a weekly publication from ICMR-NIRT Library

2021 | Vol.4 | Issue No.43

150 YEARS OF CELEBRATING THE MAHATMA

# news bulletin Library

# NEWS BULLETIN

25 Oct 2021 | Vol.4 | #43

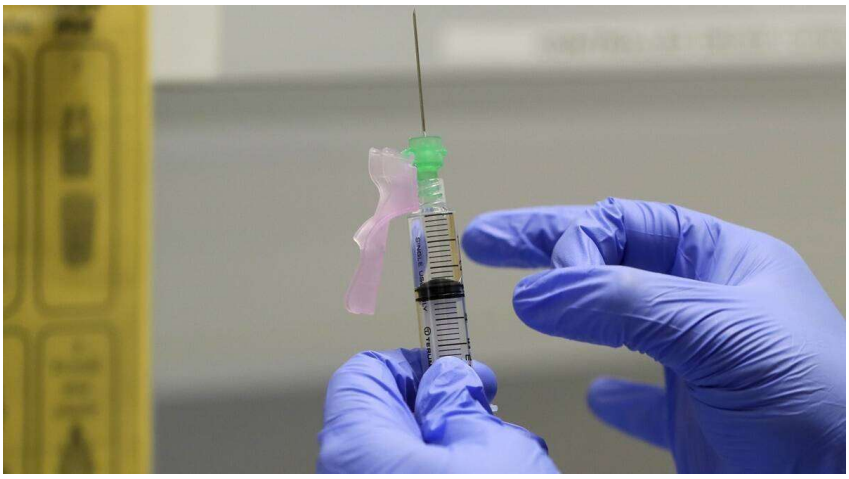
*A weekly publication from NIRT Library*

The Indian EXPRESS

## How India met the Covid challenge

**Breaking the boundaries between academia and industry, investing in research and ramping up facilities helped the country in its march towards the 100 crore vaccines milestone**

Updated: October 23, 2021 12:53:25 pm



*Even though Covid-19 vaccines have been developed in a short time and are being given EUA, we haven't cut short the trial and have a good amount of safety data from their phase-2 and phase-3 trials. (File)*

***Written by Renu Swarup***

Administering 100 crore vaccines is a remarkable achievement, recognised not just within the country but globally as well. It gives us a level of confidence that we can take on any major public health challenge. We are inoculating around an average of 60-70 lakh people every day, which is not an easy task, considering the vastness and varied demographics of the country.

THE HINDU

## Data | TB deaths on a seven-year high as case notifications and outpatient visits dipped in 2020

OCTOBER 22, 2021 18:04 IST

**India spent the least on TB drugs per patient despite the highest-burden of cases**

As many as 1.3 million fewer cases of Tuberculosis were detected in 2020 compared to 2019, according to the WHO. The drop in cases can be attributed to the COVID-19 pandemic as there was reduced access to disease diagnosis and treatment as well as curtailed spending since the since the infection outbreak. This reversed the gains made over the past few years in detection of TB cases. Following a drop in detection of new cases, deaths attributed to TB rose for the first time in the last 16 years in the world. The estimated TB deaths in India were the highest in seven years in 2020. Visits for treatment also fell sharply. Worryingly, among high-burden nations, India spent the least on TB drugs per patient despite accounting for an estimated 28% of the new cases last year.

Vaccination is one of the key measures of controlling the pandemic, but equally important is following Covid-appropriate behaviour. Every citizen has to ensure that we don't create an environment where the virus can spread, again.

India has always been known as the largest producer of vaccines. What did it take for it to become a developer of the vaccine? This has been a very remarkable journey where we saw researchers coming together from academia, the industry, and start-ups. We shared knowledge, ideas and infrastructure, breaking the boundaries between academia and the industry. And the result is there for all to see. We indigenously developed Covaxin which, along with Covishield, has driven our vaccination programme. We have already got emergency use authorisation (EUA) for the world's first DNA vaccine, and soon we are going to have a vaccine from Biological E. Besides, an mRNA vaccine is in phase 2 clinical trials.

We are confident that with the infrastructure and scientific acumen we have, we can develop many other vaccines, beyond Covid-19.

Even though Covid-19 vaccines have been developed in a short time and are being given EUA, we haven't cut short the trial and have a good amount of safety data from their phase-2 and phase-3 trials. Various studies are going on post-vaccination to keep track of the vaccine efficacy against different variants. We have also got data to show the types of breakthrough infections, re-infection cases, etc, which gives us the confidence that the vaccines are both effective and safe.

Various institutes across the country, including DBT's Translational Health Science and Technology Institute (THSTI), have undertaken long-term studies to study various aspects of the vaccines.

There were challenges that the country faced during the development phases of the vaccines. Vaccine development is a complex process. The challenges faced were on the scientific and technical front, which every scientific researcher would face. We were looking at developing five to six vaccines simultaneously. So, initially, our challenge was to have adequate research facilities to meet the demand.

In fact, India was one of the first countries that prepared a roadmap to fight the disease, along with developed nations such as the US and the UK, at the WHO meeting in February 2020. We identified vaccines as our biggest strengths. The government supported this high-risk innovation funding for new vaccine development platforms and that's how the industry got the confidence to work on mRNA and DNA vaccines.

Simultaneously, we identified the gaps: We needed more animal facilities, immunoassay laboratories and clinical trial facilities, and we quickly ramped them up

Today, we have 54 clinical trial sites and 4 animal test facilities and our researchers don't have to depend upon resources from overseas. We have all the required resources within the country. So, this has been a strategically planned effort.

This massive investment in research will also help the country. This was the first time that the government so quickly invested in a mission focused on a product. Mission Covid Suraksha which was launched under the Atmanirbhar Bharat programme was a Rs 900-crore mission that helped us develop a number of vaccines in such as short time.

In fact, I also strongly believe that we could achieve it because we have been investing in the basic science ecosystem for some years now. And this capacity that we have built will encourage us to develop vaccines for tuberculosis, dengue, chikungunya, malaria, and many more And most importantly, a pan-coronavirus vaccine that could provide protection against all variants of Covid-19.

*The writer is secretary, Department of Bio-Technology*

The Indian EXPRESS

# Amid Covid, testing for malaria & dengue takes a back seat

**Dr Dilip Patil, State Immunization Officer, attributed the decline in testing for malaria and dengue to the state's emphasis on tackling Covid and shortage of staff to conduct tests.**

Mumbai | October 22, 2021 12:21:04 am


*Dengue fever is a mosquito-borne tropical disease caused by the dengue virus. Dengue is spread by several species of female mosquitoes of the Aedes genus, principally Aedes aegypti.*

Written by RUPSA CHAKRABORTY

AMID THE ongoing Covid-19 pandemic, the testing of mosquito-borne diseases like malaria and dengue has taken a back seat.

In 2019, a total of 1.72 crore samples were tested for malaria and 4.63 lakh for dengue. In 2020, the testing numbers for malaria fell to 1.14 crore and for dengue, it was 1.71 lakh. This year as of August, the total number of tests for malaria stood at 86.39 lakh and 1.73 lakh for dengue.

In 2019, 4,072 and 2,064 patients were diagnosed with malaria and dengue respectively in the state, which increased to 12,909 and 3,353 in 2020. In 2021, as of October 13, the state has reported 10,866 cases of malaria and 8,972 cases of dengue.

Dr Dilip Patil, State Immunization Officer, attributed the decline in testing for malaria and dengue to the state's emphasis on tackling Covid and shortage of staff to conduct tests.

Commenting on the decline in testing, Dr Mangala Gomare, Executive Health Officer of Brihanmumbai Municipal Corporation (BMC) said that due to the lockdown many patients couldn't reach hospitals to get tested. "Compared to last year, we have increased testing this year. This is also being reflected in the recent rise of cases," she said.

Medical experts have warned that a drop in testing will hinder the government's years of hard work to curb cases of mosquito-borne diseases. As the novel coronavirus has similar symptoms to dengue and malaria, doctors might miss identifying Covid-19 co-infections, experts warned.

Dr T Jacob John, Virologist and retired professor at the Christian Medical College, Vellore, said the manpower crunch in the public health has led to the ignorance of non-Covid diseases amid the pandemic. "India has already recorded lakhs of 'excess deaths' as the public health departments ignored treatment for malaria, dengue cancer, tuberculosis among others. It has been over 18 months since the outbreak of the pandemic so, it is high time the health departments start paying more importance to non-Covid ailments," he added.

The Indian EXPRESS

# Spinal fungal infection in Covid-recovered patients: Know about the rare condition

**Many pathogens like bacteria, mycobacterium sp (tuberculous bacteria) and very rarely fungi affect the spinal disc and bone leading to infective spondylodiscitis and vertebral osteomyelitis, said Dr Harshal Bamb, spine surgeon.**

By: Lifestyle Desk | New Delhi |
Updated: October 20, 2021 3:00:14 pm


*Spinal issues are direct determinants of quality of life and disability (Source: Getty Images/Thinkstock)*

"The pandemic has observed a steep rise in opportunistic infections in the post-Covid period. **Mucormycosis** or black fungus affecting the face, nasal-oral cavity and eyes has wreaked havoc in the past few months, requiring surgical and long-term medical treatment. But this is not the only fungal infection associated with Covid-19," mentioned Dr Harshal Bamb, consultant and spine surgeon at Global Hospital, Mumbai.

He added that Aspergillosis sp and candida sp are common fungal co-infections observed during and after the Covid-19 infections. "Although spinal infections by fungus is a very rare occurrence; there are recent reports of such cases both in the country and abroad," he added,

**What is fungal spinal infection?**

Many pathogens like bacteria, mycobacterium sp (tuberculous bacteria) and very rarely fungi affect the spinal disc and bone leading to infective spondylodiscitis and vertebral osteomyelitis. These infections, if not treated early and effectively, can lead to disastrous and permanent neurological problems and spinal deformities.

