

## Algeria's response to COVID-19: an ongoing journey

COVID-19 began its journey in Algeria, the largest African country, on Feb 25, 2020, when the first case was reported by the Ministry of Health, Population and Hospital Reform. The assumption that the virus would spare the country given its warm climate was popular among Algerians, but was soon proven to be erroneous.

As in many other countries, the Algerian Government implemented intermittent, partial lockdowns and curfews, as well as travel cancellation and isolation of returning citizens to promote physical distancing, decrease the spread of the virus, flatten the curve of infections, and allow hospitals more time to prepare. Mandatory facemask use in public was implemented in May, 2020. Despite these measures COVID-19 continued to spread, infecting 107 578 people and killing 2894 people, as of Feb 2, 2021, resulting in a mortality rate of about 2.7%. Despite governmental efforts to make testing more available, such as investing US\$100 million to import medical supplies, locally producing rapid COVID-19 tests, and importing 250 000 PCR testing kits for public and private use in early October, 2020, there are still deficiencies in testing, meaning the number of infections is likely to be an underestimate.

Although Algeria's health-care system ranks among the best in Africa, it lags far behind standards of wealthier countries. Algeria's health expenditure is relatively high compared with other African countries; in 2018, its health expenditure was 6.22% of GDP. Despite this investment, Algeria was ill prepared to respond to the COVID-19 pandemic. Health-care workers were challenged by a shortage in hospital intensive care unit beds, ventilators, protective gear, medical oxygen, oximeters, and medications. "We knew we were going to struggle", says Dr Mohammed Zehar, a frontline pulmonologist at University Hospital Center of Tlemcen (Tlemcen, Algeria).

The country experienced a peak in new daily COVID-19 cases in July, 2020, after which numbers fell and plateaued until another, larger peak occurred in November and December. According to projections by the Institute for Health Metrics and Evaluation, the scenario of universal facemask use would yield the lowest daily infections and mortality rates compared with all other scenarios, including the scenario of rapid vaccine rollout. However, as of Dec 14, 2020, it is estimated that only 47% of Algerians wear a mask in public. Other factors such as the emergence of new, more transmissible variants of the virus are likely to affect the daily infection and mortality rates in ways that are yet to transpire.

As the rate of daily infections exponentially increased, the effects of the pandemic extended to disturb all aspects of society. Rising poverty, unemployment, and isolation are matters of concern for many Algerians, along

with worries surrounding worsening mental health and increasing domestic violence incidents as families are confined at home. People who had COVID-19 were socially stigmatised during the early stages of the pandemic by their relatives and the wider community. As such, patients often refrained from seeking medical help or consultation when needed, fearing that other people would find out if they tested positive for COVID-19. Similar to what has been seen in other countries, individuals turned to social media during lockdown for more information on COVID-19, contributing to the spread of misinformation. Some people still question the nature and existence of the pandemic and ignore preventive measures. In an attempt to combat misinformation, the government set up a COVID-19 hotline, where people could speak to a trained professional and gain further information.

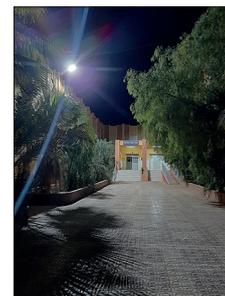
Nonetheless, the new year brings hope with the development, approval, and distribution of SARS-CoV-2 vaccines. Algeria was the first African country to receive 50 000 doses of the Russian vaccine Sputnik V on Jan 29, 2021, which will be prioritised for health-care workers, vulnerable people, and police officers. In a country with around 44 million people, this initial distribution is merely the start of a massive vaccination campaign that will require tremendous resources. The programme will be fully funded by the government, will have country-wide distribution to ensure vaccine accessibility for all residents, and will aim to produce the Sputnik V vaccine locally, rather than import it. With this programme, Algeria can hopefully serve as a model for neighbouring countries in north Africa.

The Algerian health system should be subject to systematic testing—eg, drills simulating novel outbreaks to improve operational capabilities. Financial systems should also be evaluated to ensure there is sufficient funding for any resources needed and to allow for prompt reimbursement if required. By identifying any weaknesses in the health system and developing recommendations for improving performance of future public health emergency programmes, the country and health system can be best prepared for any future public health crises.

We declare no competing interests.

*Selma Nihel Klouche-Djedid, \*Jaffer Shah, Maya Khodor, Salah Eddine Oussama Kacimi, Sheikh Mohammed Shariful Islam, Hani Aiash*  
jaffer.shah@drexel.edu

Faculty of Medicine, University of Tlemcen, Tlemcen, Algeria (SNK-D, SEOK); Drexel University College of Medicine, Philadelphia, PA 19102, USA (JS); American University of the Caribbean Medical School, Cupe Coy, Sint Maarten (MK); Institute for Physical Activity and Nutrition, Deakin University, Melbourne, VIC, Australia (SMSI); and Department of Cardiovascular Perfusion, SUNY Upstate Medical University, Syracuse, NY, USA, and Department of Family Medicine, Suez Canal University, Ismailia, Egypt (HA)



Abdelilah Bendelham

**Lancet Respir Med 2021**

Published Online  
February 8, 2021  
[https://doi.org/10.1016/S2213-2600\(21\)00083-7](https://doi.org/10.1016/S2213-2600(21)00083-7)

For more on the **first case of COVID-19 in Algeria** see <https://www.reuters.com/article/us-health-coronavirus-algeria/algeria-confirms-two-more-coronavirus-cases-idUSKBN20P005>

For the **WHO report on the first COVID-19 case in Algeria** see [www.afro.who.int/news/second-covid-19-case-confirmed-africa](http://www.afro.who.int/news/second-covid-19-case-confirmed-africa)

For **data on infections and mortality in Algeria** see <https://coronavirus.jhu.edu/map.html>

For **data on health expenditure in Algeria** see <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=DZ>

For more on the **COVID-19 response in north Africa** see *J North African Studies* 2020; published online April 27. <https://doi.org/10.1080/13629387.2020.1757334>

For **data on new daily COVID-19 cases in Algeria** see <https://www.worldometers.info/coronavirus/country/algeria/>

For the **IHME COVID-19 results briefing: Algeria** see [http://www.healthdata.org/sites/default/files/files/Projects/COVID/briefing\\_Algeria\\_20201217.pdf](http://www.healthdata.org/sites/default/files/files/Projects/COVID/briefing_Algeria_20201217.pdf)

For more on **Algeria's vaccination campaign** see [www.reuters.com/article/health-coronavirus-algeria-vaccine-idUSL1N2K50C](https://www.reuters.com/article/health-coronavirus-algeria-vaccine-idUSL1N2K50C)