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After the pandemic: the role of science in the future of the countries

Investments to decrease the impact of unexpected occurrences are often imposed by tragedies. We use seat belts in cars and other vehicles after several lost lives. It is a common understanding that such devices have a cost but are necessary expenses. Analogously, communities pay firefighters, military and security forces that have large amounts of people and resources to be ready to answer any call. In between, training and continuous improvement are required as well as planning for preventive actions. Again, societies accept the costs and will hardly agree on any cut on these areas fearing being unprotected.

In contrast, scientific activities have suffered continuous lack of investment in several countries, besides its reduced impact in overall public accounts. Science is one of the usual targets in any public budget cut proposal. Furthermore, requests of scientific advisory by lawmakers or elected officers are not usual as compared with other areas, i.e. those related to the economy.

Suddenly, any emerging or reemerging disease appears on the horizon. Societies call back the scientists and expect from them to provide a rapid response. Since the issuing of the new International Health Regulations in 2005, the World Health Organization (WHO) has declared six Public Health Emergencies of International Concern. Three of them in the last five years, two of those, Zika and COVID-19, causing a heavy impact in Latin America and particularly in Brazil. Probably, it is time to learn the lesson.

After the 2014 Ebola outbreak, some changes at thee international level occurred. The creation of the WHO R&D Blueprint to forecast possible new emergencies and determine route maps for action was one of them[1]. The foundation of the Coalition for Epidemic Preparedness Innovation (CEPI), a new international actor focused in foster initiatives to respond to potential emerging infectious disease, was the other significant change[2]. Both initiatives are part of an evolving mindset from a pure reactive to a more proactive attitude.

In response to the COVID-19 pandemic, the two most advanced projects for a vaccine are ready to start phase III clinical trials in Brazil in less than seven months after the identification of the new pathogen. That amazing acceleration is not by chance, but because both groups inherited trajectories from previous projects on coronavirus vaccines. By the time of the pandemic, The Jenner Institute in Oxford, supported by CEPI, was already working in a MERS-CoV vaccine that was tested in a phase I clinical trial in 2018[3]. In the case of Sinovac, the process used in the current pandemic is analogous to the one for the SARS-CoV-1 vaccine that reached phase I clinical trial in 2004[4]. Then, those efforts, largely unknown until recently, are currently the hope of the public. Collaboration between scientists to relieve the suffering has not stopped despite political disputes or geopolitical biases. Brazilian scientists are now taking a leading role in the definitive tests of the vaccines with the confidence of enabling access to protect our people.

After this pandemic is controlled, countries have to decide whether science should be a strong actor of the society as part of the preparedness and prevention of upcoming emergencies or just wait to the next one and react with weakened forces. Science is not only one of the more powerful drivers of economic strength, but also is one of the finest manifestations of humanity. The relation of each country with science might define which one will have a better chance to face the future.

Conflicts of interest

The authors declare no conflicts of interest.

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