



# ASEAN BIODIASPORA VIRTUAL CENTER

## DISEASE ALERT

With Support by:



Korea Disease Control and  
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ASSOCIATION  
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First alert: 07 August 2024 | *Chandipura vesiculorum* (CHVP) in India

### SUB-LOCATIONS AFFECTED

The states of Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan, India



Figure 1. Photo of Phlebotomine sand fly (Diptera: Psychodidae), main vector of *Chandipura* virus transmission.  
Source: ECDC, <https://www.ecdc.europa.eu/en/disease-vectors/facts/phlebotomine-sand-flies>

### Event Description

Since early June 2024, an outbreak of Acute Encephalitis Syndrome (AES) has been reported in Gujarat. As of July 31, 2024, a total of 148 AES cases have been documented. Of the cases, 59 have resulted in fatalities. *Chandipura vesiculorum* virus (CHPV) has been confirmed in 51 of the cases.

## Case distribution

1. Gujarat (140 AES cases, 48 confirmed)
2. Madhya Pradesh (4 AES cases)
3. Rajasthan (3 AES cases, 2 confirmed)
4. Maharashtra (1 AES case, 1 confirmed)

## Epidemiological Information

- Since 2000, epidemics caused by viral attacks in India have been mainly associated with Chandipura virus, which is found in several regions of western, central and southern India: Maharashtra, Gujarat, Madhya Pradesh, Orissa, Uttar Pradesh, Bihar, Tamil Nadu, Karnataka, Andhra Pradesh and Kerala.
- Since June, hospitals in Gujarat started reporting the surge of Acute Encephalitis Syndrome (AES) cases.
- As of July 31, 2024, there have been 148 reported AES cases: 140 from 24 districts in Gujarat, 4 from Madhya Pradesh, 3 from Rajasthan, and 1 from Maharashtra. Out of these, 59 cases have resulted in death. Chandipura virus (CHPV) has been confirmed in 51 of these cases.
- Of the 148 AES cases, the majority have been concentrated in the state of Gujarat with 140 cases from 24 districts.

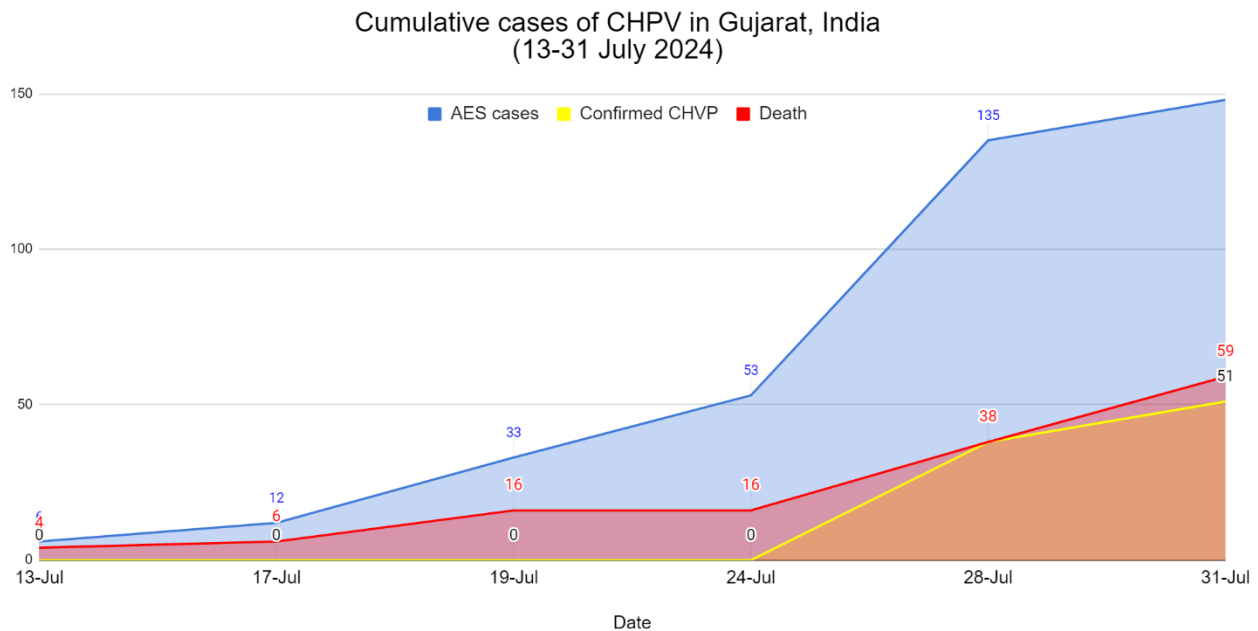


Figure 22. Cumulative cases of Chandipura virus disease in Gujarat, India (13-31 July 2024). Source: Bluedot Platform

## Response Measures:

- On August 1, 2024, the Director General of Health Services (DGHS), the Director of the National Center for Disease Control (NCDC), and the Director General of the Indian Council of Medical Research (ICMR) jointly led a review meeting to address the outbreak.
- Public health measures are implemented to control the outbreak, including insecticide spraying for vector control, public awareness campaigns, and sensitization of medical personnel.
- A National Joint Outbreak Response Team has been established to support these efforts and conduct detailed epidemiologic investigations.
- Neighboring states have been advised on how to handle potential AES cases.

