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**News:** Dengue Fever

- Recently, Dengue cases have surged significantly in some states like Uttar Pradesh, West Bengal, and Tamil Nadu.

## **Dengue Fever**

- Dengue Fever is a **mosquito-borne tropical disease caused by the dengue virus** (Genus Flavivirus), transmitted by several species of mosquito within the genus Aedes, principally **Aedes aegypti**.
- This **mosquito also transmits chikungunya, yellow fever and Zika infection**.
- There are **4 distinct, but closely related, serotypes** (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (**DEN-1, DEN-2, DEN-3 and DEN-4**).
- Symptoms of dengue are **sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain**, etc.
- Diagnosis of dengue infection is done with a **blood test**.
- There is **no specific medicine to treat** dengue infection.

## Status of Dengue

- Incidence of dengue has grown dramatically around the world, in recent decades with a vast majority of cases underreported, according to the World Health Organization.
- WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
- India registered over 1 lakh dengue cases in 2018 and over 1.5 lakh cases in 2019, according to the National Vector–Borne Disease Control Programme (NVBDCP).
- National Vector-Borne Disease Control Programme (NVBDCP) is the central nodal agency for prevention and control of six vector borne diseases i.e., Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India. It works under the Ministry of Health and Family Welfare.

## Controlling Dengue Using Bacteria

- Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to successfully control dengue in Indonesia.
- The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all

mosquitoes in the area were carrying *Wolbachia* bacteria. This is called the Population Replacement Strategy.

- At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where *Wolbachia*-infected mosquitoes had been released, as compared to areas without such deployments.

### **Dengue Vaccine**

- The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
- Dengvaxia is basically a live, attenuated dengue virus which has to be administered in people of ages 9 to 16 who have laboratory confirmed previous dengue infection and who live in endemic areas.