**Fungal** spinal infections are very rare with incidence less than 10 in a million (10 in 10,00,000), often presenting with non-specific signs and symptoms.

These infections are difficult to diagnose being commonly misdiagnosed and treated empirically as spinal tuberculosis which can have grave, life threatening consequences, said Dr Bamb. However, with the current practice of biopsy and microbiological study of every suspected spinal infection, accurate diagnosis and early treatment is often effectively started.

*Nonspecific symptoms- Low back pain and spasms, back pain on movements, resting pain, early fatigability, fever, weight loss etc
*Para spinal region swellings, spinal tenderness/ warmth, neurological issues

*Even a nonspecific back pain in the post covid period should be taken seriously, expert says. (Source: Getty Images).*

*Identification of the fungus in biopsy sample is the only confirmatory test.

*X-rays and MRI scans are often indicative but not diagnostic.

**Why is spinal health important?**
"Spinal issues are direct determinants of quality of life and disability. Even simpler acute spinal

ailments often affect the patient's ability to perform day to day activities pain-free and effectively. **Spinal** infections are major issues leading to serious long term and permanent sequelae. Spinal deformities and permanent neurological damages are fairly common in cases of difficult to diagnose and treat spinal infections," he explained.

Post covid syndrome as an entity includes many variable signs and symptoms. Even a nonspecific back pain in the post covid period should be taken seriously. As we must remember - prevention has to take precedence; treatment is a difficult road to trudge.

**What is the link with Covid-19?**

Fungi are common inhabitants of human skin, nasal and respiratory tracts; but invasion into blood and important organs is almost a rarity. Fungal spinal infections are commonly opportunistic; meaning that they affect immunocompromised patients, such as solid organ recipients, patients with hematologic malignancies (cancers that affect the blood, bone marrow, and lymph nodes), those with severe neutropenia (lower-than-normal levels of neutrophils, a type of white blood cell), and those receiving high-dose steroids.

"Long term ICU management and steroid use is commonly needed in severe covid pneumonia which makes patients susceptible to invasive fungal infections. Various biological and pathological mechanisms have been postulated whereby Covid virus itself affects patient's immunity leading to invasive fungal infections," said Dr Bamb.

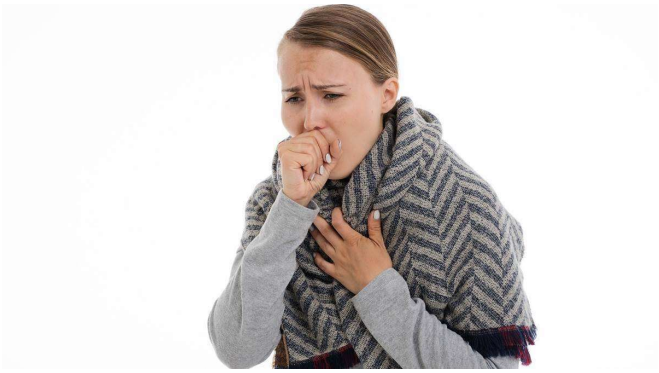
Re-use of health care equipment especially not adequately cleaned is also a described risk factor. With rising need and unavailability of resources,the re-use of gloves, intubation kits – tubes, ICU/oxygen assemblies, masks or PPE kits cannot be precluded. Most centres have taken great efforts and necessary precautions to maintain hygiene standards despite the huge adversity of a full blown **pandemic**.

The Indian EXPRESS

## Coughing may not be the primary driver of TB transmission: new study

**The disruption to TB services during the pandemic has only highlighted just how important it is to make testing for and treating TB simpler and easier to access.**

By: **Express News Service** | Pune |
Updated: October 20, 2021 9:24:54 am



*The development of a fast and accurate, non-sputum-based point-of-care triage test for tuberculosis would have a major impact on combating the TB burden worldwide. (Source: pixabay/file)*

The virtual 52nd Union World Conference on Lung Health, which opened on Tuesday, announced major scientific developments that will potentially impact the global response to tuberculosis (TB).

This year, the event takes place against the backdrop of the ongoing Covid-19 vaccine inequity, with the pandemic continuing to impact the delivery of TB services in many low-income and middle-income countries.Today,

Covid-19 and TB are the two most fatal infectious diseases in the world.

The novel coronavirus pandemic has refocused attention on how infectious diseases are transmitted from person to person and has catalysed innovations in sampling and diagnostics. The disruption to TB services during the pandemic has only highlighted just how important it is to make testing for and treating TB simpler and easier to access.

On the opening day of the conference, researchers from the University of Cape Town announced results from their study of TB patients carried out in the specially-constructed Respiratory Aerosol Sampling Chamber which suggest that coughing — thought previously to be the main means of spreading TB — might not be the primary driver of TB transmission. Instead, tidal or regular breathing may be a far more significant contributor to the aerosolization of Mycobacterium tuberculosis, the bacterial cause of TB.
"This study is an important step forward in our understanding of aerosol transmission of disease and its findings are as relevant for Covid-19 as they are for TB," said Guy Marks, president of The Union and convenor of the World Conference, in a statement issued on Tuesday.

Lead author of the study, Ryan Dinkele of the University of Cape Town, said if tidal breathing was a primary driver, or even as important as cough in TB transmission, then symptomatic screening for TB-transmitters may not be useful in slowing the spread of the disease.

"The current approach, which relies on testing and treatment of passively identified individuals, may not be a reliable response to preventing transmission, as it depends on people feeling sick enough to seek treatment," said Dinkele. "It may also shed light onto why constructing transmission chains is so challenging in high-TB burden settings."

**Finger stick blood test can detect TB in less than an hour**

The development of a fast and accurate, non-sputum-based point-of-care triage test for tuberculosis would have a major impact on combating the TB burden worldwide.

A new finger stick blood test has been developed by Cepheid. The device is the first to meet the WHO target product profile for a triage test for TB regardless of HIV status or geographical location. It takes under one hour and uses finger stick blood, rather than sputum, which reduces biohazard risk and increases likelihood of diagnosis in individuals who cannot readily produce sputum, such as children and people living with HIV.

THE TIMES OF INDIA

## Tuberculosis, like Covid-19, spreads by breathing: Scientists

NYT News Service | Oct 20, 2021, 07.43 AM IST

Upending centuries of medical dogma, a team of South African researchers has found that breathing may be a bigger contributor to the spread of tuberculosis than coughing, the signature symptom. As much as 90% of TB bacteria released from an infected person may be carried in tiny droplets, called aerosols, that are expelled when a person exhales deeply, the researchers estimated. The findings were presented on Tuesday at a scientific conference held online. The report echoes an important finding of the Covid pandemic: The coronavirus, too, spreads in aerosols carried aloft, particularly in indoor spaces. TB is caused by a bacterium called Mycobacterium tuberculosis, which usually attacks the lungs. It is the world's

deadliest infectious disease after Covid-19, claiming more than 1.5 million lives last year — the first increase in a decade, according to a report published last week by the WHO. As the Covid pandemic disrupted access to healthcare and supply chains around the globe, 5.8 million people were diagnosed with TB in 2020. But the WHO estimates that about 10 million people were infected. Many may unwittingly be spreading the disease to others. "Our model would suggest that, actually, aerosol generation and TB generation can happen independent of symptoms," said Ryan Dinkele, a graduate student at the University of Cape Town who presented the results. The finding helps explain why tightly packed indoor spaces, like prisons, often are breeding grounds for TB, as they are for Covid. And the research suggests that some of the methods used to limit coronavirus transmission — masks, open windows or doors, and being outdoors as much as possible — are important in curtailing TB.

Researchers previously believed that most TB transmission occurred when an infected person coughed, spraying droplets containing the bacteria onto others. Some bacteria were thought to be released when a person breathed, but much less than by coughing. The new finding does not change that understanding: A single cough can expel more bacteria than a single breath. But if an infected person breathes 22,000 times per day while coughing up to 500 times, then coughing accounts for as little as 7% of the total bacteria emitted by an infected patient, Dinkele said.

The Indian EXPRESS

## Fauci says vaccines for kids between 5-11 likely available in November

**U.S. Food and Drug Administration officials are reviewing the Pfizer/BioNTech application seeking authorization of its 2-dose vaccine for younger children, with its panel of outside advisers scheduled to weigh in on Oct. 26.The FDA typically follows the advice of its panel but is not required to do so.**

By: Reuters | Washington |
Updated: October 25, 2021 2:18:30 pm

Vaccines for kids between the ages of 5 and 11 will likely be available in the first half of November, top U.S. infectious disease expert Anthony Fauci said on Sunday, predicting a timetable that could see many kids getting fully vaccinated before the end of the year.

"If all goes well, and we get the regulatory approval and the recommendation from the CDC, it's entirely possible if not very likely that vaccines will be available for children from 5 to 11 within the first week or two of November," Fauci said in an interview with ABC's This Week.

U.S. Food and Drug Administration officials are reviewing the Pfizer/BioNTech application seeking authorization of its 2-dose vaccine for younger children, with its panel of outside advisers scheduled to weigh in on Oct. 26.The FDA typically follows the advice of its panel but is not required to do so.

Advisers to the U.S. Centers for Disease Control and Prevention (CDC) will weigh in on recommendations for the vaccine at a meeting on Nov. 2 and Nov. 3, helping to inform a final decision by its director. CDC Director Rochelle

Walensky, speaking at Fox News Sunday, also said the agency wanted to act swiftly.

*A youth receives a Pfizer-BioNTech Covid-19 vaccine in the central Israeli city of Rishon LeZion. (AP/File*

"After they (FDA) are able to review all the science and conduct the regulatory action and the CDC will meet, and if all of that goes smoothly … we will act quickly," she said. "We know how many parents are interested in getting their children between 5 and 11 vaccinated and we intend to act as quickly as we can," she added.