## Etiology and Clinical Features

*Chandipura vesiculovirus* (CHPV) is an RNA virus is a member of the *Vesiculovirus* genus within the *Rhabdoviridae* family. It is associated with an encephalitic illness known as Chandipura encephalitis or Chandipura viral encephalitis. The virus was first isolated in 1965 from two patients with a febrile illness in Chandipura village, Maharashtra, India. The virus is primarily spread by the bite of female Phlebotomine sandflies, which are prevalent in the early monsoon period. While sandflies are the main vectors, mosquitoes and ticks can also transmit the virus.

Initial symptoms include fever, headache, convulsions, and vomiting, which can quickly progress to encephalitis, coma, and death, especially in children under 15. Management involves supportive care—rest, hydration, and symptomatic treatment for fever and respiratory issues—since there is no specific antiviral treatment or vaccine.

## Clinical Diagnosis

CHPV can be identified using cerebrospinal fluid (CSF) and sera through molecular and serologic techniques. Molecular diagnosis employs RT-PCR to detect the virus, while serologic diagnosis uses IgM capture ELISA for anti-CHPV IgM antibodies. The plaque reduction neutralization test (PRNT) is the gold standard for detecting neutralizing antibodies but is time-consuming. A faster alternative is micro-neutralization ELISA (MN ELISA), which detects neutralizing antibodies with shorter turnaround times.

## Importation likelihood map

Figure 3 reports the likelihood of an airport to import CHPV to another airport based on interconnectivity to existing airports. The likelihood of an airport to export a disease is based on a population's probability to use the airport and the disease incidence within that population. As shown in the map, the lowest likelihood of importation in the ASEAN region is 0, and the highest is 0.01.

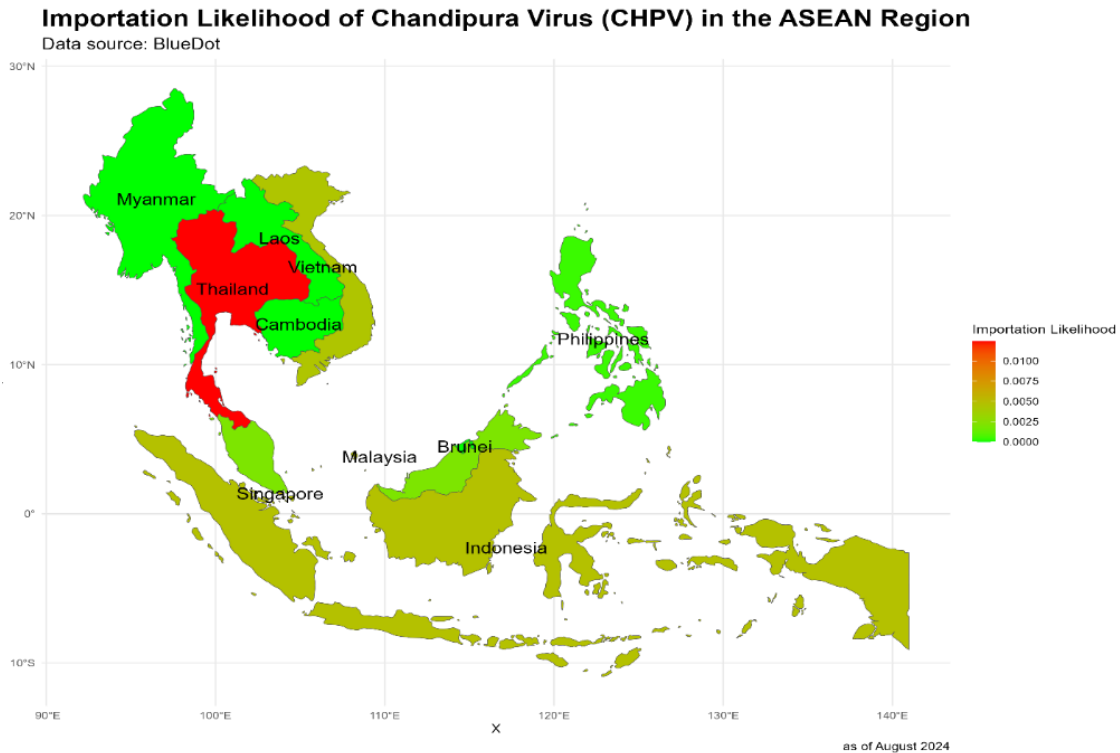


Figure 33. Importation likelihood of CHPV in the ASEAN Region. Source: Bluedot Platform

### Sources:

1. BlueDot (2024). BlueDot Portal. Available at: <https://portal.bluedot.global/>
2. Ghosh S, Basu A. Neuropathogenesis by Chandipura virus: An acute encephalitis syndrome in India. *Natl Med J India* 2017;30:21-25
3. PIB Delhi (2024) Update on Chandipura outbreak in Gujarat. Ministry of Health and Family Welfare Press Information Bureau. Available at: <https://pib.gov.in/PressReleaseFramePage.aspx?PRID=2039935>
4. Sapkal, G.N., Sawant, P.M. and Mourya, D.T. (2018) Chandipura Viral encephalitis: A brief review, *The Open Virology Journal*, 12(1), pp. 44–51. doi:10.2174/1874357901812010044.
5. The Indian Express (2024). 51 confirmed cases of Chandipura virus in June, July; number of AES cases dipping in country: Union Health Ministry. Available at: <https://indianexpress.com/article/india/confirmed-cases-chandipura-virus-june-july-number-aes-cases-dipping-country-union-health-ministry-9488794/>