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LETTER TO THE EDITOR

WILEY

Some lessons that Peru did not learn before the second wave of COVID-19

Dear Editor,

Peru, one of the most affected countries by the coronavirus disease 2019 (COVID-19) pandemic, imposed one of the earliest and toughest lockdowns in the world.[1] Despite regional variations, the overall picture situates Peru amongst the worst hit in the number of cases, deaths per million, and total excess deaths.[2] Factors contributing to these results are diverse, including geopolitics, international supply chain, political instability, social and economic crisis, and corruption.

Following the first wave, the poor health outcomes emerged due to the Peruvian government's response (or lack of response) and the fragility of the Peruvian health system (PHS). Several of which have not been addressed so far, jeopardizing the population's ability to cope with the current second wave of COVID-19.

The inequitable and fragmented nature of the PHS limited the adoption of a comprehensive pandemic response plan; similarly, the lack of information systems and their interconnection hampered a rapid expansion of capacities.[3] Although there is a plan to unify the PHS, this will be a long-term process. Meanwhile, the gaps in infrastructure, human resources, financial coverage and quality of care have increased during the pandemic.[1,3] These limitations contributed to a flawed reading of the problem, especially the integration of data within institutions, transfer of inputs, deployment of healthcare workers, linkage of health and safety authorities, among others.[4] The crisis also raised political tensions, where conflicts between the central government and some regional governments harmed management and effective resource utilization.[2]

According to the Global Health Security Index before the pandemic, the PHS was deficient in terms of biosafety, laboratory systems, epidemiology workforce and emergency response plans.[4] The limited laboratory capacity undermined the implementation of adequate and decentralized molecular tests. Peru became one of the few countries relying on the massive use of rapid serological tests, using them as diagnostic and epidemiological tools. Its lack of sensitivity limited the identification and isolation of cases.[2] Despite the government's announcement to expand polymerase chain reaction testing, until 9 January 2021 these represent about 23.5% of the total tests carried out in the country.[5] Similarly, currently there is not a clear plan to trace contacts, and if implemented, it will face the scarcity of epidemiology workforce and weaknesses of the primary health care.[4]

Despite the efforts to reach universal health coverage in Peru, a large proportion of the population does not have adequate access to care due to a chronic lack of infrastructure, insufficient human resources, and lack of essential drugs.[6] Most of the pandemic response was directed towards hospitals and particularly towards intensive care units (ICU), disregarding the need for a primary health approach or pre-ICU interventions.

As happened in other countries, the provision of essential services was affected by the COVID-19 pandemic. The already deficient follow-up of patients with noncommunicable diseases decreased even more,[3,7] potentially contributing to an increased rate of COVID-19 hospitalizations. Also, there was a decrease in vaccination coverage[8,] increasing the risk of outbreaks due to preventable diseases. Although the Peruvian Ministry of Health promoted telemedicine as a complementary measure to counteract the disruption, the system's late implementation and structural limitations hindered its success.[9]

Healthcare workers have been drastically affected by COVID-19. Before the pandemic, reports showed several gaps in the number, distribution and capacities. The situation exacerbated due to the collapse of the healthcare

TABLE 1 Shortcomings of the Peruvian Health System during the first wave of COVID-19

1	Fragmentation and segmentation of the health system.
2	Deficient data integration between sectors.
3	Transfer of inputs and deployment of personnel.
4	Deficient linking of health and safety authorities.
5	Insufficient limited capacity for molecular (RT-PCR) testing.
6	Dependence on rapid tests for the elaboration of the curve.
7	Lack of primary care interventions before admission to ICU.
8	Meager management and monitoring of non-COVID patients.
9	Trouble in the education of human resources, to enhance the number of health professionals.
10	Lack of improvement of health personnel's working conditions (salaries, PPE, among others)
11	Continuation of medical training during the pandemic.
12	Shortage of medicinal oxygen supplement.
13	Low transparency in MINSA decision-making documents.
14	Use of medications without evidence.
15	Inadequate information about public health policy and decision-making process.
16	Control measures based on limited evidence (measure the temperature before entering the mall)

Abbreviations: COVID-19, coronavirus disease 2019; ICU, intensive care units; MINSA, Ministry of Health, from Spanish Acronym; PPE, personal protective equipment; RT-PCR, real time reverse transcription polymerase chain reaction.

system and insufficient PPE, placing Peruvian healthcare workers among the most affected in the region.[10] For instance, the Regional Hospital in Loreto reported the largest proportion of healthcare workers infected globally.[10] Also, health facilities suspended health science student's training,[11] restricting their potential incorporation into the workforce in the event of a second wave.

The lack of equipment in public health facilities forced patients to purchase essential supplies such as oxygen from private sellers at unaffordable prices.[2] Even though the vast lack of oxygen increased mortality, the government did not invest in oxygen infrastructure.[2]

On the other hand, the government published a series of COVID-19 guidelines, with an incomplete description of their methodology and evidence assessment.[12] Guidelines included drugs without scientific support on efficacy such as hydroxychloroquine, azithromycin and ivermectin (for hospitalized and ambulatory patients), leading to massive self-medication, millionaire expenses and probably worsened the system's collapse due to the adverse effects.[12] Although some updates have withdrawn some of those, many persist in the guidelines.

Finally, communication has been deficient at every level. With a highly politicized environment, media and politicians have played a significant role in disinformation. On several occasions by opening the floor to nonscientist or even charlatans to give their opinion on control measures, or promoting different antiscientific approaches. These messages have caused confusion and distrust in the population.

Last January 26, the president decreed a new lockdown in many regions of the country due to the increase in deaths that is close to the highest number per day in the worst stage of the first wave. With a current tremendous increase in the number of cases, ICU patients, and deaths; Peru faces a second wave without resolving many of the problems detected at the beginning of the pandemic. The country failed to learn the lessons identified during the first wave.

The latest vaccine acquisition brings hope; however, there are concerns about the vaccination rollout due to logistical and organizational constraints, as happened in high-income countries. There is still time to minimize the damage of COVID-19 until that happens. Health authorities should draft multidisciplinary and intersectoral strategies, detecting and correcting the PHS's shortcomings that persisted from the first wave of COVID-19 (Table 1).

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest regarding this article.

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