PAHO warns of increased risk of dengue outbreaks due to circulation of DENV-3 in the Americas

Washington, D.C., February 10, 2025 (PAHO) – The Pan American Health Organization (PAHO) has issued an epidemiological alert regarding the increased risk of dengue outbreaks in the Americas, attributed to the growing circulation of the DENV-3 serotype in several countries in the region. PAHO urges countries to strengthen their surveillance, early diagnosis, and clinical management to address potential increases in dengue cases.

Dengue, transmitted by the *Aedes aegypti* mosquito, has four serotypes: DENV-1, DENV-2, DENV-3, and DENV-4. Immunity against one serotype only provides lifelong protection against that specific serotype, meaning that subsequent infections with other serotypes can increase the risk of severe forms of the disease. The appearance or rise of a serotype that was not previously predominant in a region can lead to a surge in cases due to greater population susceptibility.

The situation of DENV-3 in the region

The DENV-3 serotype has been identified in several countries across the Americas, including Brazil, Colombia, Costa Rica, Guatemala, Mexico, and Peru. In 2024, Argentina reported its circulation, marking the introduction of this serotype into the country. In the same year, Brazil and Colombia reported an increase in cases associated with DENV-3, particularly among children, and it has also been detected in other countries in Central America and the Caribbean. This serotype has been

linked to severe forms of the disease, even in primary infections, raising concerns about its potential impact on public health.

The reemergence of DENV-3, after a prolonged absence in certain areas of the region, increases the vulnerability of populations that have not been previously exposed to this serotype.

Current situation and recommended measures

In 2024, the Americas region reported over 13 million cases of dengue, of which 22,684 were classified as severe (0.17% of the total) and 8,186 resulted in deaths (case fatality rate of 0.063%). In the early weeks of 2025, 23 countries and territories in the region reported a total of 238,659 cases, with the majority concentrated in Brazil (87%), followed by Colombia (5.6%), Nicaragua (2.5%), Peru (2.5%), and Mexico (2.5%). Of these cases, 263 were severe, and 23 people died because of the disease.

PAHO recommends that countries strengthen vector control measures, enhance diagnostic capacity within healthcare systems, and ensure early and adequate treatment for patients to prevent severe complications. Public education campaigns to reduce exposure to mosquito vectors and eliminate breeding grounds are also essential.

The role of vaccination and monitoring

Regarding vaccination, according to the evidence generated by the manufacturer and published in the main phase 3 study, the TAK-003 dengue vaccine, used in some countries in the region, has shown lower protection against DENV-3, especially in children without a history of infection. This highlights the need to ensure safe vaccination and maintain continuous monitoring of adverse events potentially attributable to the vaccination.

PAHO is closely monitoring the evolution of DENV-3 circulation along with the other serotypes and will continue supporting

countries in implementing effective control and response measures to potential outbreaks. It is critical that healthcare systems are prepared to manage the expected increase in cases and mitigate the risk of severe complications associated with this disease.

Links

Epidemiological Alert - Risk of dengue outbreaks due to increased circulation of DENV-3 in the Americas Region

Dashboard - Reported dengue cases

PAHO dengue information

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The Pan American Health Organization (PAHO) works with the countries of the Americas to improve the health and quality of life of its population. Founded in 1902, it is the world's oldest international public health agency. It serves as the Regional Office of WHO for the Americas and is the specialized health agency of the Inter-American system (OAS).