

COVID-19 Daily Briefing: May 27th

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1. Summary

EPIDEMIOLOGY

- **FACEMASKS**: This non-peer reviewed study examined the behavioural responses to different facemask mandates in the US. The authors found that facemask rules led to a small (average 20–30 minutes per person per day) decrease in time spent at home, and an increase in restaurant visits. This finding is concerning given the limited research on the effectiveness of facemasks.
- **FEVER SCREENING**: A retrospective non-peer reviewed investigation on the Swine Flu (HN1) pandemic (often used as a model for the current COVID-19 pandemic) and seasonal flu found fevers were 50% less common in the morning than the evening. The authors suggest that employers and schools should measure temperatures twice a day to account for this finding.

PUBLIC HEALTH

- **ETHNIC DISPARITIES**: A recent pre-printed study of 340,966 people in London showed that, after accounting for age and sex, black people were 4x as likely to require hospitalisation than white people, while Asian and other non-white groups had double the risk of white people. After accounting for socioeconomic and lifestyle factors, occupation, neighbourhood deprivation, underlying health conditions, and other variables, black individuals still experienced more than 2.6 times the risk compared to white individuals, while Asians had 1.4 times the risk. The authors believe this is evidence that increased risk is not only accounted for by these co-factors.
- **SEX DISPARITY**: Commentary discussing the possible origins behind the sex differences in infection and death rates reported in China and Italy. Lifestyle factors may play a role, for example smoking addiction, which is more common in men than women. The human angiotensin-converting enzyme 2 (ACE2), found on the outer surface of cells in the lungs, serves as an entry point into cells for some coronaviruses, and plays a protective role in chronic underlying health conditions associated with COVID-19. Other coronaviruses are known to suppress ACE2, which leads to acute respiratory distress. In contrast, oestrogen, the primary female sex hormone, can increase the expression of ACE2. This finding might explain the better outcome and lower death rates we observe in women affected with COVID-19 compared to men. Further studies are needed to determine whether hormone replacement therapy may protect females against respiratory failure and whether oestrogenic agonists may be promising tools, using their ability to increase ACE2 expression levels. *The role of ACE2 is clearly complex and further research is needed.*

WOMEN

- **RESEARCH IMPACT**: Pre-print paper discussing the impact of COVID-19 on scientific research conducted by women. According to a large-scale survey, factors associated with the largest disruption in women's scientific productivity were connected to laboratory-based research and to childcare, which disproportionately affects female scientists.
- **AGE AND GENDER**: Pre-printed study of COVID-19 case data from 10 European countries, including England, found that amongst working age people, the number of women diagnosed with COVID-19 substantially outnumbered men. This finding is attributed to a higher share of roles in health- and care-related and other occupations particularly exposed to the disease. At higher age (peaking between 70 – 79) this disadvantage reverses, and men are at higher risk for infection.

3. Quick Summaries

[Pandemic versus pandemonium: fighting on two fronts](#)

- **CONTACT TRACING APPS:** *Editorial* providing a thorough summary of the challenges of using technology to fight COVID-19. The authors note a balance between the concept of ‘knowledge is power’ and the influence that government knowledge about individuals can have on those individuals (feelings of being monitored etc.).

[“Is it safe for me to go to work?” Risk stratification for workers during the COVID-19 pandemic](#)

- **RETURN TO WORK:** *Perspective article* from the US considers advice to workers for returning to work dependent on their occupational risk. A colour-coded table of risks and recommendations is presented. These authors highlight that this pandemic is not impacting everyone equally, as those in precarious working conditions are more highly impacted.

4. Longer Reading

[Benefit-risk analysis of health benefits of routine childhood immunisation against the excess risk of SARS-CoV-2 infections during the COVID-19 pandemic in Africa](#)

- **AFRICA:** *Pre-print journal article* discussing the risk and health benefits of continuing routine childhood immunisation programmes against the excess risk of SARS-CoV-2 infections during the COVID-19 pandemic in Africa. The authors argue that for every excess COVID-19 death attributable to infections acquired during routine vaccination clinic visits, there could be between 38–576 deaths in children under 5 years prevented by sustaining routine childhood immunisation. Overall, the benefit-risk ratio favours the continuation of immunisation programmes in all African countries.