D. A. Villar, P. Henry, I. Creed, J. Eastwood, D. Levy, T. Mitcham, M. Dwyer, B. Whitaker, A. Thompson, B. Fernando
www.scientistsforlabour.org.uk | chair@sfl.org. | @scientists4lab

COVID-19 Daily Briefing: June 2nd

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

TRANSMISSION

- **FELINE TRANSMISSION:** Cats are susceptible to subclinical SARS-CoV-2 infection, with prolonged oral and nasal shedding and an ability to transmit to other cats. Cats develop a robust neutralising antibody response preventing re-infection. Dogs do not shed the virus but nonetheless mount an antibody response. There is no evidence that pets play a significant role in human exposure. *Research is ongoing.*
- **TEMPERATURE:** When droplets containing the virus were placed on a plastic surface in two conditions: room temperature (RT, 20 °–25 °), and average max. temperature in Italy in June (JT, 28 °), virus vitality declined to 50% in the first 24–36 hours in RT conditions and in 8–12 hours in JT conditions, suggesting that virus vitality is impacted by temperatures. Nevertheless, the virus remained viable for up to 84 hours in both conditions.
- **BREASTMILK:** A small study including 23 pregnant and postnatal mothers with confirmed or suspected SARS-CoV-2 infection showed no evidence of virus in breastmilk and the neonates remained healthy for the duration of the study. Newborns may be infected through normal spreading routes nonetheless.

PPE

- **STERILISING MASKS:** Exposure to ozone (400 ppm at 80% humidity) for two hours killed a vegetative bacteria which is thought by the CDC to be more difficult to kill than SARS-CoV-2. When tested on various N95 respirators, there was no significant change in filtration efficiency, fit, or strap integrity after 10 cycles of exposure to ozone.

HERD IMMUNITY AND LOCKDOWN STRATEGY

- **HERD IMMUNITY:** Using a model comprised of 12 countries early in the pandemic, the authors discuss the difficulty in determining the threshold recovered fraction of the population needed to achieve herd immunity; which comes about due to the enormous uncertainties.
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3. Quick Summaries

Decolonising COVID-19: delaying external debt repayments

- **INTERNATIONAL DEVELOPMENT:** *Correspondence article.* The COVID-19 pandemic is allowing external agencies to gain more control over healthcare financing in low-income countries. There is unprecedented political momentum for low-income countries to invest 1% – 2% of GDP (between 2021 and 2023) in moving towards universal, publicly financed health systems. External debt repayments in response to the COVID-19 pandemic are threatening this opportunity and will weaken health systems.

Acute myocardial injury: a novel clinical pattern in children with COVID-19

- **CHILDREN:** *Correspondence article.* Two severe paediatric outcomes for COVID-19 have been described in the UK: ‘Kawasaki-like-disease' and severe shock syndrome with hyperinflammation. The authors describe five cases of COVID-19 related complications involving cardiac injury and dysfunction in previously healthy children. This condition mimics atypical Kawasaki disease without fully meeting clinical criteria for said condition. It is possible that it is a mild form of ‘paediatric multisystem inflammatory syndrome’.

Informal home care providers: the forgotten health-care workers during the COVID-19 pandemic

- **HOME CARE:** *Comment article.* The pandemic has exposed that the needs and challenges of informal home care providers, including those responsible for COVID-19 patients and other vulnerable groups (e.g. young children and older people), have largely been overlooked. Research on the social and economic implications of home care is required for better guidance for this group.

Overselling wildlife trade bans will not bolster conservation or pandemic preparedness

- **CONSERVATION:** *Comment article.* Wildlife trade bans are often advocated as effective mechanisms against the threat of diseases originating from wild species, such as SARS-CoV-2. However, demonising animals involved in disease transmission could backfire on conservation. Additionally, this approach would not address threats from many undiscovered viruses from wild hosts which could infect humans. If wildlife-oriented solutions distract from the weaknesses that COVID-19 has exposed in global health surveillance and security, the next pandemic will only levy a higher toll when it comes.

4. Longer Reading

Determining the optimal strategy for reopening schools, work and society in the UK: […]

- **EASING LOCKDOWN:** *Preprint of a journal article.* The effective reproduction number could remain below 1 if testing is increased and combined with effective contact tracing and isolation. To achieve this end, testing needs to be between 25% – 72% of symptomatic people at some point in the infection, depending on the level of relaxation of lockdown measures. If UK schools reopen in phases from June 2020, prevention of a second wave would require testing 51% of symptomatic infections, tracing of 40% of their contacts, and isolation of symptomatic and diagnosed cases. This model predicts that reopening schools and society without sufficient test, trace and isolation capability could induce a secondary wave much greater in proportion than the first

Psychosocial factors and hospitalisations for COVID-19: Prospective cohort study of the general population

- **PSYCHOSOCIAL FACTORS:** *Preprint of a journal article.* This UK Biobank study identifies risk factors for hospitalisation with COVID-19, including disadvantaged education level, low income, area deprivation, occupation, psychological distress, mental health, neuroticism, slow reaction speed and low scores on cognitive reasoning tests. Lower cognitive function was the most robustly associated factor, doubling the hospitalisation risk after accounting for multiple other explanatory factors.

Estimating excess mortality in people with cancer and multimorbidity in the COVID-19 emergency

- **CANCER:** *Preprint of a journal article.* In England and Northern Ireland there have been significant falls in admissions for chemotherapy (45% – 66% reduction) and urgent referrals for cancer diagnosis (70% – 89% reduction). Modelling with conservative parameters estimates 6,270 excess deaths at 1 year from now in England and 33,890 in the US. There is an urgent need for weekly data on cause-specific excess mortality, cancer diagnosis and treatment provision, and better intelligence on the use of effective treatments for underlying health conditions.