

India moves closer to getting its first indigenous vaccine against dengue

Drug makers Serum Institute of India and Panacea Biotec respond to call for Phase 3 clinical trials; according to a senior official, the trials, being done to evaluate efficacy, safety and immunogenicity of vaccine, could start close to August

Bindu Shajan Perappadan
NEW DELHI

Moving a step closer to developing India's first vaccine against dengue, drug-makers Serum Institute of India and Panacea Biotec have submitted their responses to the call by the Indian Council of Medical Research (ICMR) for an Expression of Interest for collaborative Phase 3 clinical trials for indigenous manufacturers.

The Phase 3 trial is being done for evaluation of efficacy, along with safety and immunogenicity of tetravalent dengue vaccine candidate developed by Indian manufacturers. Trials could start close to August for the adult vaccine, a senior health official said.

The ICMR says the den-

gue viral disease causes significant morbidity and mortality across the globe and in India, 2 to 2.5 lakh cases are reported annually.

The global incidence of dengue has grown dramatically with about half the world's population now at risk. Though an estimated 100-400 million infections occur each year, over 80% are generally mild and asymptomatic. Hence, in 2019, the World Health Organization (WHO) identified dengue to be one among the top 10 global health threats.

As of now, there is no specific treatment for dengue/severe dengue. "Therefore, there is an urgent need to develop effective vaccines against dengue viral disease," the ICMR said.

Giving details about the



Mosquito menace: Fumigation being done to control the risk of dengue at a school in Lucknow. FILE PHOTO

two potential vaccines, Nivedita Gupta, Head of Virology, ICMR, said that the Serum Institute of India's vaccine initiated one/two studies in paediatric population and the plan for Panacea's vaccine is to conduct Phase 3 randomised,

double-blind, placebo-controlled trial in 10,335 healthy adults (aged 18-80) in 20 sites (ICMR-funded).

She added that the Phase 3 protocol has been approved by the Drugs Controller General of India (January 2023) and the

company is trying to up-scale vaccine production with the trials expected to start in August-September.

The ICMR has noted that the desirable characteristics of a dengue vaccine includes acceptable short- and long-term safety profile (no antibody-dependent enhancement), inducing protection against all four serotypes of dengue, reducing risk of severe diseases and deaths, inducing a sustained immune response and effectiveness irrespective of the earlier sero-status and age of the individual.



Read our story | Tracing the link between dengue outbreaks and the monsoon
bit.ly/thdengue

What is Dengue?

	Details
Transmission	Primarily transmitted through the bite of infected Aedes mosquitoes
Virus and Serotypes	Dengue virus belonging to the Flaviviridae family Four distinct serotypes: DENV-1, DENV-2, DENV-3, and DENV-4
Symptoms	High fever, severe headache, joint and muscle pain, rash, pain behind the eyes, mild bleeding

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	Details
Severe Dengue	Progression to severe dengue can cause plasma leakage, bleeding, organ impairment
Geographic Distribution	Endemic in more than 100 countries, particularly in tropical and subtropical regions
Incidence and Global Impact	100-400 million dengue infections occur annually globally, affecting healthcare systems and economies
Vector and Breeding Sites	Aedes aegypti mosquito breeds in stagnant water containers found near human dwellings
Treatment	No specific antiviral treatment available; supportive care, rest, fluid intake, symptom management
Prevention and Control	Reduce mosquito breeding sites, proper water storage, cleaning of water containers, use of insecticides

Dengue Virus Disease and Global Impact

- Dengue virus disease causes significant morbidity and mortality worldwide, with 2 to 2.5 lakh (200,000 to 250,000) cases reported annually in India.
- The global incidence of dengue has increased dramatically, with over half of the world's population at risk.
- The World Health Organization (WHO) has identified dengue as one of the top ten global health threats in 2019.
- Currently, there is no specific treatment for dengue, highlighting the urgent need for effective vaccines.