Once authorized, roughly 28 million more children in the United States would be eligible to receive what would be the first U.S. COVID-19 vaccine for younger kids. The Pfizer/BioNTech shot is already available to those ages 12-17, and the companies are still studying it for children younger than 5.While children have a lower rate of death from COVID-19, many face illness and long-term symptoms that are still being studied. Many adults who have been hesitant or opposed to the COVID-19 vaccine, and even some who did not oppose the vaccine for themselves, are expected to resist giving the shot to their children.

Asked if schools should mandate a vaccine for kids, Walensky said: "Right now we are at authorization. We're having discussions about authorization. I think we need to get children vaccinated through this authorization and get to approval before we can make a judgment there."

The Indian EXPRESS

## The US and Israel were early world leaders on vaccinations, now they are trailing

**Today, 87% of people in Portugal are fully vaccinated, according to the Our World in Data project at Oxford University. That rate is second only to that of the United Arab Emirates, a far smaller country whose rulers exert considerably greater control.**

By: **New York Times** |
Updated: October 25, 2021 1:57:07 pm

*FILE - People protest vaccine mandates in New York, Sept. 27, 2021. Today, 87 percent of people in Portugal are fully vaccinated, according to the Our World in Data project at Oxford University. (Dave Sanders/The New York Times)*

The United States was one of the first countries to begin vaccinating its population, and by summer, was leading most nations in getting shots in arms, with 67% of the population receiving at least one shot by July 4.

Today, 87% of people in Portugal are fully vaccinated, according to the Our World in Data project at Oxford University. That rate is second only to that of the United Arab Emirates, a far smaller country whose rulers exert considerably

greater control. Earlier this month, Portugal ended nearly all of its coronavirus restrictions.

The United States, meanwhile, despite having a surplus of doses, has fully vaccinated only 57% of its population, according to a New York Times tracker. Resistance remains high among some demographic groups and within some specific workforce sectors, including police officers and firefighters.

That has left the United States lagging behind dozens of nations in the pursuit of full vaccination. Although, with a population of about 330 million, it ranks third in the sheer number of administered doses, more than 411 million, after China's more than 2.2 billion doses and India's more than 1 billion.

Other early vaccination leaders have also stumbled. Israel got an early start on its vaccination campaign Dec. 20 and rapidly outpaced virtually every other nation in getting jabs into arms — and now in giving booster shots to nearly half of its eligible population. But today, with hesitancy remaining among Arab, Orthodox Jewish and younger Israelis, the country reports that just 63% of its population is fully vaccinated, less than South Korea, Italy and some 40 other countries.

Public health experts blame the shortcomings of the U.S. effort partly on a toxic political environment, amplified by misinformation on social media and muddled messaging by government authorities.

"Every country has an anti-vax movement, but in most countries it's exceedingly small," said Dr. John Swartzberg, a professor at the School of Public Health at the University of California at Berkeley who has taught a seminar on vaccine hesitancy for several years. "It's not a new movement, but it's never had the traction it has today."

Social media has been "irresponsible" in dealing with unfounded rumors, he said, and the United States has been "the poster child of a country that has not handled the messaging about vaccines."

A lack of trust in authorities and expertise, along with deep political polarization, also played a key role in hampering the U.S. vaccination effort, said Dr. Michael Lauzardo, deputy director of the University of Florida's Emerging Pathogens Institute.

"If somebody's family member is diagnosed with cancer, you're going to talk to an expert," he said. "But if somebody's family member gets a life-threatening disease, in this case COVID, they're more willing to listen to television pundits and get their information from social media than from doctors and public health experts."

In Asia, part of the turnaround comes from countries finally securing supplies and working out the kinks in their vaccination programs.

In countries like France, Italy and Canada, officials began requiring people to use health passports to show proof of vaccination to enter many establishments, a move that is credited with improving their vaccination efforts.

"We do not have the barriers of supply or distribution or access to the vaccine," said Dr. Leana Wen, a public health professor at George Washington University. "The only barrier at this point is people's willingness to be vaccinated. That's what's going wrong compared to other countries that have solved their supply, distribution and access issues."

The Indian EXPRESS

# How your face could soon replace your credit card and UPI based payments

**A facial recognition system has endpoints, which are able to measure certain variables of a person's face, and using this data, a faceprint is created.**

Written by Mehab Qureshi | Pune |
October 25, 2021 1:37:39 pm

*Contactless payments helped consumers keep safe during the coronavirus induced pandemic. (Photo: Visionlabs)*

Imagine you are going to the supermarket and you pay without your phone or credit card. You only look at a camera, authenticate your identity and then make the transaction. Welcome to the futuristic world of facial recognition payment. This may sound more like something out of a science fiction novel or movie, but this is now possible.

The creation of the facial recognition payment systems comes as a direct response to the Covid-19 pandemic, which has radically accelerated the shift to biometric contactless payment methods. It is worth noting that this appetite will see the number of users securing payments via software-based facial recognition exceed 1.4 billion globally by 2025 compared to just 671 million in 2020, according to a market report by Juniper Research.

Contactless payments helped consumers keep safe during the coronavirus-induced pandemic— as facial recognition payments are taking off, there will be no need to carry a smartphone, bank card, or any form of identification, or even have to enter a pin number.

**How does it work?**

To make contactless and facial recognition-based payment possible, a Netherland-based company called VisionLabs, recently announced the launch of its pioneering biometric payment hardware — the VisionLabs LUNA POS Terminal.

This payment terminal scans the customer's face, similar to using facial recognition to unlock a smartphone. Milliseconds later, the face template is sent to the payment service provider or bank for identification. An algorithm then identifies whether the customer is who they say they are, determining transaction success or failure.

A facial recognition system has endpoints, which are able to measure certain variables of a person's face, including the width or length of the nose, space between eyes and depth of eye sockets, and even the contour of the cheekbones— using this data, a faceprint is created.

To make payments using faceprints, every face has to be linked to their bank accounts. This data, is then matched by the payment terminal for authentication purposes. So, instead of paying via cash or through UPI apps, consumers can scan their faces on a screen mounted on the payment terminal and have the money automatically deducted from their linked accounts.

"We introduced our first generation of LUNA POS with no credit card support in 2019 to simply try out the face-based payment process. It quickly turned out that the adoption rate of this technology exceeded our expectations: we have recorded a conversion rate upwards of 40 percent to face payments among different types of major national banks and retailers," said Anton Nazarkin, Global Business Development Director at VisionLabs.

**…but is it safe?**

In the case of facial recognition-based payment technology, several concerns have been raised related to facial recognition software being tricked by scammers, the lack of two-step authentication, and most importantly— privacy concerns related to the use of faceprints for surveillance purposes.

However, VisionLabs believes that is important to remember fraud has a cost to the fraudsters too and it is much more expensive to spoof the face recognition system compared to well-known credit card fraud approaches. "This is a common belief among some industry experts however that is incorrect for one simple reason: with contactless card payments, there is no way to make sure that the person presenting a card is the actual cardholder. On the contrary, with facial recognition payments the actual identity of the payer is confirmed in real-time," the company told *indianexpress.com*.

Interestingly, the company also claims that it does not save any facial data and will never capture any faces without consent from the customer and authorisation from the terminal operator.

The Indian EXPRESS

## China, still pursuing 'zero Covid,' has reported dozens of cases in recent days

**Several of the most recent cases have been linked to a couple from Shanghai who traveled to Shaanxi, Gansu and Inner Mongolia, a region of northern China.**

By: New York Times |
October 25, 2021 12:06:12 pm

*A medical worker in protective suit collects a swab from a man during a mass nucleic acid testing in Huichuan district following new cases of Covid-19 in Zunyi, Guizhou province, China. (Reuters)*

***Written by Austin Ramzy***

Coronavirus cases linked to domestic vacation travel continued to be spread around China, prompting officials to warn that the outbreak could expand despite the country's stringent Covid-19 controls that aim to keep case counts as close to zero as possible.

China reported 26 new cases of coronavirus Saturday, down slightly from Friday, when 38 were reported, the highest since mid-September. The newest cases were concentrated in the northwestern areas of Inner Mongolia, Gansu and Ningxia. Four cases were also reported in Beijing, the capital.

*People wearing face masks cross a street in Beijing, following outbreaks of the coronavirus disease in China, October 25, 2021. (Reuters)*

As much of the world has learned to live with the virus and countries like New Zealand have abandoned a "zero Covid" strategy, China remains committed to stamping it out wherever it appears, as quickly as it can. Its strict regimen has been in place since the pandemic began in the city of Wuhan in early 2020. Its government has not reported any large or significant outbreaks this year.

The United States, by contrast, has been averaging about 73,300 new coronavirus cases daily, according to a New York Times database.

A Chinese health official said that the burst of infections had already reached 11 provinces and regions, and warned that it could spread further.

"Most of those infected have been involved in inter-regional tourism activities, and the risk of further spread is still growing," Mi Feng, a spokesperson for the National Health Commission, said. "Areas that experience outbreaks must rapidly enter a state of emergency."

In all, 106 of China's 133 recent cases appeared to have come while people were on tour groups or on driving holidays across the country, Wu Liangyou, another health official, said Sunday.

*A medical worker behind a glass collects a swab from a man to do a nucleic acid test at a booth on the street outside a shopping mall in Beijing, China, October 25, 2021. (Reuters)*

Several of the most recent cases have been linked to a couple from Shanghai who traveled to Shaanxi, Gansu and Inner Mongolia, a region of northern China. A subsequent outbreak in the Changping district of Beijing was traced to a group of Beijing residents who had traveled to Inner Mongolia and back by car.

This week, Beijing has sealed off parts of the Changping district for large-scale testing, closed some community centers and asked residents not to leave the city unless necessary. Beijing and four other areas would curtail tourism in an effort to stop the spread of the virus, the government said.

