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Failures with COVID-19 at the international level must not be repeated in an era facing global catastrophic biological risks

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The States Parties to the International Health Regulations (IHR) have committed to working within the IHR with advice from the World Health Organization (WHO) to mitigate global health threats.[1] The IHR mandates that cases of SARS coronavirus be notified to WHO within 24 hours. Over a two-month period of December 2019 to January 2020, we now know there was spiking of searches for 'SARS' on Chinese social media WeChat (1 December), report of a 'SARS coronavirus' laboratory test result at Wuhan Central Hospital (30 December),[2] eventual notification of person-to-person transmission of SARS-CoV-2 (20 January 2020), meeting of the WHO Emergency Committee (22 January) and final declaration of a public health emergency of international concern on 30 January (PHEIC). This process was far too slow. Although providing much useful guidance, the IHR and WHO have been criticised throughout the COVID-19 pandemic. Shortcomings include: textual ambiguities, constraints on investigation, lack of urgency and authority, inadequate resources, politicisation and conflicting advice.[3-5] (A full set of references for this letter is available from the authors).

We add three critiques highlighting the need for future context-specific advice and swifter, stronger action to reduce the threat of truly catastrophic biological risks.

First, WHO advice in the form of Temporary Recommendations has lacked contextual nuance. One size does not fit all, as evidence from the COVID-19 pandemic illustrates. Travel restrictions and border controls have been advised against, and may not be effective in densely populated, landlocked countries lacking coordination with neighbouring states. However, they may have an important role to play[6] and have been used to impressive effect in islands such as New Zealand,[7] and seem about to in Australia also (as of December 2020). The WHO, especially in its Temporary Recommendations, and the IHR must avoid Euro- and North American-centrism in the relevance of its advice.

Second, one class of threat simply must be identified early and mitigated comprehensively. This is global catastrophic biological risks (GCBRs), which have the potential to overwhelm human systems and kill hundreds of millions of people.[8] Marc Lipsitch has asked, if a GCBR eventuates, when will we identify it?[9] By the time the WHO declared COVID-19 to be a PHEIC it was too late. Critics have suggested that the declaration of PHEIC should not be all or nothing. This might facilitate an early incremental response. However, we contend that the important distinction is not between lesser or greater PHEICs but between PHEIC-without and PHEIC-with GCBR potential. The WHO should have the vocabulary to declare a possible GCBR and the authority to mandate extreme responses. Many false alarms are worth the cost of a runaway GCBR.

Third, biothreats must be seen as an iterated class of events. The vast majority of health and economic loss comes from very infrequent but catastrophic threats. We must be very sensitive to these and comprehensively quell them all so that rare catastrophes cannot occur. Any cost of brief restrictions in the face of low-level outbreaks is repaid many-fold by avoiding the tail risk cases. By privileging the prevention of acute impacts to travel and trade and a non-alarmist approach, the world is exposed to risks of greater long-term health and economic harm. The WHO/IHR process lacks the sensitivity to identify, and the scope to adequately address, all relevant instances. The world was lucky that SARS-CoV-2 is a relatively mild coronavirus when compared to SARS-CoV-1 or Middle East Respiratory Syndrome, or some Disease X. Given the seriousness of the tail threats, iterated overreaction is the only way to prevent large-scale harm and maximise long-term health and economic outcomes. A well-functioning fire alarm will sound more often when there is not a fire. This just means the sensitivity is set appropriately.

Finally, action in these three areas will be impossible if there is disagreement among the States Parties and adequate resourcing is not available to the WHO and underprepared states. A global summit on GCBRs is long-overdue and the cost of bringing 67 low-income countries up to the preparation standards mandated by the IHR is estimated at US$100 billion,[10] or less than 5% of the first COVID-19 stimulus package passed by the United States Congress.

The world has known about SARS coronavirus threats since 2003 – and has known of reluctance to notify, lack of transparency and problematic delays – and yet history repeats, for the worse. We know about the threat of GCBRs and must enhance the WHO/IHR process to identify and react to any future actual GCBR in time. The default should be early containment for severe risks, with the capability to rapidly reopen. It is time for both New Zealand and Australia to advocate internationally for rapid progress on these issues.

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