Desirable Characteristics of a Dengue Vaccine

The ICMR highlights the desirable characteristics of a dengue vaccine, including a-

- Favorable safety profile
- Protection against all four serotypes of dengue
- Reduced risk of severe disease and death
- Induction of a sustained immune response and
- Effectiveness regardless of previous sero-status and age

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NHRC flags rise in child abuse content on social media

Ishita Mishra
NEW DELHI

The National Human Rights Commission (NHRC) has taken *suo motu* cognisance of a media report that cited a 250-300% increase in the circulation of child sexual abuse material (CSAM) on social media in India. The NHRC said the content is of foreign origin, and Indian investigation agencies have not come across any Indian-made child sexual abuse material so far.

It observed that the material is a "violation of human rights relating to the life, liberty, and dignity of citizens", and stressed the protection of young children "from the danger of their sexual abuse on social media".

The commission said it had been concerned with the ill-effects of online CSAM on human rights as it may cause irreparable psychological damage to children, impacting their growth and development.

Accordingly, it has issued notices to the Commissioner of Police, Delhi; the Directors-General of Police of all States and Union Territories; the Director, National Crime Record

Panel issues notices calling for a detailed report within six weeks on steps for prevention

Bureau (NCRB); and the Secretary, Union Ministry of Electronics and Information Technology (MeitY), calling for a detailed report within six weeks on the steps taken to prevent such menace on social media.

Media report on cases

The NHRC statement said, quoting the media report, that "4,50,207 cases related to spread of child sexual abuse material have been reported in the year 2023, so far. Out of these, Delhi Police have taken action in 3,039 cases while 4,47,168 cases are currently being studied".

"In some cases, even photographs taken lovingly, of young children by respective fathers, brothers and sisters in India have been classified as child sexual abuse by an American NGO. There were 2,04,056 cases reported in the year 2022, 1,63,633 in the year 2021, and 17,390 in 2020," the statement said.

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Laws on sharing of online Child Sexual Abusive Material (CSAM) in India:

- In India, **viewing adult pornography in private is not an offence (SC in 2015 case)**.
 - However, seeking, browsing, downloading or exchanging child pornography is an offence punishable under the IT Act.
- As per the **Information Technology (IT) Act, of 2002**, it is punishable to show children any pornographic content.
- **Internet Service Providers (ISPs) are exempted** from liability for any third-party data if they do not initiate the transmission.

Global effort against CSAM:

- **USA:** The **National Center for Missing & Exploited Children (NCMEC)**, operates a programme called **CyberTipline**, for public and electronic service providers (ESPs) to report instances of suspected child sexual exploitation.
- **K: Internet Watch Foundation (IWF)**, was established by the **United Kingdom's Internet industry** to ensure a safe online environment for users with a particular focus on CSAM.
- **INHOPE:** It is a global network of **50 hotlines** (46 member countries), that provides the public with a way to anonymously report CSAM.
 - It provides secure IT infrastructure, **ICCAME** (I- "See" (c)-Child-Abuse-Material) hosted by **Interpol**, and facilitates the exchange of CSAM reports between hotlines and law enforcement agencies.

India's efforts so far:

- **'Aarambh India':** a Mumbai-based NGO, **partnered with the IWF**, and launched India's first online reporting portal in September 2016 to report images and videos of child abuse.
- **National cybercrime reporting portal:** launched by the Ministry of Home Affairs (MHA) in September 2018 in compliance with Supreme Court directions

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for filing online complaints pertaining to child pornography and rape-gang rape.

- The portal was later extended to all types of cybercrime.
- **National Crime Records Bureau (MHA)** signed a memorandum of understanding with the **NCMEC in April 2019** to receive CyberTipline reports to facilitate action against those who upload or share CSAM in India.
 - The NCRB has received more than **two million CyberTipline reports** which have been forwarded to the States for legal action.
- **Jairam Ramesh Committee recommendation (2020):**
 - **legislative front:**
 - **widening of the definition** of 'child pornography'
 - proactive monitoring, mandatory reporting and taking down or blocking CSAM by ISPs.
 - **Technical front:**
 - **building partnerships with industry** to develop tools using artificial intelligence for dark-web investigations
 - **tracing the identity of users** engaged in cryptocurrency transactions to purchase child pornography online and
 - **liaisoning with financial service companies** to prevent online payments for purchasing child pornography.

