. Virus culture was negative for these 300 and their 1,174 close contacts traced and tested. 107 of 34,424 previously recovered COVID-19 patients tested positive (relapse rate 0.31%) but virus culture again was negative, indicating non-contemporary infection.
- **ANTIBODIES IN WUHAN:** A short retrospective study of 42 COVID-19 patients looked at the longevity of antibody response against SARS-CoV-2 and drew comparisons with other studies. Findings so far suggest that specific antibodies may be very short lived.

MEDICINE

- **FRAILITY:** A peer reviewed study of 1,564 patients with COVID-19 was conducted at ten hospitals in the UK and one in Italy, examining the effect of frailty on survival in patients with COVID-19. Authors conclude that disease outcomes were better predicted by frailty – specifically the clinical frailty scale (CFS) – than either age or comorbidity. These results support the use of CFS to inform decision making about medical care in adult patients admitted to hospital for COVID-19.
- **METABOLISM:** This perspective article reminds us that infectious diseases, such as COVID-19, are complex conditions affecting many systems in the body. Whilst the immediate response to infection is to approach COVID-19 from the pathogen perspective, this article reminds us to examine the disease from the host perspective to better understand how to survive infection. The relationship between COVID-19 and metabolism is highlighted by pre-existing metabolic abnormalities, such as type 2 diabetes and hypertension, being important risk factors for COVID-19.

- **TOCILIZUMAB:** This preprint study of 13 patients found that one injection of tocilizumab led to rapid improvements in seven patients with severe COVID-19. Substantial amelioration in two patients who were critically ill was also observed. However, four patients with rapidly worsened respiratory function required artificial ventilation, even after tocilizumab treatment. Three of these four patients ultimately recovered after methylprednisolone treatment. Findings suggest that tocilizumab has beneficial effects in severe-to-critically ill patients with COVID-19, but in some cases addition of methylprednisolone is required.

3. Quick Summaries

[COVID-19: Leicester placed under lockdown after spike in cases and hospital admissions](#)

- **LEICESTER LOCKDOWN:** *Journal news article* reporting on localised lockdown imposed in Leicester. Matt Hancock said that the area accounted for around 10% of all positive cases in the country over the past week. Prof. Sheila Bird, former programme leader at the MRC Biostatistics Unit (University of Cambridge), has called for more transparency over what triggers such an alert, saying that serious statistical backup is needed to understand the situation and for the public and professionals to be confident about how alerts will be triggered.

4. Longer Reading

[To punish or to assist? Divergent reactions to ingroup and outgroup members disobeying social distancing](#)

- **PUBLIC OPINION:** *Peer-reviewed journal paper*. A study on divergent public opinion in Britain on punishments for sociological in-group and out-group people disobeying social distancing found that news about fellow nationals and other national groups has the potential to elicit strong negative emotions towards norm-violating subgroups. However, there was little support for retributive measures. Support for assistance measures aimed at educating outgroup members was consistent, regardless of behaviour, with the authors postulating that this was due to perceived lack of competence in the outgroup. The UN has stated that the pandemic is unleashing a wave of xenophobia and the authors hypothesise that increased nationalism could exacerbate tensions.

[Vetting security and privacy of global COVID-19 contact tracing applications](#)

- **APP SECURITY:** *Preprint journal article*. An investigation into the security and privacy of a range of contact tracing apps shows that 70% of applications pose potential security risks. Centralised implementations pose a greater risk of linkage attacks (inferring much greater information about the subject) by governments and external actors who get access to the data. An alternative decentralised solution (*VenueTrace*) which preserves user privacy is proposed.