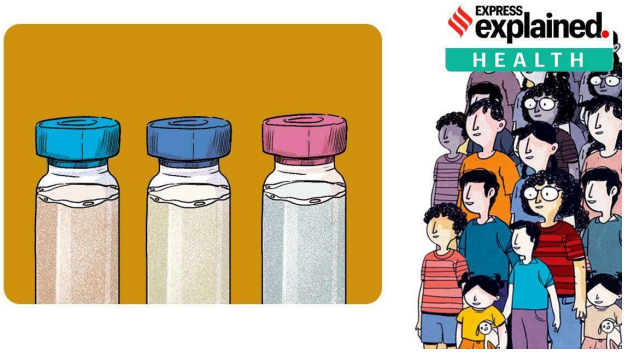
On Sunday, the Ejin area of Inner Mongolia ordered residents to stay in their homes, and tourists to stay inside their hotels after investigators confirmed a dozen new Covid infections in the area, bringing the total there to 43. People who violate the stay-in order could be prosecuted, the government said.

The Indian EXPRESS

# Quixplained: Should younger children get Covid-19 vaccine?

**So far, India has approved Zydus Cadila's vaccine for children aged above 12 years. Pfizer's double dose has been recommended for 12 years and above in the US, and a single dose for the same age level in the UK.**

By: Explained Desk | New Delhi |
Updated: October 24, 2021 10:20:17 am

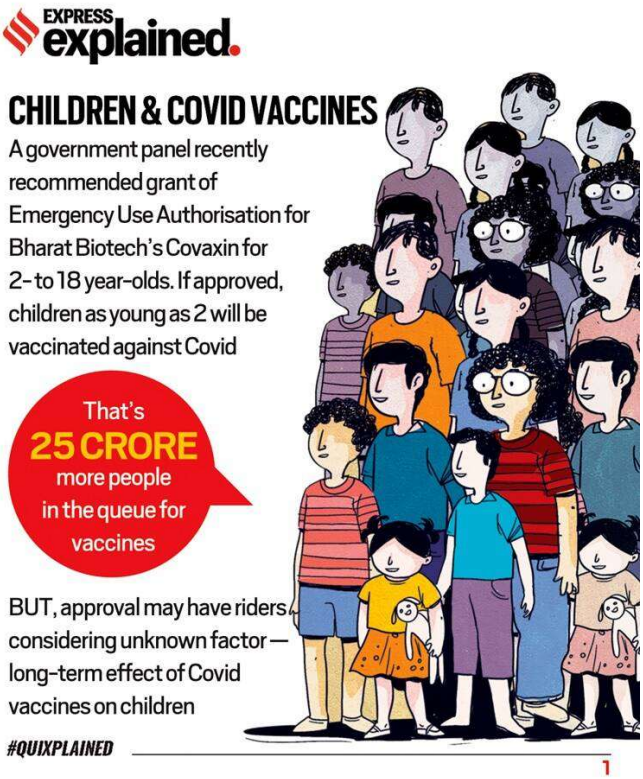



*The SEC's recommendation to the Drug Controller General of India (DGCI) means that India is just one step away from formally clearing the vaccine for children*

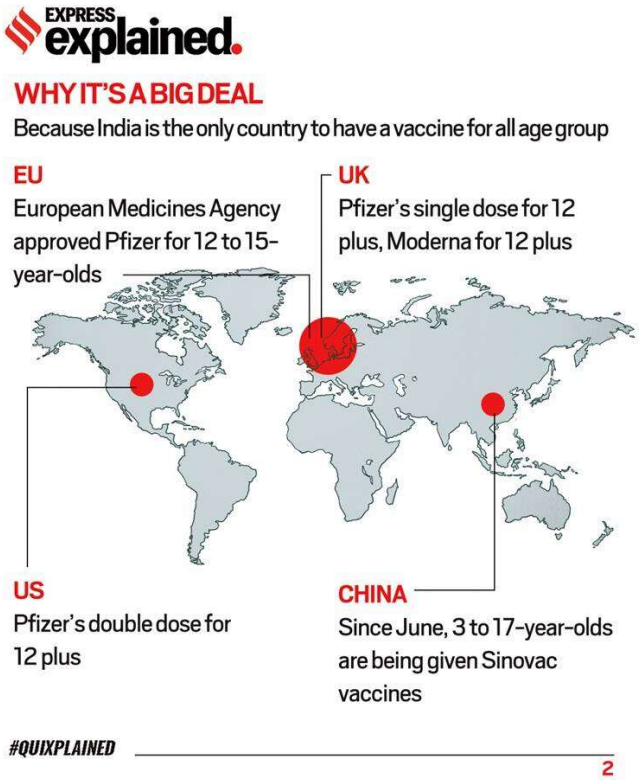
The decks are being cleared for children to be included in India's Covid vaccination drive with the Government's Subject Expert Committee (SEC) **recommending the grant of Emergency Use Authorisation (EUA)** for Bharat Biotech's Covaxin in the age group of 2-18 years.

The SEC's recommendation to the Drug Controller General of India (DGCI) means that India is just one step away from formally clearing the vaccine for children. Sources told The Indian Express that the DGCI is expected to approve the SEC's recommendation soon, potentially bringing an additional 25 crore beneficiaries under the vaccination umbrella.

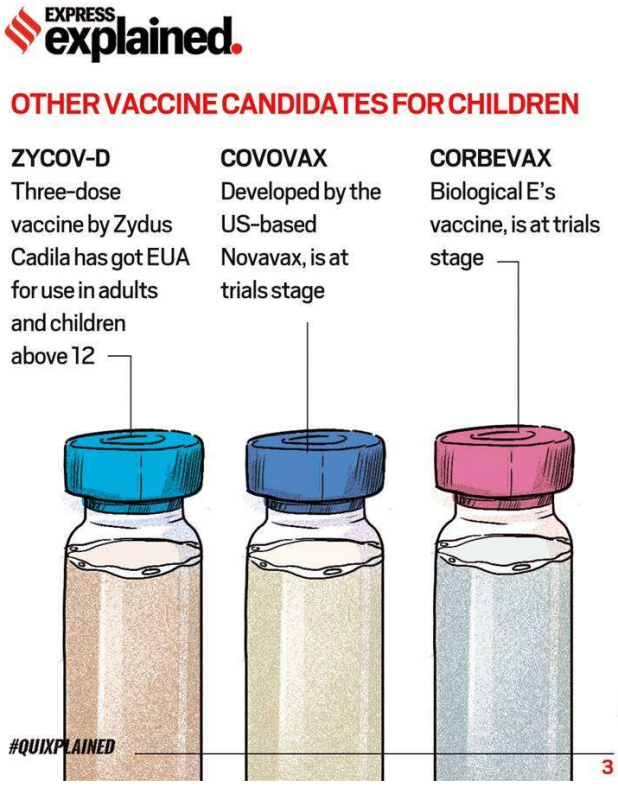
So far, India has **approved Zydus Cadila's vaccine for children aged above 12 years**. Pfizer's double dose has been recommended for 12 years and above in the US, and a single dose for the same age level in the UK. Moderna's vaccine has also been approved by the UK regulator for those above 12 years old.



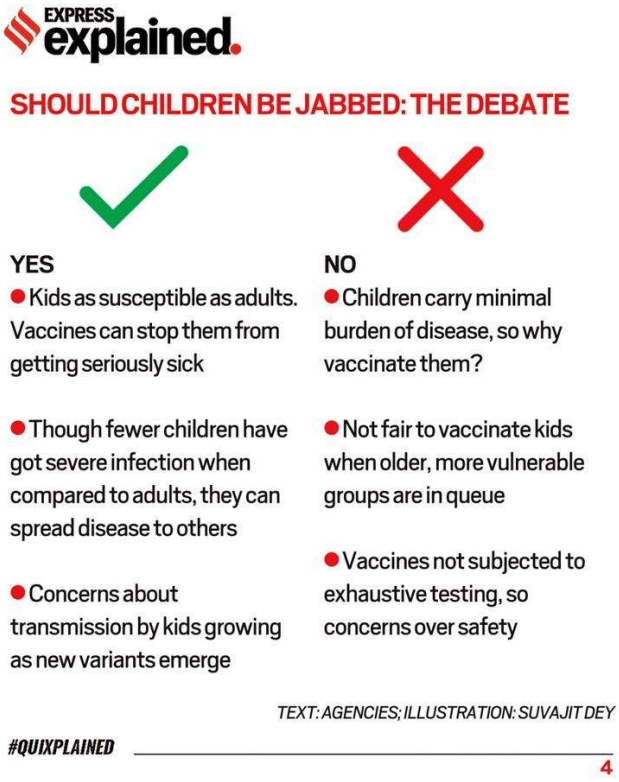

*A government panel recently recommended grant of Emergency Use Authorisation for Bharat Biotech's Covaxin for 2-to 18 year-olds*




*If approved, India will be the only country to have a vaccine for all age group*




*Which are the other vaccine candidates for children*




*Should children be jabbed?*

The Indian EXPRESS

## An Expert Explains: How is poliovirus similar (or different) to a coronavirus

**Poliovirus was first isolated in 1909 by Karl Landsteiner and Erwin Popper and the first human coronavirus was isolated in 1933 by Leland David Bushnell and Carl Alfred Brandley.**

Updated: October 25, 2021 3:00:38 pm

***Written by Dr Pavithra Venkatagopalan***

In a world overwhelmed by the current Covid-19 pandemic, it is easy to forget about the existence of other viruses which can cause serious illness. One such virus that has affected our lives since the times of the Egyptian civilisation is the poliovirus. Every year, October 24 is marked as World Polio Day in celebration of the birth of Jonas Salk, the American researcher who developed the first polio vaccine in 1955.


*Polio drops being administered to one of the children during Nationwide Pulse Polio Drive at Sukhna Lake in Chandigarh on Sunday, January 31, 2021. (Express File Photo by Kamleshwar Singh)*

The poliovirus is the simplest known human virus. It is very small at only 30 nanometers. In comparison, SARS-CoV-2 is a slightly larger virus at about 100 nanometers.

