





# **Epidemiology of COVID in India**



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The COVID-19 pandemic in India is a part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As of 27 September 2021, according to official figures, India has the second-highest number of confirmed cases in the world (after the United States of America) with 33,678,786 reported cases of COVID-19 infection and the third-highest number of COVID-19 deaths (after the United States and Brazil) at 452,811 deaths. However these figures exhibit severe under reporting.

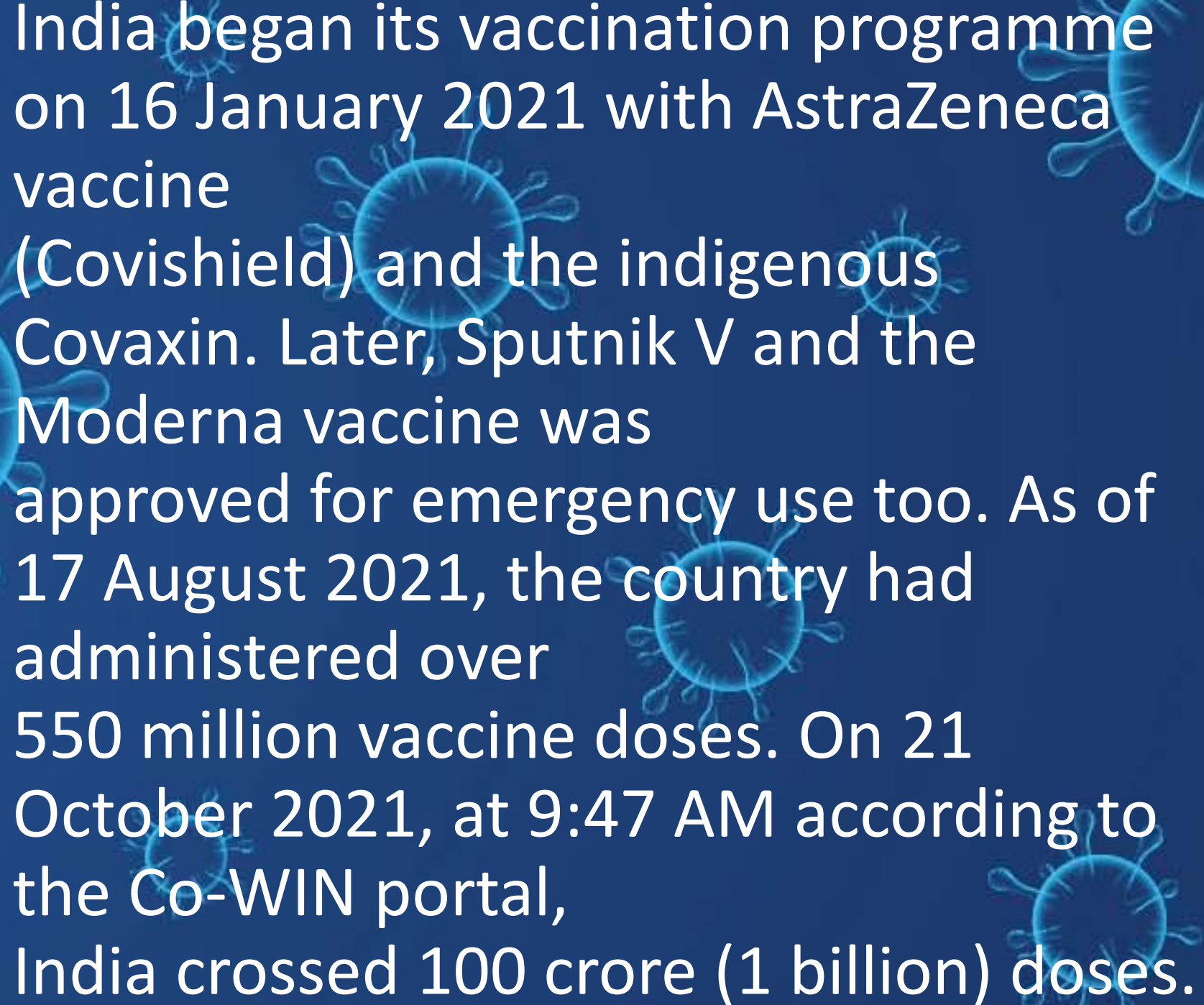


The background is a solid dark blue color. Scattered across the background are several stylized, light blue virus-like particles. These particles are spherical with numerous small, thin, radiating lines or spikes extending from their surfaces, giving them a spiky, three-dimensional appearance.

