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COVID-19 Daily Briefing: June 17th

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1. Summary

MEDICINE

- **DEXAMETHASONE:** The RECOVERY trial of 2,104 treated individuals has shown that the cheap, widely available anti-inflammatory drug dexamethasone cuts deaths by 33% in critically ill COVID-19 patients who require ventilation. Deaths were reduced by 20% in patients requiring oxygen only. Overall, the drug reduced the 28-day mortality rate by 17%, but has no benefit in patients not requiring oxygen. Investigators state that dexamethasone should now become standard care in hospitalised patients requiring oxygen – a suggestion that has been taken up by the government. The results have not yet been peer-reviewed.
- **TOCILIZUMAB:** Early administration of Tocilizumab, an anti-inflammatory drug more typically used for treatment of rheumatoid arthritis, was associated with a good prognosis, avoiding disease progression in 94% of cases, and only 6% out of 186 patients requiring intubation. Early administration of tocilizumab, when need of oxygen support is still low, was significantly more effective than when given at advanced stages. This suggests that the timing of drug administration strongly determines its efficacy for treating COVID-19 patients.
- **REMDESIVIR:** Five studies on the efficacy of the antiviral drug remdesivir were reviewed. The studies included groups of patients treated for 10 days, 5 days, or given a placebo. Severe adverse events were lower in the 5-day remdesivir group compared to 10-day and placebo groups. Authors suggest that 5-day remdesivir therapy in COVID-19 patients can be considered as an option, especially in patients without invasive mechanical ventilation or with shorter duration of illness. This time period should be extended to 10 days if no satisfactory improvement is achieved by day 5. However, these conclusions are based on only a few studies and more research is needed.

SEROPREVALENCE IN THE COMMUNITY

- **SEROPREVALENCE IN SPAIN:** A preprint study on the seroprevalence of IgG and IgM antibodies in 311 asymptomatic individuals and 634 symptomatic patients in Spain found that only 17 (5%) asymptomatic individuals and 244 (38%) symptomatic patients were seropositive. Seroprevalence in asymptomatic individuals was lower than expected.
- **SEROPREVALENCE IN WUHAN:** A preprint study on the seroprevalence of IgG and IgM antibodies on a population in Wuhan of ~1500 COVID-19 patients, ~4000 healthcare workers without COVID-19 diagnosis, ~20,000 general workers, and ~1500 other patients admitted to hospital. IgG seroprevalence was ~90% in COVID-19 patients, 4% – 5% in both healthcare workers and general workers, and 1% in other patients. The authors suggest that healthcare workers having low seroprevalence, despite this group having many SARS-CoV-2 cases, indicates that long-lasting immunity is unlikely.
- **PHE PCR SURVEILLANCE:** A preprint PCR surveillance study of healthcare workers by Public Health England (PHE) in May found that 23 of 1152 participants tested positive (2%). 17 patients were previously symptomatic, 2 were currently symptomatic and 3 were asymptomatic. This number was higher than the general population and it is recommended that a screening programme is developed, with potential to identify additional cases.

3. Quick Summaries

Facing the monster in Haiti

- **COVID-19 IN HAITI:** *Correspondence article* on the potential disaster of a COVID-19 outbreak in Haiti due to poverty, food insecurity, reduced access to clean water and sanitation, scarce health care resources, low educational attainment, political division, and densely populated urban slums controlled by gangs. Due to these issues, a complete lockdown is not feasible. Unlike previous public health and environmental disasters Haiti has faced, where resources were urgently rushed to the island, there is little international support.

Boosting research without supporting universities is wrong-headed

- **TROUBLE IN THE UNIVERSITY SECTOR:** *Editorial* about research and university funding states that, while national governments are significantly increasing research funding, many universities around the world are considering redundancies due to financial problems arising from the pandemic. There are also concerns around student populations, which are a major funding source for many institutions and local economies, and that many will not have access to part-time work needed to support their studies compounded by the likely fall in international student numbers. For many poorer students, lack of internet access is hampering their ability to access online teaching.

4. Longer Reading

Predicting mammalian hosts in which novel coronaviruses can be generated

- **FUTURE CORONAVIRUSES:** *Preprint journal article.* A study modelling possible virus-host recombinations to investigate in which mammals novel coronaviruses outbreaks are most likely to occur. The model used predicted 4,438 previously unobserved associations that potentially exist between 300 mammals and 201 coronaviruses. The study highlighted several species that are important hosts for observation: Asian palm civet, greater horseshoe bat, intermediate horseshoe bat, Asiatic yellow bat, pangolin, hedgehog, European rabbit and domestic cat. The common pig was identified as a critical species for surveillance due to its prevalence as a host.

COVID-19 in context: Why do people die in emergencies? It's probably not because of collective psychology

- **MYTHS ABOUT EMERGENCIES:** *Peer reviewed journal article.* The authors argue that expectations of collective panic and poor behaviour in emergencies are a myth and an ideological trope, and that collective behaviour should be used more effectively utilised in policy and practice. Disasters are usually caused by a few factors and policy mistakes. The first is a policy under-reaction, such as the UK governmental response to WHO early warnings. The second factor relates to systemic problems, for example, accusations of panic buying really represented the vulnerability of just-in-time supply chains to small upticks in consumer spending. Additionally, poorer and less powerful sections of society had fewer choices about how to behave and this could make them more vulnerable to infection and more likely to die. The third factor is mismanagement, for example of communication, with the early stress on protecting yourself and "you the victim" changing to an emphasis on protecting the NHS and "you the spreader", perhaps recognising the error of the former communication strategy.