Public Health Foundation of India, Delhi, India

ksrinath.reddy@phfi.org

Cite this as: *BMJ* 2021;373:n1196

<http://dx.doi.org/10.1136/bmj.n1196>

Published: 12 May 2021

Pandemic lessons from India

Lesson one: don't declare success too early

K Srinath Reddy *president*

In January 2021, global observers marvelled at India's smooth passage through the first wave of the covid-19 pandemic.¹ By the end of April this sentiment was replaced by alarm at a surging second wave that threatened to spill over into other countries, along with variants of SARS-CoV-2.² This dramatic and distressing reversal offers valuable lessons on the consequences of prematurely declaring control of covid-19.

In late March 2020, India began a long nationwide lockdown lasting over two months. Incidence of covid-19 was low when the lockdown began. Though cases rose after the lockdown eased, they were successfully contained from around mid-September onwards. By early January 2021, daily cases, deaths, and test positivity rates had plummeted and victory was declared.³ Some opinion makers urged caution, concerned about a possible second wave,⁴ but others claimed that India had attained herd immunity.⁵

India then turned its back on the virus, but the virus did not turn its back on India. As local and state elections, large religious gatherings, unrestricted travel, and unmasked people offered the virus a fast track to a large and susceptible population, cases spiked and then surged across the country. Variants arrived through travellers (B.1.1.7) or emerged in India (B.1.617 and B.1.618) to add speed and scale to the surge.⁶ As daily cases hit record numbers, the world closed its doors to travellers from India, fearing contagion, particularly with new variants.

The health system was overwhelmed, but not uniformly. Southern states that had invested in robust health systems, such as Kerala and Tamil Nadu, could withstand the pressure with competence and confidence while states in other regions were challenged beyond their capacity. Even the capital, Delhi, ran short of hospital beds and oxygen. Long queues of bereaved families waited outside crematoriums, unable to provide a dignified departure for their loved ones. By early May, vaccines had been administered to 12% of the country's population—only 2% had received both doses.⁷

Be prepared

Even as India strives to contain transmission, with several states implementing complete or partial lockdowns, the world can learn several lessons from the country's recent experience. The most obvious is not to take control of this virus for granted by neglecting production of oxygen and vaccines, closing temporary hospitals, and permitting super spreader events.

In the longer term, countries cannot generate a strong and swift response to a public health emergency if they have not previously invested in building an

efficient and equitable health system. Chronic underfunding has weakened health systems in many regions of India. Public financing of health hovers around 1% of gross domestic product (GDP), and about 7% of the population every year face being pitchforked into poverty by high out-of-pocket expenditure on healthcare.⁸

While large cities boast of world class hospitals vying for global medical tourists, primary and secondary care facilities remain weak even in urban areas. The size of the healthcare workforce falls far short of global norms⁹ and is unevenly distributed across the country. It is challenging for such health systems to deal simultaneously with detection and care of covid-19, routine and covid-19 vaccinations, and a high burden of non-covid conditions.

Although distressed hospitals attract most attention, primary care systems are vital for effective pandemic responses. Primary care is central to case detection, timely testing of suspected cases and traced contacts, home care, triage, referral, post-covid care, vaccination, and surveillance for reinfections or vaccine escape, in addition to the usual detection and management of pre-existing health conditions that influence severity of covid-19 and prognosis. India's experience teaches that states which value primary care fare better.

Several states have now imposed complete or near complete lockdown. Others are restricting crowded events, with partial success. Masks are mandated by central and state governments but not universally worn in rural areas. Courts are monitoring and mandating the supply of resources to needy states.¹⁰ Temporary hospitals, dismantled recently, have been resurrected. Oxygen concentrators and generation plants are being imported, along with vaccines. Retired doctors have been recalled. Final year medical and nursing students have been inducted for clinical care.¹¹ Non-governmental organisations have been invited to provide points of contact and social support for affected communities. Home care, for mild cases, is being promoted. Testing rates and genomic analyses of positive samples are being scaled up.

