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A free, open access, international, peer-reviewed, online publication for the Daniel K. Inouye Asia-Pacific Center for Security Studies faculty and alumni.

Security Nexus Perspectives

Lessons from India's Handling of the Second Wave of SARS-CoV-2 Delta Variant Surge

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Abstract

The second wave of the coronavirus caused by the mutant Delta variant led to the deaths of 209,182 people from April 15 to June 17, 2021 in India (Data source: Our World in Data). But, some estimates peg the number of COVID-19-related deaths significantly higher (see footnote no. 1). This article assesses India's handling of the second wave of the coronavirus, and seeks to draw some lessons from India's experience.

Several causes emerged simultaneously and unfortunately, colluded to surprise and overwhelm public health officials and the Indian government. After the first wave subsided, COVID-19 safety protocols were relaxed because of economic considerations. During the second wave, the Central Government of India stepped back and ceded management to state and local governments. It is as yet unclear as to whether this decentralized management model could be described as successful, compared to the unilateral central government control, as in the case of the first wave.

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Today, India has an unenviable task ahead: it has to continue to prevent transmission, increase its vaccine supply, and accelerate vaccine administration while also pursuing various aspects of lockdown, masking, and social distancing protocols to arrest the transmission and mutation of the Delta variant of the coronavirus.

Tragic Scenes

In early 2021, India [witnessed horrific scenes](#) with [patients lining outside hospitals desperately seeking a bed](#) and [struggling to breathe](#). Today, such scenes are also appearing in other parts of the world as the Delta variant is leading to a surge in cases across the globe. In February 2021 monthly Indian COVID-19 related deaths were hovering below 3,000, but by March it had increased to over 5,000 and by April it increased 10-fold to 50,000. In the following month, deaths more than doubled again to over 110,000.² During the peak of second-wave, India was seeing more than 400,000 cases per day in May 2021,³ which has currently tapered to about 40,000 cases (JHU, Our World in Data, 7/22/21).

The virulent outbreak of the SARS-COV-2 mutant virus—[B.1.1.7](#), [B.1.617](#), [B.1.617.1](#),⁴ [B.1.617.2](#), and [B.1.168](#), also known as the [Delta Variant](#)—is the primary cause for India's monumental struggle to contain the second wave of coronavirus. The Government of India and almost all state governments are battling to contain the rapid community transmission of this mutant variant. Infectious disease experts [anticipate that a third wave of infections](#) might impact India later this year caused by [newer variants](#).

Unquestionably, multiple and complex factors simultaneously intertwined to cause this sudden explosion of the Delta variant. India's first extended lockdown that lasted from March 25 to May 31, 2020 saw a gradual reduction in infection rates. Simultaneously, deaths attributed to the first wave of COVID declined from a high of 33,390 in September to a low of 11,117 in December of 2020. By February 2021, the number of

² A study released by Harvard University's [Center for Global Development](#), put the number of COVID-19 related deaths caused by the second wave in India anywhere between 1 million to 6 million overall, with central estimates varying between 3.4 to 4.9 million. According to the authors of this study, that the death toll from the second wave "[is likely to be an order of magnitude greater than the official count of 400,000; they also suggest that the first wave was more lethal than is believed.](#)"

³ On May 6, 2021, India saw a high of 414,188 cases (Our World in Data).

⁴ According to the WHO, the B.167.1 is termed the Kappa variant. (<https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/>).

COVID-19 related deaths declined⁵ to less than 100, and India began to rapidly re-open. [Large gatherings](#) followed, and other normal activities resumed across the country under the assumption that COVID-19 had run its course.

In retrospect, it is presumed that both citizens and the public health authorities became complacent. Elections were conducted in several states, and the intense electoral competition [produced mass rallies and huge gatherings that enabled the virus to transmit](#). People also gathered [in large numbers to vote in-person](#) in the phased elections across India, and [electoral violence was another major issue](#) during the pandemic that provided ideal grounds for the virus to spread.

[Further, phased elections were held](#) in West Bengal, Assam, Tamil Nadu, Puducherry, and Kerala. High officials from multiple parties [engaged in a grueling campaign in several states across India](#) that attracted large crowds. Due to pressure from different religious groups, worship gatherings were also permitted. [In addition, farmer protests](#) in Northern India that continued over several months enabled large groups to assemble.

Vaccine Issues

Early enthusiasm about vaccines subsequently got bogged down in vaccine supply chain issues, production problems, and administration challenges. The Indian government announced the approval of two vaccines—[COVISHIELD](#)⁶ and [COVAXIN](#)—in early January. It began shipping the [vaccines to several countries](#) in an effort to showcase India's goodwill and vaccine manufacturing capacity. Between Jan.16 to April 16, 2021, India shipped over [69 million vaccines to 95 countries](#).

After the rapid surge in cases in March and April, however, [shipment of vaccines were suspended](#), and supplies were rerouted to domestic vaccination centers. Furthermore, the [need to import difficult to procure precursor materials](#) to increase vaccine production also complicated the production and delivery of the vaccines during the second wave. Critically, the sudden parallel surge in COVID infection rates overwhelmed the ability of the local health officials to quickly respond to the crisis. By mid-April, the number of COVID-19

⁵ Seven Day average death rates based on calculations from Our World in Data, 7/27/21.

⁶ COVISHIELD vaccine is independently produced in India through a licensing arrangement with the Oxford Astra-Zeneca company and manufactured by *Serum Institute of India (SII)*. COVAXIN is being developed and manufactured domestically in India by the *Barat Biotech Company* using a sample of the coronavirus, isolated by India's National Institute of Virology.

related deaths slowly crept up to 1,000 per day, and by mid-May, the number of deaths leapt to more than 4,000 per day (Our World in Data, 7/24/21).

