Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Pandemic response requires early and robust verification

A report by the Independent Panel for Pandemic Preparedness and Response, established to assess the response to COVID-19, was recently released.[1] This report proposes the creation of an international treaty on pandemics, to be negotiated under the auspices of WHO, and a Global Health Threats Council to serve as an independent authority at the head of state and government level, endorsed by the UN General Assembly.[2]

These instruments alone are inadequate. Effective compliance requires robust and independent mechanisms for reviewing progress and doing investigations that are empowered at the highest political level and armed with both incentives and consequences. On the basis of a review of institutional mechanisms and a mandate to enforce compliance with international agreements,[3] we propose several aspects to complement the proposal.

First, the Universal Health and Preparedness Review, currently planned as voluntary, should be obligatory. Using independent experts, similar to what is done for human rights treaties, would mitigate political pressure inherent to state-led processes and promote independence and transparency. Independent experts should be used to identify issues with compliance and to help countries by providing necessary support in preparedness.

Second, state parties to the treaty should not be able to block on-site investigations. Such investigations are crucial for identifying the origin of disease outbreaks and assessing preparedness and response. The model by the Committee on Prevention of Torture could lend itself to treaty monitoring and outbreak investigations on short notice or unannounced. Investigations should be stipulated as part of the treaty with a clear protocol, definitions, and assigned authority for the process to justify invoking an extraordinary power. Visits without state-specific consent should be done by an independent expert group reporting to the UN to help mitigate political pressure on any individual UN agency.

Third, any new mechanism should include incentives such as technical support and political stimulus. WHO can play a key role in this area by providing countries with technical assistance, normative guidelines, and tools to strengthen preparedness and response capacities.

Finally, the treaty needs to be based on several core principles: compliance to encourage state adherence to the agreement; accountability to trigger a high political response in cases of concern; independence to reduce financial and political dependencies; transparency and data sharing to ensure prompt access to information; speed to activate an investigation; assessment of capabilities including political factors and leadership; and incentives to motivate states to comply.

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What constitutes success in the roll-out of COVID-19 vaccines?

What does success look like in a COVID-19 vaccination programme? If vaccination trackers are any indication, whether hosted by Our World in Data, the *New York Times*, or the *Financial Times*, success all comes down to one thing: speed. Although speed is measured in many ways including total doses administered, doses administered per 100 people, daily doses administered, total population who has received a first dose, or the share of distributed doses that have been administered, the pace of administration clearly serves as the most prominent (and often only) benchmark by which a country's performance is compared and ranked against other countries.

Thanks to vaccination trackers, the public is acutely aware of how their country, state, or province stacks up relative to others.[1] When a country falls behind in these rankings, the public leverages these data to exert considerable pressure on authorities to do better; and because speed is the only metric by which countries' performances are compared, countries will feel pressure from the public to do one thing: speed up.

The speed at which vaccines are administered is crucial. Every vaccine administered might translate into averted COVID-19 cases, hospitalisations, and deaths. Yet, a sole focus on speed has important consequences. Some populations take longer to vaccinate, such as those living in geographically remote regions, those confined to their home, and marginalised populations who might require engagement and trust-building to enhance vaccine confidence. Decision makers who are under immense pressure to rank favourably in vaccination trackers are more likely to eschew considerations of equity and strategies targeting populations

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For the **Our World in Data tracker** see https://ourworldindata.org/covid-vaccinations

For the ***New York Times* tracker** see https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html

For the ***Financial Times* tracker** see https://ig.ft.com/coronavirus-vaccine-tracker/?areas=eue&cumulative=1&populationAdjusted=1

most at risk in favour of adopting whatever approach gets vaccines distributed faster.[2] As long as speed is the only measure by which countries' vaccination programmes are compared, we should not expect decision makers to calibrate vaccine roll-outs to achieve objectives that deviate from the path of least resistance.

The path of least resistance is the familiar enemy of equity. In addition to speed, countries should be evaluated on metrics that correspond to the actual public health objectives that vaccination programmes should seek to achieve: the extent to which populations at greatest risk (eg, of death, hospitalisation, exposure, or transmission) are being vaccinated; and the extent to which disparities exist among populations eligible to be vaccinated. Measuring success in terms of these additional metrics might compel countries to ensure vaccines are not only deployed rapidly, but also effectively and equitably.

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Addressing the real trajectory of COVID-19 in the Eastern Mediterranean region

Pierre Nabeth and colleagues[1] highlight the resurgence in COVID-19 cases in the WHO Eastern Mediterranean region and identify factors that might have contributed to this rise. They identify changes in testing capacity, mass gatherings, decreased adherence to public health measures, and increased transmissibility of new SARS-CoV-2 variants emerging globally.

Alarmingly, Nabeth and colleagues ignore the structural and social determinants of health in the Eastern Mediterranean region, and how these would affect the spread and impact of COVID-19. They did not address the substantial social and economic turmoil taking place in countries across the region. Except for a brief request for a special focus on conflict areas, they neglect the fact that more than a third of countries in this region are active war zones or fragile post-conflict countries.[2] Similarly, any reference to countries in the region being among the largest hosting communities for the chronic and severe refugee crisis is omitted. Additionally, there is no reference to the continuing challenges that these countries face in the aftermath of the Arab uprisings, deteriorating livelihoods, and violations of human rights.[3]

Given the severity of socioeconomic effects across the region, Nabeth and colleagues still choose to focus on decreased public adherence to measures, such as physical distancing, which is particularly concerning. No mention is made of political factors such as the public denial of the pandemic among governments,[4,5] which not only delayed the response but also, catastrophically, further eroded public trust in health authorities.

Most regrettable is the simplistic recommendation for "enforcement of, and adherence to, public health and social measures" by the governments in the Eastern Mediterranean region as the effective approach to address the resurge in SARS-CoV-2 infections, without any discussion of how such enforcement can be applied within these coercive contexts where violence is a key contextual determinant in public health. No consideration is shown of how the livelihoods of Syrian, Lebanese, and Sudanese people, among others, are dependent on daily wages in the informal labour markets, or that many social gatherings in these countries are, in fact, queues for food and medication. Such omissions highlight the real dangers inherent to organisations adopting a narrowly epidemiological approach in a region in which the trajectory of the pandemic is so strikingly shaped by the social and political determinants of health.

I declare no competing interests.

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Authors' reply

Our Correspondence[1] was based on the analysis of available data on the COVID-19 pandemic in the Eastern Mediterranean region. The objectives were to highlight the upsurge in COVID-19 cases since February, 2021, and to alert about the risk of further degradation of the epidemiological situation due to the evolution of key determinants, such as the decreased adherence to public health and social measures, emergence of more transmissible variants, and insufficient vaccination coverage.