Poliovirus was first isolated in 1909 by Karl Landsteiner and Erwin Popper and the first human coronavirus was isolated in 1933 by Leland David Bushnell and Carl Alfred Brandley.

Poliovirus causes a disabling and life-threatening disease called poliomyelitis. The virus spreads from person to person and can infect a person's spinal cord, causing paralysis. In about 25 per cent of all people infected with polio, it causes very mild flu-like symptoms including sore throat, fever, tiredness, nausea, headache, and stomach for about 2- 5 days and they make a full recovery.

However, in a smaller portion, the infected individuals can develop other symptoms like 'pins and needles' or a sensation of tingling or prickling in their arms and legs, meningitis and paralysis of the arms and legs. Children under the age of five are highest at risk of developing serious poliovirus-related complications, which affects their quality of life.

Poliovirus is highly contagious and can easily spread from person to person – the R-naught value, that is, the number of people one infected individual can infect for polio is 5-7. For Covid-19, the R-naught value is 1.4 to 3.9.

Poliovirus spreads by person-to-person contact, especially via the faecal-oral route. Poor hand hygiene, lack of access to clean water, improper sewage systems are the most common reasons for the incidence and transmission of polio. However, in the 1950s, the first polio vaccine was invented by Jonas Salk. This was a very safe and effective inactivated poliovirus vaccine, administered by injection.

While highly effective, in those times, the availability of disposable syringes was rare, and the speed of immunisation was low. Another polio vaccine, invented by Albert Sabin in 1961, was called the Oral Polio vaccine (OPV). This was more easily administered to large numbers of people with ease. A combination strategy was determined, and mass administration began. Polio eradication is one of the most ambitious global health initiatives in history, and polio will be only the second human disease in history to be eradicated (the first was smallpox).

Today, the only places in the world where wild polio exists are Pakistan and Afghanistan. The successful use of this vaccine reduced the number of polio cases from 3.5 lakh in 1988 to 33 in 2018.

Because polio is highly contagious, no one is safe until everyone is vaccinated. Since the introduction of the Global Polio Eradication Initiative (GEPI) in 1988, the rigorous efforts of the Ministry of Health and family welfare for

surveillance of sewage samples for poliovirus and a robust vaccination program as a public-private partnership with Rotary International has made this vaccination program a resounding success. As of March 27, 2014, India has been declared polio-free.

The science of vaccine development and our understanding of our immune system has improved vastly since the development of the polio vaccine. In the field of vaccinology, researchers have been working on how to design and develop safer, effective, cheaper vaccines for decades.

Various safe and effective vaccines against Covid-19 have been developed across the globe using classical vaccine development technology as well as more modern state-of-the-art technology.

Designing a strategy, developing a vaccine, testing its safety and efficacy is a laborious, time-consuming and expensive process. However, in the times of Covid-19, vaccine developers had decades of data, abundant volunteers, and sufficient funding to study the effectiveness of the different vaccines. Collaboration between scientists, regulatory agencies, vaccine manufacturers has paved the way for us to have multiple vaccines against Covid-19 in such a short time.

The Indian EXPRESS

## Eradicating polio in the times of Covid

October 23, 2021 12:23:09 pm

**Fortunately, India is free of wild polio virus since 2011 and no vaccine derived polio virus. However, India is concerned with polio virus in neighborhood countries Pakistan and Afghanistan.**

***Written by RK Saboo***

October 24 is World Polio Day in the time of the coronavirus pandemic. The anti-polio drive continues to be important because it is directed at children, our future. It was in 1978 that Rotary dreamt of a polio-free world. Thereafter WHO, UNICEF, CDC (Centers for Disease Control and Prevention) of US Administration, joined in the drive. Finally, Bill and Melinda Gates Foundation became a significant partner. Building on decades of experience stopping the polio outbreak, the partners have a critical role to play in protecting communities from the unprecedented pandemic as they did in the past in response to Ebola and Avian flu.

Nigeria became free of polio in August 2020 and with that wild polio virus transmission is at the lowest levels in history with just two cases, one in Pakistan and the other in Afghanistan. It represents a unique opportunity to finish the wild polio virus once for all in this last remaining global bastion of the disease. After certification of eradication, OPV (Oral Polio Vaccine) was stopped and the IPV (Inactivated Polio Vaccine) has been introduced. OPV is the live vaccine which has the risk of vaccine derived polio while IPV is based on dead virus, and it does not carry any risk. But it's important to understand that Oral Polio Vaccine carried the capacity of herd effectiveness. And without OPV, we could not have I attained this immunity. OPV, therefore, is continuing in countries like Pakistan and Afghanistan.

There are three types of wild polio virus. Type 2 wild polio virus was eradicated in September 2015 while Type 3 wild polio virus has not been found since November 2012 and was certified eradicated on 24 October, 2019. This means only type 1 polio virus continues to circulate.

There has been vaccine derived polio virus outbreak in 25 counties worldwide, mostly in Africa but also in some parts of Middle East and Asia. Circulating VDPVs occur when routine or supplementary immunization activities are poorly conducted and enough children are not reached with vaccine to ensure full immunity. The total number of vaccine derived polio virus cases in 2020 was 1123. In 2021, there have been less than 200 cases so far. We have to understand that these cases happen where children miss vaccinations. When children are fully vaccinated, VDPV is not a problem. Last November WHO granted its first ever emergency use listing for a vaccine to the Novel Oral Polio Vaccine type 2 (nOPV2). This is a vaccine that has been under development for almost 10 years. It is as effective as the existing vaccines and has much greater genetic stability. That makes it less likely to regress to cause paralysis.

Fortunately, India is free of wild polio virus since 2011 and no vaccine derived polio virus. However, India is concerned with polio virus in neighborhood countries Pakistan and Afghanistan. Pakistan is very organized with surveillance for disease detection including laboratory network. It also has a tradition of routine immunization of newborns. For Afghanistan, there has been apprehension about the new Taliban Government. The good news is the new Government is now in favor of polio vaccination. Only today we learnt that the Taliban Government has agreed to restart a door-to-door vaccination program from next month to eradicate polio. We hope polio will finally be eradicated. Once it happens, the world will reap substantial financial, as well as humanitarian, dividends. Recent modelling attests that eradicating polio will generate a cumulative saving of US$14 billion by 2050. In financial terms, the global effort to eradicate polio has already saved more than US$27 billion in health costs since 1988.

The plus strategy aims to stop the circulation of all wild and vaccine derived polio virus by no later than 2023, and polio-free certification by 2026. Indeed, the Rotary dream of 1978 will now be realized.
The great sportsman Pele had rightly said, "The more difficult the goal , the greater the happiness in winning".

The Indian EXPRESS

## Covid-19 vaccines not linked to pregnancy loss; mixing vaccines may confer greater protection, studies show

**One study, published in The New England Journal of Medicine on Wednesday, tracked nearly 18,500 pregnant women in Norway, including about 4,500 who had miscarriages.**

By: **Reuters** |
October 23, 2021 10:56:10 am

The following is a summary of some recent studies on Covid-19. They include research that warrants further study to corroborate the findings and that have yet to be certified by peer review.

### Covid-19 vaccines not linked with pregnancy loss

Two studies in major medical journals add to evidence that Covid-19 vaccines are safe before and during pregnancy. One study, published in The New England Journal of Medicine on Wednesday, tracked nearly 18,500 pregnant women in Norway, including about 4,500 who had miscarriages. Researchers found no link between Covid-19 vaccines and risk of first trimester miscarriage, regardless of whether

the vaccines were from Moderna, Pfizer and BioNTech, or AstraZeneca.

Overall, the women with miscarriages were 9% less likely to have been vaccinated, according to the researchers' calculations. In a separate study published on Thursday in The Lancet 820, researchers tracked 107 women who became pregnant while participating in trials of AstraZeneca's vaccine in the UK, Brazil and South Africa.

Seventy-two of the women had received the vaccine while the others got a placebo. AstraZeneca'svaccine had no effect on the odds of safely carrying the pregnancy to term, the researchers reported. "It is important that pregnant women are vaccinated since they have a higher risk of hospitalisations and Covid-19-complications, and their infants are at higher risk of being born too early," the authors of the Norwegian study wrote.

"Also, vaccination during pregnancy is likely to provide protection to the newborn infant against Covid-19 infection in the first months after birth."Vaccine combinations with different technologies may be bestHealthcare workers in France who got a first shot of AstraZeneca's Covid-19 vaccine and then the Pfizer/BioNTech vaccine for their second shot showed stronger immune responses than those who had received two shots of the Pfizer vaccine, in a recent study. Combining different technologies is known to boost immune responses to other viruses, and the current study suggests it may be true for the coronavirus as well.

Both vaccines in the study deliver instructions that teach cells in the body to make a piece of protein that resembles the spike on the coronavirus and that triggers an immune response. But they do it in very different ways. Both protocols provided "safe and efficient" protection, said Vincent Legros of Universite de Lyon in France, coauthor of a report published on Thursday in Nature. But combining the AstraZeneca shot with the Pfizer/BioNTech vaccine "conferred even better protection" than two doses of Pfizer's shot, including against the Delta variant, Legros said.

The two technologies combined induced an antibody response of better quality, with more neutralizing antibodies that could block the virus, and more cells that have been "trained" by the vaccine to have increased defense potential, he said. Combination vaccination "is safe and may provide interesting options…for clinicians to prevent SARS-CoV-2 infection," Legros concluded.

**Cognitive problems seen in middle-aged Covid-19 survivors**

A "substantial proportion" of middle-aged Covid-19 survivors with no previous dementia had cognitive problems more than half a year after diagnosis, researchers have found. They looked at 740 people who ranged in age from 38 to 59. About half were white, and 63% were female. On tests of thinking skills, 20% had trouble converting short-term memories to long-term memories, 18% had trouble processing information rapidly, and 16% had trouble with skills needed for planning, focusing attention, remembering instructions, and juggling multiple tasks.