[Correspondingly, rampant misinformation spread through social media](#) regarding vaccine side effects is producing [vaccine hesitancy](#) and [vaccine skepticism](#). Importantly, this has generated mistrust against the government vaccination program and led to costly [vaccine wastages](#). Further, many Indians, as in other countries, did not display any [great urgency or eagerness](#) to get vaccinated initially, which gave rise to [vaccine skepticism](#). Fear of side effects and [rumors](#) of catching COVID through vaccines spread on the Internet, which dissuaded many from vaccination. Critically, many who took one dose [did not show up for the second dose, increasing the risks of vaccine-resistant strains developing amongst those only partially vaccinated](#).

International politics also played a role in this current crisis. Because of the conflict with China, [India did not demonstrate any eagerness in procuring any of the Chinese vaccines](#) that are being administered in other countries. Instead, the Indian government rush ordered [300 million Russian Sputnik vaccines](#) to stem the tide of the transmission. Yet to fulfill India's plan of vaccinating at least a billion citizens, the country would need [two billion vaccines](#) and a large-scale vaccine supply and administration infrastructure to meet this goal. Currently, India is vaccinating between [3-4 million persons per day](#); several Indian analysts are urging the government to boost the vaccination to about 4-6 million per day.

Delegation to State-Level Policies

During the second wave, the Indian state governments took the lead in instituting lockdown policies, introducing [virus mitigation plans](#). [State government](#) leaders provided regular media briefings; increased bed and ICU capacity in hospitals; began procuring much in-demand medical supplies such as oxygen and life-saving drugs and PPE; issued international tenders for vaccines; and set up emergency treatment centers to meet the need for urgent care.

The merits and challenges of decentralized model of pursuing lockdown and procurement policies need to be further examined, not the least because there were some conflicts among states competing to [procure limited supplies of oxygen](#) and [essential drugs](#). Such disputes among different state governments speak to the effectiveness of the centralized versus decentralized models of the procurement. Eventually, the [Indian](#)

[courts had to intervene](#) to address inequities in the supply and procurement of critical oxygen for patients in hospitals.

States also struggled with the [mobilization of resources required for testing and vaccine administration](#). There are some distinct merits to the decentralized approach that India pursued during the second wave, such as setting-up localized policies to address local concerns. However, there are also some important lessons to be drawn in [improving inter-state cooperation](#) and effective [central-state coordination](#), particularly in testing, vaccine procurement, and surge testing.

Virus mitigation policies established during the second wave should now perhaps serve as a model for the development of localized policies, respondent to local conditions and without impacting normal activity in rest of the country. More localized policies will also allow for isolating and controlling clusters of infection rather than imposing stringent nationwide policies. But in the area of pricing of the vaccines and [vaccine procurement, central government is better situated](#) to issue international tenders and collectively negotiate on behalf of India. However, it is possible that vaccine administration could be delegated to state and local level health officials with central government oversight.

Other Considerations to Inform Future Policies

It is also critical that sustained emphasis is placed on maintaining some levels of COVID protocols, and large private gatherings such as [weddings](#), [receptions](#), [religious functions](#), [birthday parties](#) are managed appropriately. Greater efforts to fight fake news and misinformation are also essential. It is going to require enormous determination on the part of the state governments to continue to pursue disciplined lockdowns and specific social distancing protocols; accelerated vaccination campaigns, possibly driven by influential social, sporting, or other national figures, accompanied by active measures to build up the public health infrastructure are therefore also urgently required.

Also of note, a [recent national serological study](#) released by a government agency, the Indian Council of Medical Research (ICMR), showed that more than two-thirds of the unvaccinated Indian population above the age of six displayed a [high level of antibodies](#) or seroprevalence among sections of the Indian population.

This finding, along with the slowly increasing rates of vaccination, accompanied by proactive public health mitigation efforts, might prevent another surge of the mutant SARS-CoV-2 in India.⁷

Conclusions

The second wave of the coronavirus has revealed that, as in many other parts of the world, there are some key deficiencies in the Indian public health system. In the future, public health departments will have to procure and stockpile essential medical supplies in excess in anticipation of future spikes in the coronavirus. In this case, however, the Indian public health care system has to adapt to emergency situations quickly. The government must remain ready to make politically difficult decisions to re-impose restrictions on mobility and large gatherings. Crucially, India has to continue its sustained public health information campaign to ensure that its citizens are educated on the importance of vaccinations.

Like many other countries, India will inevitably learn from the mistakes and missteps of 2020 and the initial national and international pandemic response. Though such vectors are often beyond human or governmental control, there are many ways in which future epidemics can be mitigated in the Indian context if these lessons are taken on board. This includes more health security borders at the national and international levels; greater concern for the needs of migratory workers; increased attention to public health investment; more respect for the needs of the medical profession (particularly in rural areas) particularly by the government; and much greater awareness of the economic and social toll that low investment in the public health system (as against other infrastructural projects) can result in.

Declarations

1. The authors do not have any competing interests to declare.
2. This article has not been submitted elsewhere for publication.
3. The views expressed in this article do not reflect the views of DKI APCSS, Department of Defense, and the United States Government.
4. Research for this article was done using open-source materials and research databases.

⁷ India's [fully vaccinated rate](#) (two doses of COVISHIELD or COVAXIN) is about 6.7%.

Acknowledgment

The authors would like to thank Dr. Deon Canyon for his comments and feedback on the earlier versions of this article.

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August 2021*