The first cases of COVID-19 in India were reported on 30 January 2020 in three towns of Kerala, among three Indian medical students who had returned from Wuhan, the epicenter of the pandemic. Lockdowns were announced in Kerala on 23 March, and in the rest of the country on 25 March. On 10 June, India's recoveries exceeded active cases for the first time.

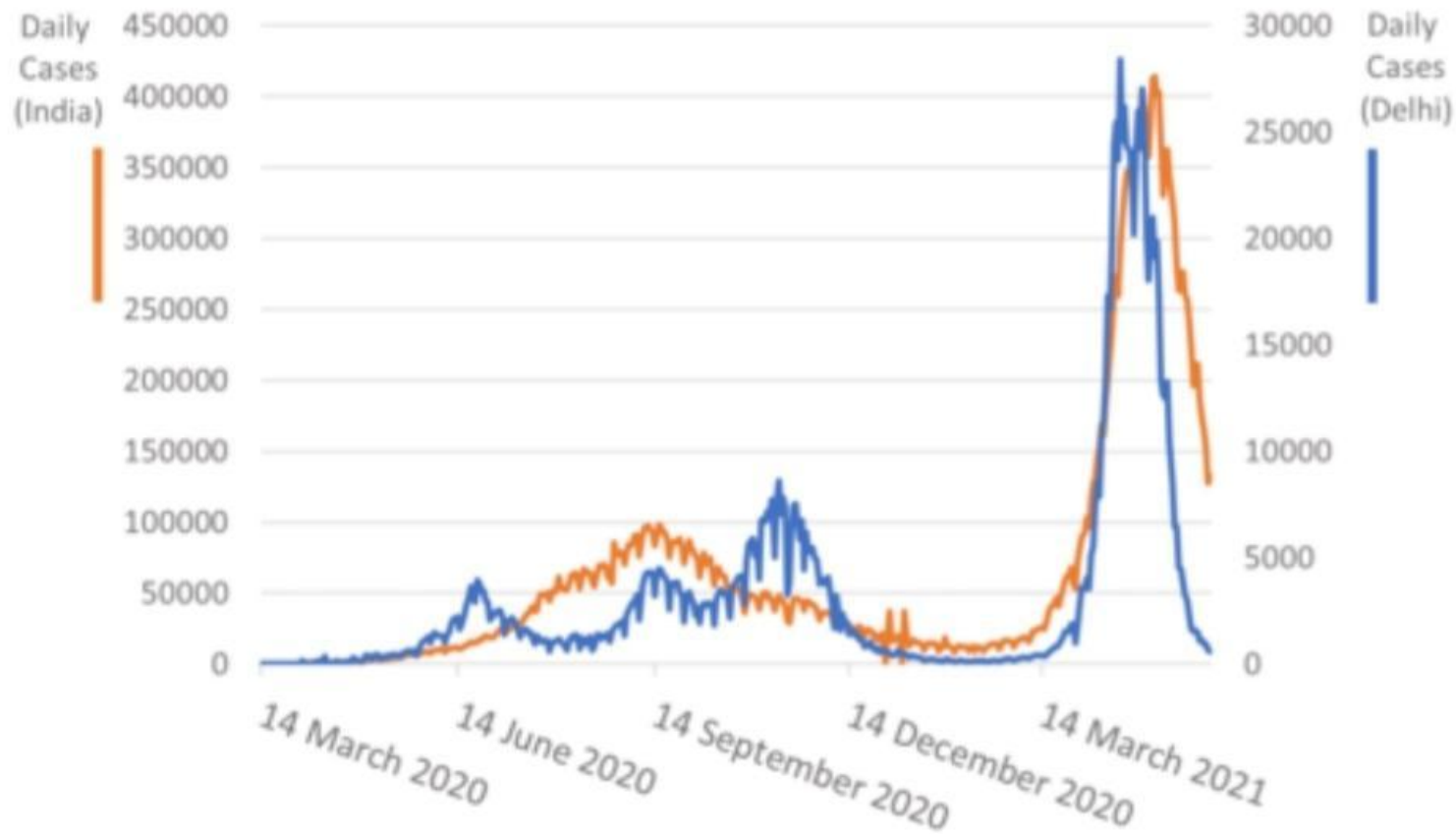
Infection rates started to drop in September, along with the number of new and active cases. Daily cases peaked mid-September with over 90,000 cases reported per-day, dropping to below 15,000 in January 2021.