What needs to be done

- **India** should join the **INHOPE**
- **Establish a hotline** to utilise Interpol's secure IT infrastructure
- **Collaborate with ISPs and financial companies** by establishing an independent facility such as the IWF or NCMEC.
- **Earnest implementation of the recommendation of Jairam Ramesh committee.**
- On-streaming platforms like Netflix and social media platforms should have a separate adult section where under-aged children could be disallowed.

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Manoj Soni

Manoj Soni takes charge as Chairman of UPSC

The Hindu Bureau

AHMEDABAD

Manoj Soni, a former Vice-Chancellor of two universities in Gujarat, was on Tuesday sworn in as the Chairman of the Union Public Service Commission (UPSC).

Mr. Soni had already been serving as the Chairman in-charge since April 2022. He had joined the UPSC as a member in June 2017.

He is a monk of the Anoopam mission, a branch of the Swaminarayan movement.

Mr. Soni served as the Vice-Chancellor of M.S. University of Baroda from April 2005 to April 2008.

In 2009, he was appointed Vice-Chancellor of Dr. Babasaheb Ambedkar Open University, Gujarat for two terms till 2015.

Collegium recommends A.P. Chief Justice, senior advocate as SC judges

Krishnadas Rajagopal
NEW DELHI

The Supreme Court Collegium on Tuesday recommended that senior advocate K.V. Viswanathan be appointed a judge of the top court, highlighting his vast experience and profound knowledge in law as a "significant value addition" to the court.

The five-member collegium also proposed to the government the appointment of Andhra Pradesh Chief Justice Prashant Kumar Mishra as a Supreme Court judge. The recommendations have been made to fill two vacancies after the retirement of Justices Dinesh Maheshwari and M.R. Shah in May.

Mr. Viswanathan would be in line to be the 58th Chief Justice of India in August 2030, succeeding Justice J.B. Pardiwala as top judge, if his name is cleared by the government.

He would also be only the ninth lawyer to be elevated directly to the Supreme Court Bench and the fourth such lawyer to become the CJ.

"On the retirement of Justice Jamshed Burjor Pardiwala on August 11, 2030, Shri Viswanathan would be in line to assume office as the Chief Justice of India till his retirement on May 25, 2031," the collegium resolution stated.

From Bar to Bench

The collegium said that its decision to recommend a name from the Bar was taken after considering the fact that there was presently only one such judge, Jus-



New role: Andhra Pradesh Chief Justice Prashant Kumar Mishra and, right, senior advocate K.V. Viswanathan.



tice P.S. Narasimha, on the top court Bench. "The appointment of Shri KV Viswanathan will enhance the representation to the Bar in the composition of the Supreme Court. Shri Viswanathan is a distinguished member of the Bar of the Supreme Court," the collegium noted.

Mr. Viswanathan, born on May 26, 1966, completed the five-year integrated law degree from Coimbatore Law College, Bharathiyar University, and enrolled with the Bar Council of Tamil Nadu in 1988.

He was designated as a senior advocate in 2009 after practising in the Supreme Court for over two decades. He has appeared in a wide range of cases on diverse subjects such as constitutional, criminal, commercial, insolvency and arbitration laws. He has also been the top court's *amicus curiae* in many cases.

The collegium said that it had zeroed in on Justice Mishra after carefully evaluating the merit, integrity and competence of eligible Chief Justices and senior puisne judges of the High Courts, and also accommo-

dating a plurality of considerations.

Justice Mishra's parent High Court is Chhattisgarh. The collegium noted that there is no representation of the State among the current Supreme Court judges.