Absence of a national health service means that care is not standardised in public and private hospitals across India. Though some states have assured free vaccinations and free care for patients with covid-19, this is not uniform across the country.¹² India's mixed health system, which evolved by default rather than design, is being put to severe tests of coverage and quality.

Even as India struggles to quell the virus and the world rallies to its cause, the pandemic has turned teacher to sternly remind us that strong health

systems are vital for sustainable, stable, and secure development. That lesson must enter the DNA of future societies, even after this RNA virus ceases to be a threat.

Competing interests: I have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

Provenance and peer review: Commissioned; not externally peer reviewed.

- 1 Biswas S. Coronavirus: is the epidemic finally coming to an end in India? *India Today* 2021 Feb 15. <https://www.bbc.co.uk/news/world-asia-india-56037565>
- 2 Shrivastava B, Gretler C, Pradhan B. There's a new virus variant in India. How worried should we be? *Bloomberg Quint* 2021 Apr 16. <https://www.bloombergquint.com/coronavirus-outbreak/india-has-a-double-mutant-virus-variant-should-we-be-worried>
- 3 PM Modi at Davos: despite doomsday predictions, India defeated covid and helped 150 other countries. *India Today* 2021 Jan 28. <https://www.indiatoday.in/india/story/pm-modi-at-davos-despite-doomsday-predictions-india-defeated-covid-and-helped-150-other-countries-1763662-2021-01-28>
- 4 Ray K. Covid-19 vaccine is here, but this is no time for complacency or carelessness. *Deccan Herald* 2021 Jan 12. <https://www.deccanherald.com/opinion/panorama/covid-19-vaccine-is-here-but-this-is-no-time-for-complacency-or-carelessness-k-srinath-reddy-937965.html>
- 5 Kapur M. Has the Covid-19 pandemic effectively ended in India? *Quartz India* 2021 Feb 18. <https://qz.com/india/1973946/has-india-achieved-herd-immunity-against-coronavirus>
- 6 Basu M, Sen S. B.1.117 to B.1.618, India has many Covid variants causing infections. Here are the dominant ones. *The Print* 2021 Apr 23. <https://theprint.in/health/b-1-117-to-b-1-618-india-has-many-covid-variants-causing-infections-here-are-the-dominant-ones/644693/>
- 7 India coronavirus: Over-18s vaccination drive hit by shortages. *BBCNews* 2021 May 1. <https://www.bbc.com/news/world-asia-india-56345591>
- 8 Ravi S, Ahluwalia R, Bergkvist S. Health and morbidity in India (2004-2014). Brookings India Research Paper No 092016. 2016. https://www.brookings.edu/wp-content/uploads/2016/12/health-morbidity_sr052017.pdf
- 9 Karan A, Negandhi H, Nair R, Sharma A, Tiwari R, Zodpey S. Size, composition and distribution of human resource for health in India: new estimates using National Sample Survey and Registry data. *BMJ Open* 2019;9:e025979. doi: 10.1136/bmjopen-2018-025979. pmid: 31133622
- 10 Tripathi A. Supply 700 MT oxygen to Delhi daily, don't make us go firm: SC tells centre. *Deccan Herald* 2021 May 7. <https://www.deccanherald.com/national/north-and-central/supply-700-mt-oxygen-to-delhi-daily-dont-make-us-go-firm-sc-tells-centre-983346.html>
- 11 Malavika PM. Govt to rope in medical interns, final yr MBBS students to fight new Covid wave. *Hindustan Times* 2021 May 3. <https://www.hindustantimes.com/india-news/govt-to-rope-in-medical-interns-final-yr-mbbs-students-on-covid-duty-101620039305815.html>
- 12 Free covid-19 care in all Aarogyasri hospitals: Jagan. *Deccan Chronicle* 2021 May 7. <https://www.deccanchronicle.com/nation/current-affairs/070521/free-covid-19-care-in-all-aarogyasri-hospitals-jagan.html>

This article is made freely available for use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.