The average time from diagnosis was 7.6 months. About one-in-four patients had been hospitalised, but most of them were not critically ill. "We can't exactly say that the cognitive issues were lasting because we can't determine when they began," said Dr. Jacqueline Becker of the Icahn School of Medicine at Mount Sinai in New York City, who co-led the study published on Friday in JAMA Network Open. "But we can say that our cohort had higher than anticipated frequency of cognitive impairment" given that they were relatively young and healthy, Becker said.

Data support use of Pfizer vaccine in children and teensThe Pfizer/BioNTech Covid-19 vaccine showed 90.7% efficacy against the coronavirus in a trial of children ages 5 to 11, the U.S. drugmaker said on Friday in briefing documents submitted to the U.S. Food and Drug Administration but not formally published.

The children were given two shots of a 10-microgram dose of the vaccine – a third of the strength given to people 12 and older. The study was not primarily designed to measure efficacy against the virus. Instead, it compared the amount of neutralizing antibodies induced by the vaccine in the children to the response of recipients in their adult trial.

Pfizer and BioNTech said the vaccine induced a robust immune response in the children. Outside advisers to the FDA are scheduled to meet on Tuesday to vote on whether to recommend authorization of the vaccine for that age group.

A separate study from Israel conducted while the Delta variant was prevalent and published on Wednesday in The New England Journal of Medicine, compared nearly 95,000 12- to -18-year-olds who had received Pfizer's vaccine with an equal number of adolescents who had not been vaccinated. The results show the vaccine "was highly effective in the first few weeks after vaccination against both documented infection and symptomatic Covid-19 with the Delta variant" in this age group, the research team reported.Click for a Reuters graphic on vaccines in development.

ETIMES
ENTERTAINMENT TIMES

## Not vaccinated yet? You may be at risk of Covid reinfection

By - IANS

Created: Oct 21, 2021, 11:39 IST

If you think once infected with Covid-19 gives you immunity, then you may be wrong. According to new models without vaccination and masks, people once infected with Covid can be reinfected within four months, Nature reported.
Within four months after initial infection, the average reinfection risk rises to about 5 per cent. The risk can increase upto 50 per cent by 17 months, the report said. At the same time, natural immunity was found to last for less than half as long as it does for the common-cold coronaviruses.

The predictions are based on the genetic relationships between SARS-CoV-2 and other coronaviruses.
"Immunity is relatively short-lived. You should still get vaccinated even if you got infected," Jeffrey Townsend, a bioinformatician at the Yale School of Public Health in New Haven, Connecticut was quoted as saying.
While more data over the coming months, and years, will be necessary to know precisely how long natural immunity lasts, it's not necessary "to wait for that", Townsend said.

To estimate the durability of SARS-CoV-2 immunity, the team wanted to understand how antibody levels from a previous infection affect the risk of reinfection.

They combined genetic data from SARS-CoV-2, three endemic coronaviruses that cause the common cold, and the closely related coronaviruses SARS-CoV and MERS-CoV to build a viral family tree.

Using this, they modelled how viral traits have evolved over time. Together, these traits provided an estimate of the decline in antibody levels after SARS-CoV-2 infection, and of other factors needed to understand reinfection risk. The findings suggest that Covid-19 is likely to

transition from a pandemic disease to one that is endemic, Townsend said.

Still, many unknowns remain, including the probable severity of disease when someone is reinfected. Individuals can also vary significantly in both their susceptibility to reinfection and, if reinfected, their disease course -- including whether they are likely to get long Covid, the report said.

ETIMES
ENTERTAINMENT TIMES

## Getting a flu shot can prevent some severe COVID-19 symptoms, finds study

TIMESOFINDIA.COM
Last updated on -Oct 21, 2021, 16:01 IST

**01/6 Getting the flu vaccine is just as important as the COVID vaccine**

As important as it is to be COVID vaccinated right now, experts are also stressing on the need for flu vaccinations. With the rising flu-COVID influx, and an apparent severity in infections, it's all the more crucial to safeguard our health, and get vaccinated at once, since both flu and COVID can turn into severe respiratory illnesses.

**02/6 Can flu prevention measures cut COVID risk as well?**

Despite the fact that both flu and COVID-19 vaccines work against different viruses, it has been long suggested that the right prevention measures can work in mitigating the risk of the other disease as well. Just like strict COVID measures helped minimize the flu risk last year, there is some evidence to suggest that getting timely flu shots may actually help prevent severity of certain COVID symptoms, and aid recovery.

Granted the fact that there are some many who are largely unvaccinated (or partially vaccinated) against COVID-19, and we might see a concerning flu-COVID rise during the winter season, here's what we know so far:

**03/6 Could it reduce severity risk? What have researchers found?**

The most recent study, which has been published in the medical journal PLOS and conducted on a pool of more than 37,000 patients examined crucial health parameters and hospitalization risk of patients who had tested COVID positive, weeks or months after getting the flu shot. Among the set of patients, it was observed that not only was the flu shot significantly effective, it was able to reduce the risk of severe outcomes with COVID for upto 120 days after vaccination.

In particular, while getting the flu shot was able to prevent the risk of hospitalization for some people, it was also seen that getting the vaccine could tame the risk of COVID complications like sepsis, deep vein thrombosis and time spent in hospital in COVID patients.

**04/6 Who could benefit from it?**

While it's important to remember that getting the flu shot may not completely mitigate or reduce all COVID-19 risks, there can be people who still do not get sufficient protection from COVID vaccine shots, and may be still at the risk of severity due to their comorbidities.

Since booster shots are still talked about, and we are slowly discovering that vaccine driven immunity to COVID could be short lived, flu shots could be specifically helpful for those who are at risk, are older and face a higher exposure to the flu and COVID virus.

**05/6 Why is getting the flu shot important right now?**

Apart from the fact that the flu season is taking a nastier turn and leading to severe intensity infections this time around, getting a flu shot is also necessary right now because there runs a big risk of COVID and flu in the coming weeks, when the winter season shall fully set in. The season could further turn problematic since a third COVID wave is also expected around the same time.

Getting a flu shot will also be helpful according to doctors, since it will help cut down risks of coinfection, i.e. the likelihood of contracting COVID and flu together.

**06/6 When is it the best time to get the flu vaccine?**

With a raised level of awareness on flu vaccination, it's crucial that every individual get the shot and safeguard health. While the vaccines are available in their upgraded forms every year, the best time to get vaccinated would be right now, just around the peak of the flu season.

ETIMES
ENTERTAINMENT TIMES

## Covaxin for kids to be rolled out in a phased manner: What are the side-effects we can expect?

TIMESOFINDIA.COM
Last updated on -Oct 21, 2021, 11:00 IST

**01/6 How will the Covaxin roll out for kids be different?**

As we await the surge of a third wave to come up in India, Covaxin has become one of the first vaccines to have been granted emergency use nod. As per recommendations by the SEC (Subject Expert Committee), the vaccine has been selectively approved for use in kids aged between 2-18 years of age, and currently awaits DCGI approvals.

While experts are currently also awaiting a clearance from the WHO (World Health Organisation), it is being reported that the vaccine, which is an indigenous, inactivated vaccine developed by Hyderabad-based Bharat Biotech will be rolled out for kids in a phased manner, with the shots being first available for kids who may have comorbidities. It has also been argued that the vaccine would work in a rather similar manner, as it does for the adults. But what could the side-effects be like?

We delve into what a Covaxin rollout for children could look like

**02/6 Would kids require a lesser dosage of the vaccine?**

Covaxin works as a two-dose regimen to prompt a considerable immune response against the virus, delivered 28 days apart. While there have been some studies which have demonstrated that kids may require the use of a single dose, or a shorter-dose vaccine in comparison to adults, it's quite unlikely that kids in India will be given an altered dosage right now.

Nonetheless, while plans have been drawn up to make Covaxin doses available for kids' use in a phased manner, it is expected that kids, much like adults, would also need two doses of the vaccine to dole up an efficient immune response against the SARS-COV-2 and its variant

**03/6 What do we know about the side-effects of the vaccine?**

While Covaxin has been seen to cause fewer side-effects than other vaccines, the most common side-effects recorded with the

vaccine's clinical testing on kids include flu-like symptoms, which are expected, and considered reactogenic.

Since the side-effects are taken to be a way the body builds up immunity, some of the side-effects which can be expected include fever, pain at the injection site, drowsiness, redness, body pain and fatigue, which tend to go away in 2-3 days time.

So far, adverse side-effects and reactions haven't been recorded with Covaxin but a monitoring committee will be set up. Kids who have sensitivity, or prior bad reaction to the vaccines may require more care.

**04/6 Is it safe for immunocompromised kids to get the shot?**

Being immunocompromised could make some individuals vulnerable to having an inefficient response to the vaccine and not get the right kind of response. Certain comorbidities and sensitivities could also make some parents hesitant about getting the shots. However, it should be remembered that kids who are at risk should be inoculated at the earliest, since not getting the vaccine could put them at a greater risk of severe COVID and encountering complications like MIS-C.

**05/6 Is Covaxin for kids a nasal vaccine?**

Covaxin is an intramuscular vaccine injected through the skin. Bharat Biotech is also working on developing nasal vaccines, wherein the injection doses are directed through the nasal cavity. Since nasal vaccines are easier to administer, and said to create a first-line defense (and hence be more efficient in rooting out the virus), nasal vaccines are considered to be a better choice for kids. However, it's unlikely that nasal vaccines would be made available for public use before the end of next year, since they are yet to enter clinical trials.

Zydus Cadila, however, is working on rolling out nasal vaccines for kids, which may be available for kids early next year.

**06/6 Should you wait for the WHO nod for Covaxin? Would it make a difference?**

While Covaxin has been granted emergency nods, it's yet to be fully approved for use by the WHO. Currently, only the vaccines approved by WHO are accepted globally.

Although Covaxin has been found to be relatively safe and meet requisite standards of efficacy, getting approvals from the WHO will not just provide a lot of reassurance, but also pave the way for wider acceptance.

