

# We must be prepared for this pandemic and the ones to come

## Debemos estar preparados para esta pandemia y las que vendrán

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The COVID-19 epidemic was declared by the World Health Organization (WHO) a public health emergency of international concern (PHEIC) on January 30, 2020. The rapid dissemination and severity of the disease and the "alarming levels of inaction" were part of the expressions of alarm that accompanied this declaration [1]. Three years later, the 14th meeting of the International Health Regulations Emergency Committee declared that COVID-19 remains a dangerous infectious disease causing negative impacts on health and health systems. They indicated that, although high levels of population immunity have been achieved globally, both through infection and vaccination, before lifting the PHEIC it is necessary for the WHO and member countries to have alternative surveillance mechanisms on COVID-19 and, eventually, integrate COVID-19 into the Global Influenza Surveillance and Response System [2]. Some of the main recommendations from this meeting were the following: "Maintain a strong national response capacity and prepare for future events" and "Continue to support research...to understand the full spectrum, incidence and impact of post-COVID-19 syndrome, and develop integrated care pathways...".

The committee's statement directly challenges us, as a country and region, to ask ourselves how we will be prepared for the following

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variant, epidemic wave or even a new pandemic caused by another virus. The unprecedented speed with which the anti-SARS-CoV-2 vaccines were deployed in this pandemic was not happenstance—the mRNA platforms had been in development for more than 30 years [3], which made it possible to quickly convert the vaccine antigen after the almost immediate genomic sequencing that was done in the early days of 2020. None of these milestones would have been possible without long-standing prior work and investment in research and development.

Having preemptive research capabilities to address this and other pandemics is critical to national public health pandemic preparedness. Longitudinal, prospective studies are the best design for answering questions arising from emerging pathogen threats, and they can be repurposed to randomized clinical trials if necessary. Prospective cohort studies can also result in biorepositories for *in vitro* studies on immunity and variants that otherwise could not be done.

In Chile, a call for coronavirus research was raised in record time in 2020, which is commendable. However, we should have research platforms readily available to deliver evidence in the face of new threats that we know will come. One example is the NIH-funded cognitive dysfunction cohort in the U.S., which within days was reconverted to provide answers on COVID-19 [4,5]. Another example of rapid response is the immediate deployment of the NAPKON cohort in Germany [6], whose main objective is to create a harmonized, expandable and interoperable longitudinal research network that provides scientific support related to the current pandemic as well as future pandemics of any origin.

Institutional research capacities should be in place before threats occur, remain active during the threat, and be maintained over time. These platforms could be national or based on regional or intercontinental collaborations. Only in this way will it be possible to conduct timely assessments on how pandemics impact population health and to

generate local and regional evidence to help inform the short-, medium- and long-term decisions that must be made in scenarios characterized by great uncertainty.

## Notes

### Conflictos de intereses

VCB does research on COVID-19. She has grants from the Research and Development National Agency and the University of Santiago of Chile for studies on COVID-19 and the persistent COVID-19 condition. She has received contributions in kind for her research from Siemens and BioNet. She declares no other competing interests.

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