Found 'worthy'

Justice Mishra is ranked 21 in the all-India High Court judges list. The collegium said that though Allahabad Chief Justice Pritinker Diwaker also comes from the Chhattisgarh High Court and is senior to Justice Mishra, it found the latter "worthy" of appointment to the top court. Justice Mishra was appointed a judge of the Chhattisgarh High Court on December 10, 2009, and the Chief Justice of the Andhra Pradesh High Court on October 13, 2021.

The two recommendations precede a series of retirements in 2023.



Read our explainer |

The workings of the Supreme Court Collegium
[bit.ly/3o3yfm9](https://www.evastaliniasacademy.in/bit.ly/3o3yfm9)



IISc hosts global meet on TV technology

The Hindu Bureau
BENGALURU

A meeting of the International Telecommunication Union's Study Group 9 (SG-9) is being hosted in India for the first time.

The meeting of SG-9 on 'Broadband cable and television/audiovisual content transmission and integrated broadband cable networks' is currently being held at the Indian Institute of Science (IISc) in Bengaluru.

This is the first physical meeting of the SG-9 after the pandemic and the event was attended by delegates and representatives from Bangladesh, Brazil, China, Congo, Egypt, France, Gambia, Germany, India, Japan, Kenya, Korea, Myanmar, Nepal, Palestine, Sri Lanka, Syria, Switzerland, Tanzania, Thailand, Ukraine, and other countries.

In addition, representatives of the International Telecommunication Union (ITU), a UN organisation, and many other experts attended the meeting.

ITU, founded in 1865, facilitates international connectivity in communications networks. ITU allocates global radio spectrum and satellite orbits, develops the technical standards, and strives to improve access to Information and Communications Technologies (ICTs) to communities worldwide.

"While the future technologies of digital broadcasting were discussed, it was also highlighted that many countries are still facing challenges in transitioning from analog to digital broadcasting. I hope the workshop will help bridge the gap," Seizo Oneo, director, Telecommunication Standardization Bureau said.

SC transfers endosulfan case to Kerala HC

Supreme Court says with the compensation paid, the only factor left is the provision of medical and palliative care for the victims; the High Court will be in a better position to monitor that aspect; judges ask the Kerala Chief Justice to list the case before his Bench or assign any other Bench

The Hindu Bureau
NEW DELHI

The Supreme Court on Tuesday transferred to Kerala High Court the responsibility of monitoring the measures taken by the State to provide medical and palliative care for victims of endosulfan contamination.

A Bench led by Chief Justice of India D.Y. Chandrachud said the State has complied with the disbursement of compensation to victims. Senior advocate Jaideep Gupta and advocate Nishe Rajen Shonker,

for Kerala, said the ₹5 lakh compensation has reached almost all of the over 3,700 victims.

The Bench said it has been passing orders from time to time while monitoring the case. Now, with the compensation paid, the only factor left was the provision of medical and palliative care to the victims. The Supreme Court said the High Court was in a "better position" to monitor that aspect.

The court transferred the case to the High Court. It requested the Kerala Chief Justice to list the case



Mothers of endosulfan victims with their children staging a protest in Thiruvananthapuram. FILE PHOTO

before his Bench or assign any other Bench.

On August 18 last year, the top court had directed the Kasaragod District Le-

gal Services Authority to inspect the medical and palliative care facilities provided to endosulfan victims.

The order had come after victims, represented by senior advocate P.N. Ravveendran and advocate Sudheer, complained of the lack of health care infrastructure provided by the State despite the best efforts of the district administration.

In May last year, the Supreme Court had slammed the Kerala government for doing "virtually nothing" for Endosulfan pesticide exposure victims.

The court had said the State's inaction was "appalling" and amounted to a breach of the Supreme

Court's judgment in 2017, which had ordered the State to pay ₹5 lakh each to the victims in three months.

Of the victims, 102 are bedridden, 326 are mentally challenged, 201 are physically disabled, and 119 are wrecked by cancer while 2,966 others fall in the residual category.

