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COVID-19 Daily Briefing: May 4th

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

EPIDEMIOLOGY

- **REINFECTION:** Monkeys re-infected with SARS-CoV-2 a month after initial infection did not develop COVID-19 for a second time. Although this experiment was conducted in a small group of animals, the results suggest immunity against the virus is possible. *This article is not peer-reviewed, and larger studies are required to determine the strength and duration of protection.*
- **HERD IMMUNITY:** The threshold for 'herd immunity' (the fraction of the population infected past which indirect protection is offered) may be lowered for populations in which there is high variability in susceptibility and exposure: more frail or better socially connected individuals are more likely to be infected and therefore become resistant earlier in any outbreak. Widespread testing is therefore essential for accurate estimates of such variability. *This model was presented in a paper which has not yet been peer-reviewed.*

HEALTHCARE

- **COMMUNITY HEALTHCARE WORKERS** (CHWs) are important in building awareness, countering stigma and delivering primary healthcare during pandemics. It is important that the health and wellbeing of CHWs is carefully considered throughout this crisis and that PPE is better provided for them. *These findings come from a review of literature on healthcare workers around the world, it has not yet been peer-reviewed.*
- **PAEDIATRIC HEALTH:** The National Institute for Health and Care Excellence **(**NICE) has issued a rapid guideline stating that immunosuppressed children appear to be at no greater risk of severe COVID-19, and that their parents should be thus reassured. The illness is typically mild and self-limiting in children and young people.
- **INFECTIOUS DISEASES** *(two separate articles)***:** The COVID-19 epidemic is likely to disrupt control of diseases in lower- and middle-income countries. Such diseases include HIV, tuberculosis and malaria. Deaths from these diseases may increase by 10%–36% over the next 5 years unless action is taken. *These data are from pre-print papers that have not yet been peer-reviewed.*

LOCKDOWN

- **PSYCHOLOGICAL WELLBEING:** A Portuguese study found that factors relating to living conditions, maintaining work, frequency of exercise, and an absence of previous psychological disorders can help protect against the negative psychological effects of quarantine. Individuals receiving psychotherapeutic support prior to the pandemic showed better mental health if treatment was not interrupted. Remote treatment could help prevent greater negative impacts on mental health caused by quarantine. *This data is from a pre-print paper that has not yet been peer-reviewed.*

3. Quick Summaries

Prisons are "in no way equipped" to handle the pandemic

- **PRISONS:** *Comment article.* COVID-19 has been detected in most UK prisons, where at least 15 prisoners have died. UK prisons are currently at 107% of their capacity and must use external medical care facilities. The Government has pledged to release 4,000 detainees to alleviate the risks of

COVID-19 spread, but the Prison Governors Association estimates that that 15,000 would have to be released for this to be effective.

COVID-19 assistance needs to target energy insecurity

- **INSECURITY:** *Comment article.* Due to rising unemployment more people in the US are struggling to pay energy bills. This could lead to people resorting to payday loans or burning rubbish to stay warm. Funding food banks and preventing energy suppliers from charging late repayment fees or cutting off customers could prevent deepening poverty and insecurity throughout the crisis.

Offline: A global health crisis? No, something far worse

- **UNDERSTANDING THE PANDEMIC:** *Commentary.* This crisis cannot be understood through a solely biological lens, as it has a significant socioeconomic dimension. The adverse impacts faced by the most vulnerable in society should precipitate a social and political critique of this crisis and its causes.

4. Longer Reading

Lack of reinfection in rhesus macaques infected with SARS-CoV-2

- **REINFECTION OF MACAQUES WITH SARS-CoV-2:** *Pre-print research article.* In this study, researchers investigated whether macaques infected with SARS-CoV-2 would be immune upon later infection with the same viral strain. Six macaques were infected with a high dose of SARS-CoV-2 virus, and all exhibited mild to moderate pathology, similar to human infection. Infected macaques also generated antibodies against the virus, which were detectable from two weeks post-infection onward. Four macaques were re-infected with the same dose and strain of SARS-CoV-2 28 days after the first infection. These macaques did not fall ill, did not have detectable levels of virus, and there was no significant change to lung X-ray scans for two weeks after secondary infection. This finding suggests that the immune response to SARS-CoV-2 infection may be sufficient to prevent secondary infection in some cases. It is important to note this is a small study in another species and will need to be tested across a larger sample size over a longer period of time.

Racial, economic and health inequality and COVID-19 infection in the United States

- **INEQUALITY:** *Pre-print research article.* Investigation into the infection and mortality rates of the seven most impacted US states reveals that counties with higher population, education, and income levels were at higher risk of COVID-19 infection. The authors speculate this relationship could be due to higher mobility. However, people from counties with lower populations, education and income levels; and higher numbers of disabled citizens, were at greater risk of death. This finding is probably due to reduced healthcare access, and higher rates of underlying health conditions. African Americans show higher rates of infection and mortality than other ethnic groups.