

COVID-19 Daily Briefing: July 9th

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1. Summary

INEQUALITY

- **ENGLAND:** Data from NHS England covering 17m patients suggests that dying from COVID-19 was associated with being: male, of any BAME origin, from a deprived background, or older. BAME individuals were, as per previous studies, found to be at higher risk of death even when other factors were considered.
- **SWEDEN:** A look at excess mortality in the Stockholm region found an increase in mortality rate from 13–33 per 100,000 inhabitants in the ascending phase of the pandemic. This is a 160% increase on the numbers from the same period in the previous 5 years. During the outbreak, the highest excess mortality was recorded among groups with the lowest income and education level, and the highest levels of unemployment and proportion of their foreign-born population.
- **AFRICAN AMERICANS:** Data from the US shows that African Americans are at higher risk of COVID-19 than the rest of the population. This study suggests that the increased risk is due to African Americans being more likely to work in service jobs with direct contact with infected individuals, and being segregated at home and work, so these infections remain in their communities.
- **LOUISIANA:** A study looking at the serological prevalence of SARS-CoV-2 antibodies in children during lockdown found that seropositivity was positively correlated with low income, and that Hispanic and African American children were much more likely to be seropositive than white children.

VIROLOGY AND IMMUNOLOGY

- **IMMUNE SYSTEM PROFILES:** A study of the immunological profiles of COVID-19 patients found that elevated levels of certain proteins and an increased ratio of one type of white blood cell to another are associated with severe COVID-19 cases. Certain cells which have a significant role in viral immunology were also particularly depleted. However, several immunological aspects of the disease are still not understood, including the role of innate and adaptive immunity, the nature of protective immunity, why the disease does not seem to affect children, and the mechanisms of pathology. Answers to these questions could lead to targeted treatments for COVID-19.
- **IMMUNE RESPONSES:** Along with the specific COVID-19 IgG antibodies, other antibodies (such as IgA) were also present in COVID-19 patient plasma, suggesting that immune function is being boosted in patients. Hospitalised patients had up to 3,000-fold higher antibody and neutralisation titres compared to outpatients or convalescent plasma donors, and some COVID-19 patients also had antibodies that cross-reacted with the SARS spike protein. This finding may highlight the quality and duration of the antibody response to COVID-19 and have implications for vaccine design.
- **SEROPREVALENCE:** A peer-reviewed article on the seroprevalence of SARS-CoV-2 antibodies in staff in a Spanish hospital, finding that only 9.3% of tested staff had SARS-CoV-2 antibodies of any kind, whereas 11.2% had past or current infections. 40% of staff that tested positive for current or past SARS-CoV-2 infection during the study had not been diagnosed with COVID-19 outside of the study. Authors call for active and regular RT-PCR testing for front line staff.

3. Quick Summaries

[COVID-19: The inside story of the RECOVERY trial](#)

- **RECOVERY TRIAL:** *Peer-reviewed journal article* discussing criticisms of the RECOVERY trial centring on the fact that results were released by press release, rather than via scientific publications or preprints. However, the deputy chief investigator defends the trial on the basis that this method allows results to be shared quickly, especially as dexamethasone was the first drug to reduce mortality. The approach to drug selection has also been criticised as 'too random', with remdesivir notably absent because it is the focus of the SOLIDARITY study and supplies are short.

[US withdrawal from WHO is unlawful and threatens global and US health and security](#)

- **WHO WITHDRAWAL:** *Comment article.* The recent action taken by the Trump administration in notifying the UN Secretary-General of the US' intention to leave the WHO violates US law, because it does not have express approval of Congress. Withdrawal would compromise the critical efforts of the many WHO regional offices and collaborating centres in the US responsible for national and global health, including matters related to seasonal influenza and COVID-19. The law mandates that the USA must pay its financial obligations to WHO for the current fiscal year, with any withdrawal not taking effect until July 2021. As a result a new US president could simply revoke the withdrawal upon taking office, if elected.

4. Longer Reading

[Serious adverse events with tocilizumab: pharmacovigilance as an aid to prioritize monitoring in COVID-19](#)

- **TOCILIZUMAB:** *Peer-reviewed journal article* noting increased reporting of unpredictable severe hepatic, pancreatic, and pulmonary adverse effects in patients treated with tocilizumab. Due to the drug's approval for the treatment of cytokine release syndrome, the drug is under investigation for off-label treatment of severe COVID-19 pneumonia. As liver injury has been reported to occur in up to 80% of severe COVID-19 patients, these results indicate that patients should be carefully monitored for adverse effects in ongoing COVID-19 clinical trials using tocilizumab, particularly considering the 18.4% of deaths for life threatening hepatic reactions, coupled with rapid onset.

[Ranking the effectiveness of worldwide COVID-19 government interventions](#)

- **NPIs:** *Preprint journal article.* A study quantified and ranked the effect of 4,579 different nonpharmaceutical interventions (NPIs) implemented in 76 territories on the reproduction number of COVID-19. It was found that the effectiveness of individual NPIs strongly varied across countries, and in relation to human and economic development. Less intrusive and costly NPIs, such as certain risk communication strategies and voluntary measures that strengthen the healthcare system, were highly effective. Bans of small gatherings (less than 50 people) and the closure of educational institutions were also more effective at reducing the reproduction number than banning mass gatherings, and measures to shield vulnerable groups.