The right to health is an integral part of the right to life under Article 21 of the Constitution. Without health, the faculties of living have little meaning, the court had noted in the case.

More about the issue

- Endosulfan pesticide was used widely from the mid-70s, on crops like cashew, cotton, tea, paddy, fruits and others until 2011, after which the Supreme Court banned its production and distribution.
- Locals reportedly experienced illnesses, palsies and deformities
- The Supreme Court directed the Kerala government to pay Rs 500 crores in three months as compensation to over 5,000 victims of the use of Endosulfan pesticide.
 - The Right to Health is an integral part of the right to life under Article 21 of the Constitution.

Endosulfan

- About:
 - Endosulfan is a pesticide and it does not occur naturally in the environment.
 - It is a cream- to brown-coloured solid that may appear in the form of crystals or flakes.
 - It has a distinct odour similar to turpentine but it does not burn.
 - It is sold as a mixture of two different forms of the same chemical (referred to as α - and β -endosulfan).
 - Endosulfan was the cheapest broad-spectrum pesticide and was friendly to pollinators.

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- **Uses:**
 - It is used to control pests in agriculture such as whiteflies, aphids, beetles, worms, etc.
 - It is also used as a wood preservative.
 - Endosulfan can be released into the air, water, and soil in areas where it is applied as a pesticide.
- **Health effects:**
 - The health effects of the chemical include neurotoxicity, late sexual maturity, physical deformities, and poisoning, among others.
 - Endosulfan blocks the inhibitory receptors of the Central nervous system (CNS), disrupts the ionic channels and destroys the integrity of the nerve cells.
 - People, especially newborns, have suffered deformities, health complications and loss of family members due to exposure to agrochemicals.
 - The most important congenital anomalies are those associated with the brain, like mental retardation and also cerebral palsy. And this is due to the exposure of the parents of these children to endosulfan.
- **Environmental impacts:**
 - Studies suggest that endosulfan may persist in the surface soil for weeks to months after application.
 - Endosulfan may contaminate surface waters through spray drift and transport in the runoff. It may move to targets beyond its use area through atmospheric transport (via volatilization, transport on dust particles, or a combination).
 - Fish, in particular salmonids, are considered highly susceptible to waterborne endosulfan.
 - Studies have reported bioaccumulation in different aquatic species and in natural habitats.
 - A study shows that endosulfan use in Kasaragod had caused the death of honey bee colonies and they started to come back after the pesticide was banned for use in the cashew plantation.

International ban on Endosulfan

- The Stockholm Convention, a global treaty to protect human health and the environment from such chemical compounds, has declared endosulfan a persistent organic pollutant and 73 countries have banned its use.

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- Endosulfan has been classified as highly hazardous by the USA and European Union.

India's stand on the Endosulfan ban

- The Industrial Toxicological Research Centre in India classifies Endosulfan as extremely hazardous.
- The Supreme Court banned the production and distribution of endosulfan.
- India agreed to the listing of endosulfan in Annex A of the UN's Stockholm Convention, without any opposition.
 - Listing a chemical in Annex A means that Endosulfan should be banned globally.
- In 2012, when there was the threat of endosulfan leaks from old godowns, they were transferred to new godowns through a scheme called Operation Blossom Spring.
 - It aims to restore organic farming practices back in the district and preserve the ecological balance.

What can replace Endosulfan?

- Farmers can use more organic techniques like tilling, crop rotation, and green manure to help deal with pests and weeds.
- "Soft" chemicals like soap, stinging nettles, and rhubarbs provide excellent alternatives to pesticides.
- Companion planting: planting certain types of plants will keep some pests away.
- Using oil sprays: Oil sprays suffocate the pests. If sprayed directly on the pest, it is more effective.
- Bio-pesticides harm neither plants nor farmers. The most common bio-pesticide that Indian farmers use is Neem. Bio-pesticides have no environmental risks and have no residue problems, so they don't damage the crops.

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