A second wave beginning in March 2021 was much more devastating than the first, with shortages of vaccines, hospital beds, oxygen cylinders and other medical supplies in parts of the country. By late April, India led the world in new and active cases. On 30 April 2021, it became the first country to report over 400,000 new cases in a 24 hour period. Experts stated that the virus may reach an endemic stage in India rather than completely disappear; in late August 2021, Soumya Swaminathan said India may be in some stage of endemicity where the country learns to live with the virus.



India began its vaccination programme on 16 January 2021 with AstraZeneca vaccine (Covishield) and the indigenous Covaxin. Later, Sputnik V and the Moderna vaccine was approved for emergency use too. As of 17 August 2021, the country had administered over 550 million vaccine doses. On 21 October 2021, at 9:47 AM according to the Co-WIN portal, India crossed 100 crore (1 billion) doses.





India's two waves versus Delhi's four waves in the same time period taking into account daily COVID-19 cases

## **Vaccine development and production**

The Indian government infused ₹900 crore (US\$120 million) into the Department of Biotechnology in November 2020 to aid the development of a COVID vaccine. The 2021 budget of India also allocated ₹35,000 crore (US\$4.6 billion) for vaccine procurement.

In January 2021, the DCGI initially approved the Oxford–AstraZeneca vaccine, manufactured by the Serum Institute of India (SII) under the trade name "Covishield and BBV152 (Covaxin), a vaccine developed by Bharat Biotech in association with the Indian Council of Medical Research and National Institute of Virology.

The approval of Covaxin was met with some concern, as the vaccine had not then completed phase 3 trials. Due to this status, those receiving Covaxin were required to sign a consent form, while some states chose to relegate Covaxin to a "buffer stock" and primarily distribute the Oxford–AstraZeneca vaccine. Following the conclusion of its trial, the DCGI issued a standard emergency-use authorisation to Covaxin in March 2021. In April 2021, the DCGI approved the Russian Sputnik V vaccine, which was trialled in India by Dr.Reddy's Laboratories. The initial shipment of 150 million Sputnik V doses arrived on 1 May, and began to be administered on 14 May.

Domestic manufacturing of Sputnik V is expected to begin by August 2021, with doses imported from Russia being used in the meantime.



## **Healthcare and frontline workers**

On 8 August 2020, Indian Medical Association (IMA) announced that 198 doctors had died due to COVID-19. This number was increased to 515 by October 2020, and 734 by 3 February 2021. However, on 2 and 5 February 2021 the health ministry announced in the Rajya Sabha and Lok Sabha respectively that 162/174 doctors, 107/116 nurses and 44 ASHA workers/199 healthcare workers had died due to COVID-19. The figures were based on the governments "Insurance Scheme for Health Workers fighting COVID-19". As of 17 April 2021, IMA put the number of deaths of doctors at 747. Ten of thousands of doctors, nurses and health workers have been infected with covid. Healthcare workers followed by frontline workers in India were provided with covid vaccinations first, starting from 16 January 2021. This included 9,616,697 healthcare workers and 14,314,563 frontline workers; by May 2021 a majority of these had also been given their second dose. As per June 2021 figures of IMA, 776 doctors have succumbed to COVID-19. Karnataka Government announces plan to construct a COVID-19 Memorial.



**THANK YOU  
FOR YOUR  
ATTENTION!!!**