ETIMES
ENTERTAINMENT TIMES

## Flu shots have surprising health benefits (besides preventing flu)

TIMESOFINDIA.COM
Last updated on -Oct 20, 2021, 16:14 IST

**01/8 Flu shots have surprising health benefits (besides preventing flu)**

Flu vaccination is the best way to protect yourself and your loved ones from flu and the serious complications that can come with it. Flu vaccinations prevent millions of illnesses and doctor visits each year. Flu is highly contagious and thus we all must consider getting a flu shot, especially now when the world is already dealing with the COVID-19 pandemic.

Here are 5 convincing reasons why you must get a flu shot.

**02/8 What is influenza?**

Influenza is a viral infection that attacks your respiratory system - nose, lungs and throat. It is commonly called flu but is different from stomach flu viruses that cause vomiting and diarrhoea.

**03/8 It can help prevent serious health conditions**

As per the Center for Disease Control and Prevention, vaccination reduces the risk of flu-related hospitalisations by 40 per cent. It also reduces the chances that the flu will make you land in ICU. Common symptoms of flu-like fever, low appetite, vomiting and diarrhoea can lead to dehydration and pneumonia. If you have respiratory issues or diabetes, getting flu can be dangerous.

**04/8 Expecting mothers can pass on the benefits to their unborn babies**

Pregnant women are particularly at risk of getting flu and are more likely to get severe symptoms than women who are not pregnant. It's important for pregnant women to get vaccinated during their early pregnancy. If you are pregnant, the benefits double as the flu-fighting benefits are transferred to your baby and can last up to six months after your baby is born, till the time your little one is old enough to get a flu shot.

**05/8 Lowers death rate for people with high blood pressure**

In people suffering from high blood pressure, the flu vaccine can reduce death risk by 18 per cent during the flu season, says new research presented at the European Society of Cardiology's World Congress of Cardiology. As per the study, patients with high BP saw a decrease in heart attack, stroke and death risk when they received the flu shot.

**06/8 It protects others who are unable to get a flu shot**

Getting the flu shot helps decrease the overall spread of influenza, which is good for everyone. Getting vaccinated means we are playing a part in preventing a big flu epidemic.

**07/8 Flu vaccine can be life-saving in kids**

A study conducted in 2017 found that flu vaccination can significantly reduce a child's risk of dying from flu.

**08/8 How dangerous can influenza be?**

In most people, influenza resolves on its own but in some cases, it can lead to some deadly complications. Some people are more prone to catching influenza than others, like children under the age of 5, pregnant women, adults over 65, people with weakened immune systems, people suffering from chronic illnesses and people who are obese.

ETIMES
ENTERTAINMENT TIMES

## How to tell if your long flu case was actually COVID

TIMESOFINDIA.COM Last updated on -Oct 19, 2021, 11:04 IST

**01/6 COVID or the flu? How to tell your symptoms apart**

With a sudden change in season and influx of viruses circulating right now, there's been a rampant rise in seasonal flu cases, just as we are beginning to worry a little less about COVID. What's also concerning is that this time around, flu cases are a lot more severe, coming up like a

'terrible cold' and lasting for a longer time than usual.

While a lot of it has been blamed on waning exposure and milder flu season last year, seasonal flu also has a lot of common symptoms with COVID-19, meaning it can be almost impossible to differentiate or get confused about your infections. In some of the cases, the confusion has also led to late or incorrect diagnosis.

There have also been speculations that the spike in flu cases, and commonality between symptoms of the two, may have been the very beginning of the third wave in India.

But how exactly do you tell, if what you had was just the flu, or a COVID infection?

**02/6 Similarities between COVID and the flu**

Both COVID-19 and the flu are infections caused by incredibly contagious viruses, which tend to cause a lot of respiratory symptoms, which is typically the reason why it can be hard to primarily differentiate between the two viral ailments in such times.

What also makes it very easy to confuse between the symptoms, right now is the manner in which breakthrough COVID cases are coming up. Even after being vaccinated, people who do get breakthrough COVID cases have a milder form of infection, which tends to feel like a case of the cold or the flu.

Again, flu infections right now are remaining for a longer time than usual, and causing terrible symptoms, which again can be a clue for people to seek medical attention, and check if what they are going through is actually the routine flu, or something else more concerning.

**03/6 Why are flu symptoms lasting for longer?**

Flu season this year around is swelling, and for those who have been affected, the intensity and duration of the infection can be severe, lasting for a long time.

While cases of extreme severity can have a lot of underlying causes (such as age and comorbidities), one of the reasons why flu symptoms could last for long is the lack of exposure we have to flu, thanks to COVID outbreak. Usually, we all get exposed to the flu causing virus and tend to gain some level of natural immunity (even without contracting the infection) but in the past two years, the exposure level has been minimal, and hence, causing a severe outbreak.

Some of the symptoms could also linger on for a longer time, since there is a risk of developing long flu, much like long COVID as well. Post-viral malaise could cause many to undergo continued symptoms like body aches, pains, fever, fatigue, giving the impression that the flu infection is running a long course.

**04/6 How can you tell if your symptoms were actually that of COVID-19?**

Testing remains the best way to find out if what a person has is the COVID-19, or the flu. However, since the two infections have a lot of symptoms in common, and there also runs the risk of a twindemic this year, it becomes very important to be aware about concerning signs, symptoms, notice worsening of signs, and know the right time to seek medical attention.

With a good percentage of people becoming vaccinated now, it can also become easy to undergo milder COVID symptoms or have COVID-19 without proper knowledge. If you find yourself plagued by such worries, what you need to be looking for is the manner in which symptoms come up.

For one, do remember that post-vaccination, severity of infections comes down. If you have probably been flu and COVID vaccinated, it could be possible that what you are going through is just routine flu, and suffering from lingering symptoms

**05/6 What else should you check for?**

If you do find your symptoms worsening by the day, or the fever not breaking post 3-4 days, it could be possible that the infection may be COVID, wherein a person has fever and inflammatory symptoms which last for upto a week, before breaking. Some other symptoms, or signs of worsening such as chest pain, could also be more common with a COVID infection. What you also need to be looking out for is possible infections around you. If you had COVID, chances of the infection spreading to members in the household are higher, in comparison to flu transmission rates. Experiencing a change, or loss of smell is also a symptom more likely to strike with COVID.

If you remain unvaccinated against COVID-19, chances are also higher that you'll encounter more concerning symptoms than usual, such as breathing difficulties, nausea, brain fog, extreme fatigue as well. Oxygen saturation or fluctuations will also be more commonly occurring with COVID cases, so be very cautious about the symptoms you experience and do not let your guard down.

**06/6 Doctors stress that people should be tested for both infections**

With fears of twindemic and dangers associated with flu, just like with COVID-19, doctors have also stressed that while people should practice utmost respiratory hygiene, use masks and get tested at the earliest, it's important that both the tests are ordered, to rule out risks of coinfection. Vaccinated and unvaccinated people should continue to follow strongest measures, keep masks on and follow distancing protocols to fully evade COVID threat, since the pandemic is very much an active issue right now. At-home COVID tests could also be a good way to evaluate symptoms and take remedial actions, accordingly.

ETIMES
ENTERTAINMENT TIMES

## COVID vaccine: Mixing Covaxin and Covishield vaccines is safe and effective, finds ICMR study

TIMESOFINDIA.COM | Last updated on -Oct 18, 2021, 16:09 IST

**01/5 Can mixing COVID-19 vaccines be the solution to waning immunity?**

While India inches closer to immunizing one billion people against the virus which ravaged the country badly, there's been a lot of talk about scaling up the effectiveness of vaccination, and deal with waning immunity. Even as countries across the world have started issuing booster shots for those who are at risk, there have also been a lot of researches subjected to mixing vaccine types and doses to offer a sustainable immune response as well.

While we are yet to have additional vaccine doses, or mixing of vaccines made available, latest studies conducted by the ICMR have highlighted that mixing doses of the homegrown vaccines, Covishield and Covaxin could possibly provide a stronger, efficient response against the SARS-COV-2 virus

**02/5 What have the studies found?**

The recent clinical study, led by a team of researchers from ICMR (Indian Council of Medical Research) Regional Medical Centre and Institute of Virology, the leading health body

in India undertook an evaluation to analyze the effectiveness and immune response when two vaccine shots- Covishield (or the Oxford-AstraZeneca shot) and Covaxin are mixed together.

For the same, participants from diverse profiles were selected and dosed with a shot each of Covishield and Covaxin, weeks apart. The 18 participants were first offered Covishield as the first shot, and Covaxin as the second one.

Both Covaxin and Covishield currently are the primary COVID-19 vaccines pushed into use in India, and developed using similar, but different traditional vaccine-making technology platforms. Covaxin has also been recently approved for pediatric use (in kids aged between 2-18 years) after emergency use nods were granted by the SEC.

The study, which has been accepted for publication in the International Journal of Travel Medicine observed that not only was the combination safe and effective, mixing the vaccine doses was able to provide a sufficiently higher artificial immunity levels, in comparison to individual shots (i.e. two doses of the same vaccine). The reactogenicity profile of the group of participants were also evaluated. It was also reported that no adverse side-effects related to vaccination occurred in the given pool.

**03/5 Is mixing and matching COVID vaccines safe?**

As per sources, the ICMR-led study was ordered after some people in UP had accidently received mixed up doses of Covaxin and Covishield, and said to suffer from no side-effects. While the study, which is yet to be reviewed, established that beneficiaries recorded a higher than usual antibody response, mixing Covishield and Covaxin was also said to be safe and effective.

Both Covaxin and Covishield, said to mount over 70% efficacy against virulent strains have been found to become less effective over time, and the antibody response has also been clinically found to wane, more particularly with Covaxin. Covishield has also been surrounded by controversies, over the discovery of unusual, adverse side-effects such as blood clots and neurological damage in some.

