

EXPECT SECOND WAVE TO COME DOWN AS FAST AS IT WENT UP

But the tipping point, where cases start falling, might still be some time away

India is hitting new daily peaks in cases and deaths that are many times higher than in the first wave. Herd immunity is a distant target now as new variants spread and vaccinations slow down. While other countries have seen their second waves come and go, India's cases are still rising and experts are unsure when it will end. Here's how to understand the trends in this fresh Covid surge and how it could end



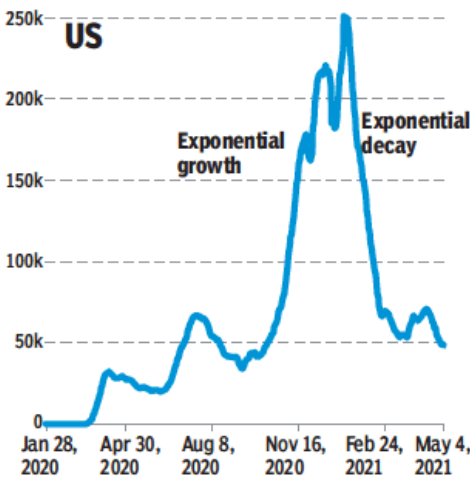
INDIA'S SECOND WAVE IN "EXPONENTIAL GROWTH" PHASE

Waves of the pandemic can be studied in parts: The exponential growth phase when new cases can double within days, followed by exponential decay when cases decline sharply and eventually stabilise at a low level for an extended period of time.

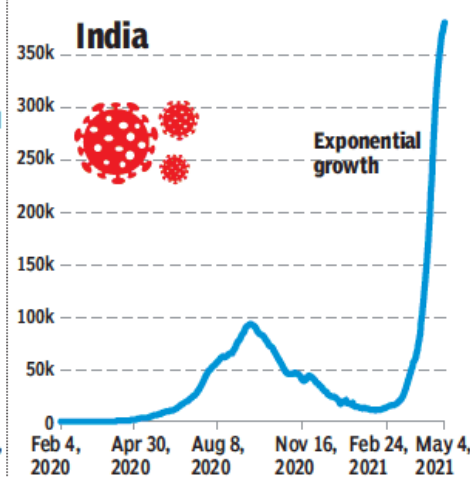


➤ Last October, the US saw the exponential growth phase of its second wave that only entered the decay phase once its vaccination programme was well underway in January.

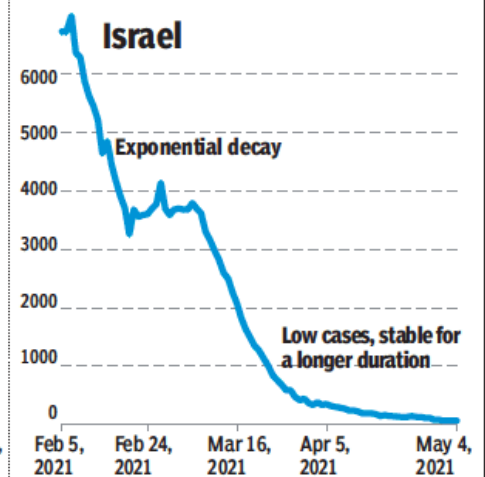
Exponential growth and decay in the US, seven-day average of daily new cases



Exponential growth in India, seven-day average of daily new cases



Post-exponential decay in Israel, seven-day average of daily new cases



➤ In India, the second wave's exponential growth phase began in mid-March. It took less than a month for daily new cases to cross the previous peak from September, and a month-and-a-half for daily deaths to exceed its record.

➤ Given the scale of the pandemic's second wave, according to the principle of exponential decay, cases could fall as rapidly as they rose. But the key is to reach the tipping point to initiate the decay phase by cutting off transmission chains, accelerating vaccinations, and taking enough precautions.

➤ Israel is one of the few countries that has progressed beyond the decay phase and flattened its curve of new cases to less than 200 a day since mid-April. That's a result of Israel's robust vaccination programme – 58.5% of its population has received both doses. Experts say Covid-19 is unlikely to disappear entirely, but the end of the pandemic could look something like this: A sharp decline in new cases and then a long duration of a low number of cases every day.

➤ India, however, is an example of easing precautions too soon. During the decay phase of its first wave, restrictions on public spaces were lifted and people became careless about masks and social distancing. Though more infectious new variants were identified last year and other countries also saw severe second waves, India did not ramp up its vaccination programme in anticipation of its own second wave. Without rapid vaccination, herd immunity and a return to normalcy remain a long way away.

HERD IMMUNITY FARTHER THAN YOU THINK

➤ Most countries had set herd immunity as their target through a combination of vaccinations and infection-acquired immunity. **Vaccination remains the most effective way to reach herd immunity and extend the decay phase for as long as possible.** Once enough people are vaccinated, it'll get easier over time to keep the cases at a sustainably low level.

of new Covid strains. More contagious variants mean a single infected person can spread the disease to more people. **From around 60% of the population, the target is at 80% or more now, some experts say.**

➤ An 80% target would take a mammoth effort for India to achieve at its current pace of vaccination, and low vaccine coverage in rural and

across the country even after reaching herd immunity at the national level.

➤ Experts say India's second wave has to hit a peak before herd immunity can be considered a realistic target. Projections from the Institute for Health Metrics and Evaluation at the University of Washington say **Covid deaths could peak in mid-May at 5.600 a day and**

➤ The COV-IND-19 study group at the University of Michigan projects India's **daily new cases will peak at 8-10 lakh, though it's not clear when.** It says daily deaths could peak at 4,500 in the second half of May.

➤ A model developed by IIT suggested **daily new cases could peak at 4.4 lakh in early May** and active infections could peak at 38-48 lakh by mid-May. An SBI study predicted a peak



for herd immunity has
changed since the arrival

remote areas could result
in many small outbreaks

the total death toll could rise
to 6.7 lakh by July-end.

**in the third week of May at 6-8
lakh new cases a day.**

Text: **Anjishnu Das**; Source: NYT, Our World In Data, media reports