Now, while ICMR-led study is one of the first ones to be conducted in India, mixing and matching of COVID vaccines have been subjected to a lot of global studies and discussions. The most popular combination which has been subjected to trials (and also doled out to beneficiaries in certain countries like Canada and UK) includes a mix of mRNA vaccine A+ inactive viral vector virus . It has been largely observed that while the side-effects can vary from individual to individual, mixing vaccine doses is a good strategy to scale up immune response, and counter the issue of waning antibodies. In some of the cases, mixing doses was also seen to mount lifetime immunity and kick memory-B and T-cells into work, less seen with individual double-dose vaccination.

**04/5 Are there limitations right now?**

While the most concerning issue which has been raised is the staggered, skewed supply of vaccines globally, the current ICMR-led study has been conducted on a small scale, involving just 18 candidates. Even with the positive observations, the evidence right now is limited, and the researchers have called for multilevel randomized clinical trials to be conducted, to confirm the findings.

**05/5 Can mixing doses provide a more efficient response than booster vaccination?**

With the given issue of waning immunity we are facing, both booster doses and mixing vaccines have been subject to a lot of skepticism and appreciation. However, some experts believe

that to continue fighting the virus, mixing doses would be a more effective, doable strategy to follow than booster vaccination.

While booster vaccination would require additional production of doses (which have an altered quantity of the vaccine injection), and may not be immediately available for every beneficiary, mixing doses would be easier, make use of resources better. Considering that we do not yet have any information available on booster vaccination policies in India, the alternative seems better. There have been fewer studies on booster vaccination's safety and effectiveness as well.

Hindustan Times

## Covid vaccines for kids are coming

**Kids under 12 years generally can't get a Covid vaccine. US authorities will rule on emergency approval for the BioNTech-Pfizer jab for 5 to 11-year-olds.**

By Deutsche Welle | Published on Oct 25, 2021 08:37 PM

IST

*The pros and cons of vaccinating children under 12 years are still being debated(Ying Tang/NurPhoto/imago images)*

For 10-year-old Maja, there's no question: Kids should get vaccinated against coronavirus. Maja says she was happy to be among the very first kids in the world to get a BioNTech-Pfizer vaccine.

"The first thing I'm going to do is have a huge sleepover with all my friends, like a party or something," she said.

Maja was part of a US-based study that could ease the way for authorities there to approve the BioNTech-Pfizer mRNA vaccine for kids under the age of 12 years.

On Tuesday (26.10.2021), the US Food and Drug Administration (FDA) will discuss the study's findings and possibly rule on an emergency approval of the vaccine.

**Study shows good efficacy**

Researchers tested the vaccine on 2,268 kids between the ages of 5 and 11. About the same number of kids got a placebo.

After the study, developers said they were confident their vaccine was safe and effective for kids in that age group when the dose was reduced.

Children under 11 years of age would get about a third of the dose that adults get. At time of writing, the vaccine has only been approved for kids of 12 years and older.

BioNTech-Pfizer is seeking approval in the US and the EU, where the European Medicines Agency (EMA) makes those decisions. The EMA has indicated it will decide in the coming months. Further submissions for approval have been made worldwide.

Other vaccine developers and manufacturers, such as AstraZeneca, Novavax and Johnson & Johnson, are also working on jabs for kids.

**Get it early or wait?**

"I am absolutely in favor of vaccinating children under the age of 12," said Kawsar Talaat in an interview with DW. Talaat is an associate professor of International Health at the Johns Hopkins Bloomberg School of Public Health in the US.

"The only way to get us out of this pandemic is to vaccinate as many people as possible and [that goes for] all ages," Talaat said.

Jakob Armann, a children's doctor (pediatrician) in Germany, meanwhile, is more reserved. Speaking to DW, Armann said that children with comorbidities should get vaccinated, "for example, if the kid has trisomy 21."

But Armann said he would wait "if it's a healthy kid."

"I would wait until we have more data and have had a chance to see rare side-effects like myocarditis. And then make a call on who benefits from the vaccine and who does not," he said.

**Are the studies sufficient?**

Armann says that the BioNTech-Pfizer study involved too few people for communities to start mass vaccination programs with confidence.

For instance, says Armann, there are signs that some young men and boys get myocarditis, an inflammation of the heart muscle. The cases have tended to be mild and rare — but specifically for that reason, says Armann, a study of just over 2,200 kids is too small.

**Kids' immune systems activate rapidly**

There is another reason why some experts are advising we go slow: Only few kids who get infected with COVID-19 experience a severe case. Often, the infection feels like a mild, common cold, they say.

The human immune system uses receptors that recognize patterns — like the shape of a virus — to defend the body against a viral attack, said Roland Eils in an interview with DW. But those receptors need to be activated.

"Once they are activated, they trigger the production of interferon, which is the primary line of defense against any viral infection," said Eils, who heads the department of digital health at the Charité University Hospital in Berlin.

"And we found that children's immune systems were [very good at activating] those receptors in comparison to adults," he said.

**Schools as super-spreader locations**

But Eils is not against vaccinating kids, because, he says, even if their infections tend to be mild, they can still pass on the virus to other people.

In Germany, the past year has shown some evidence of that. Even when and where the general incidence rate has risen relatively slowly, schools have, at times, become super-spreader locations.

If you have scores of unvaccinated kids sitting close to one another, it is possible higher incidence rates will follow. In some German communities, there have been weekly incidence rates of 500 per 100,000 population.

**Vaccines don't only protect you**

Talaat says vaccinating kids will contribute to herd immunity. That is a global goal — and a way in which we may eventually stop the spread of the virus.

Beyond that, says Talaat: "COVID effects [kids'] lives in terms of shutdowns, quarantines, inability to go to school, inability to do their normal

activities and so on. The best way to get their lives back to normal is to vaccinate them."

That would be one way for 10-year-old Maja's dream to come true and have all her friends over for a huge sleepover.

Hindustan Times

## As Covaxin awaits nod, WHO official says, 'it takes longer sometimes'

**Earlier this week, the international public health body had said that it "cannot cut corners" to recommend Covaxin's inclusion in the EUL for vaccination against Covid-19.**

Updated on Oct 22, 2021 01:15 PM IST

*Covid-19: A health worker prepares a dose of Covaxin at a vaccination center set up at a Delhi government health dispensary. (File Photo / Bloomberg)*

Written by Joydeep Bose | Edited by Sohini Goswami, Hindustan Times, New Delhi

The World Health Organisation (WHO), which has yet to provide a formal nod to Bharat Biotech's Covaxin – India's indigenously made vaccine against the coronavirus disease (Covid-19) – said on Friday the process of approval takes longer sometimes.

A top official of the global health body said the process of thoroughly evaluating a vaccine for use and recommending it sometimes takes a long time but it has to be ensured that the right advice is given to the world "even if it takes another week or two."

Dr Mike Ryan, the executive director of the WHO Health Emergencies Programme, said that the UN agency is "very clear" that it wants all countries to recognise vaccines that have been given an Emergency Use Listing (EUL) by the WHO advisory process. "But it is also very important that WHO, when it makes a recommendation like that, is making that globally," he added.

According to a PTI report, the WHO official was responding to a question over when there will be a definitive answer to the Covaxin EUL.

Earlier this week, the international public health body had said that it "cannot cut corners" to recommend Covaxin's inclusion in the EUL for vaccination against Covid-19. The agency said it is expecting one additional piece of information from the Covaxin manufacturer which has been submitting data to the WHO on a rolling basis.

"We are aware many people are waiting for WHO's recommendation for Covaxin to be included in the #COVID19 Emergency Use Listing, but we cannot cut corners - before recommending a product for emergency use, we must evaluate it thoroughly to make sure it is safe and effective," the WHO said in a series of tweets.

The WHO nod for Covaxin's emergency use authorisation is a much-anticipated one for its widespread acceptability as a safe and effective vaccine

Hindustan Times

# India's vaccination feat a 'testament' to its ability, says Bill Gates

**On Thursday, the country achieved the milestone of administering more than 1 billion (100 crore) doses of Covid-19 vaccines.**

Updated on Oct 22, 2021 01:14 PM IST

Microsoft co-founder Bill Gates (Reuters/ File photo)

By hindustantimes.com, New Delhi

Microsoft co-founder Bill Gates, who has frequently lauded India's efforts in its fight against the coronavirus disease (Covid-19), on Friday praised the country yet again, this time over its feat of administering more than 1 billion (100 crore) doses of vaccines against Covid-19. Taking to Twitter, the American entrepreneur said that the achievement was a "testament" to India's ability to manufacture at scale.

"India has administered 1 billion vaccine doses, a testament to its innovation, ability to manufacture at scale, and the efforts of millions of health workers backed by CoWIN," Gates tweeted, a day after the country crossed the said milestone. In his post, Gates also tagged Prime Minister Narendra Modi, health minister Mansukh Mandaviya, the Prime Minister's Office (PMO) and the Union health ministry

On August 28, the billionaire philanthropist **extended** his congratulations when, on the day before, more than 10 million (1 crore) Indians were inoculated against the viral illness. This marked the first time when more than 10 million citizens were vaccinated in a single-day and, since then, the feat has been achieved on at least four other days

Previously, Gates has also **lauded** PM Modi for the latter's leadership during the pandemic.

On Thursday, India achieved the milestone of administering more than 1 billion jabs, some nine months after the nationwide vaccination drive commenced on January 19. The figure includes both single and fully (double) jabbed beneficiaries. The Centre aims to fully vaccinate all adults (18 years and above) by the end of the year. Also, it is yet to announce an inoculation drive for those below 18 years of age.

# our other publications...



NIRT Library
National Institute for Research in Tuberculosis
(Indian Council of Medical Research)
1, Mayor Sathyamoorthy Road
Chetpet, Chennai 600031
Tel: 91 44 28369637 | Fax: 91 44 28362525
Email: nirtlibrary@nirt.res.in

Information is power