



Epidemiological Alert:

Dengue Outbreaks in the Americas

(4 June 2010)

The information in this update has been obtained from data provided by the ministries of health of PAHO Member States, either through reports sent to PAHO/WHO or from updates on their respective websites.

To date, the countries of the Region have reported a total of 626,268 cases of dengue, of which 14,149 were acute dengue, with 241 deaths and a regional case-fatality rate of 1.70%.

Table 1: Dengue Cases and Deaths from Severe Dengue, Region of the Americas, to Epidemiological Week (EW) 22, 2010

Subregion	No. of Dengue Cases	Incidence per 100,000 pop.	No. of Severe Dengue Cases*	No. of Deaths	Fatality Rate (%)
Central America and Mexico	37,239	25,34	1,618	14	0.87
Andean	117,125	114,34	9,459	78	0.82
Southern Cone	455,135	187,69	2,583	131	5.07
Hispanic Caribbean	6,424	27,10	418	18	4.31
Rest of Caribbean	10,345	130,36	71	0	0
<i>Total</i>	<i>626,268</i>	<i>119,63</i>	<i>14,149</i>	<i>241</i>	<i>1.70</i>

* Dengue hemorrhagic, dengue shock syndrome and other serious forms.

Central America and Mexico

Costa Rica

Up to EW 19, 2010, the Ministry of Health of Costa Rica reported 5,161 cases of dengue. The number of cases registered across the country during the EW 1–19, 2010, exceeded the number of cases recorded during the same period last year, and there has been a rising trend in the number of cases over the past three weeks.

Severity: There were five confirmed cases of severe dengue but no reported deaths.

Serotypes in Circulation: DEN 1, 2 and 3.

Affected Areas: Regions of Chorotega (Cañas, Carrillo, Abangares and Santa Cruz), Central Pacific (Pen/insula, Puntarenas Canton and Rural), North Central (Alajuela), and Brunca, with 82.6% of the total cumulative incidence. The national incidence rate of confirmed cases is 159.1 per 100,000 inhabitants.

El Salvador

Up to EW 21, 2010, the Ministry of Health of El Salvador reported 11,373 cases of dengue, 4,874 of which were laboratory confirmed.

Severity: The health authorities confirmed 78 cases of severe dengue, with one death under investigation.

Serotypes in Circulation: DEN-1, 2.

Affected Areas: The highest incidence rates for confirmed cases per 100,000 inhabitants were: Cabañas (176.3), Oriente de San Salvador (166.3), Cuscatlán (149.6), Santa Anna (146.9), and Chalatenango (144.3).

Measures Taken: This is the second nationwide crackdown cleaning 21 to May 23 aimed at the elimination and control of *Aedes aegypti* breeding. The rainy season has started but not sustained that lead to increased breeding.

Guatemala

Up to EW 19, 2010 the Ministry of Health of Guatemala reported 2,614 clinical cases of dengue, with an increase of 212% compared to 2009.

Severity: There were 284 confirmed cases of severe dengue and 6 deaths.

Serotypes in Circulation: DEN-1, 2.

Affected Areas: Zacapa, Chiquimula, Escuintla and Santa Rosa.

Measures Taken: In light of recent environmental events that have affected Guatemala (Tropical Storm Agatha and the Pacaya volcano eruption), dengue prevention activities are increasing in the area of vector control.

Honduras

Up to EW 18, 2010 the Ministry of Health of Honduras reported 6,671 clinical cases of dengue, of which 326 were laboratory confirmed.

Severity: There were 216 confirmed cases of severe dengue and 6 deaths.

Serotypes in Circulation: DEN-1, 2.

Affected Areas: Metropolitana MDC 276 (56%), Metropolitana SPS 70 (14%), Yoro 21 (4%), Comayagua 17 (3%), and Olancho 17 (3%). Of all cases, 85% were concentrated in these five regions.

Measures Taken: The country is taking action based on the recommendations made by PAHO's Dengue Task Force (GT-Dengue) in March 2010. Focus is on social communication, environmental issues, and integrated vector management.

Andean Subregion

Colombia

Up to EW, 2010, a total of 71,815 probable cases of dengue were reported to the National Surveillance System (SIVIGILA), of which 29,113 were laboratory-confirmed.

Severity: Of the 5,590 severe dengue cases reported, 2,816 have been laboratory confirmed.

Serotypes in Circulation: DEN 1, 2, 3, and 4.

Affected Areas: There has been a significant increase in the departments of Atlántico, Antioquia, Bolivar, Boyaca, Caldas, Caqueta, Cartagena, Casanare, Cundinamarca, Cesar, Magdalena, Meta, Norte de Santander, Putumayo, Risaralda, Santa Marta, Sucre, and Valle.

Measures Taken: This past May, PAHO/WHO held training sessions for physicians working in the areas of greatest impact. In addition, the recommendations made by PAHO's Dengue Task Force (GT-dengue) have been followed when handling serious cases.

Ecuador

Galapagos Island Outbreak: In early April 2010, health authorities reported an outbreak of dengue in the Galapagos archipelago. Up to EW 19, 76,319 dengue cases were reported, of which 50 have been either laboratory confirmed or confirmed through epidemiologic link. There has been a decreasing trend in the number of cases in recent weeks.

Severity: No cases of severe dengue have been reported. The age groups most affected are children up to 9 years of age (19%), followed by those 10–19 years old (26%) and then by those ages 20–29 (20%).

Serotypes in Circulation: DEN 1.

Affected Areas: The largest number of cases comes from San Cristobal Island (96%) and Santa Cruz (4%); no cases have been reported on the other islands.

Measures Taken: Briefings and coordination with local authorities, basic sanitation measures, vector and disease control activities, adult education activities aimed at the population, training for health workers on patient management, among others.

Venezuela

Up to EW 21, 2010, the Ministry of Health of Venezuela reported a total of 38,174 cases of dengue. The endemic channel continues in epidemic areas and trends show an increase in the number of cases over the past five weeks (EW 17–21).

Severity: Of all the cases, 3,859 have been confirmed as severe dengue, but no fatal cases have been reported by the health authorities of Venezuela.

Serotypes in Circulation: DEN 1, 2, 3, and 4.

Affected Areas: The national incidence rate is 132.4 per 100,000 inhabitants, which is exceeded in 10 departments (Amazonas, Merida, Tachira, Monagas, Nueva Esparta, Miranda, Trujillo, Guarico, Barinas, and the Federal District).

Measures Taken: In May, the PAHO/WHO Regional Advisor on Dengue made a visit at the request of the country and provided training in social communication. The PAHO/WHO Country Office in Venezuela provides permanent technical support and advice to the Ministry of Health of Venezuela.

Southern Cone

Argentina

Up to EW 22, a total of 1,184 suspected cases of dengue were reported.

Severity: There have been no confirmed deaths.

Serotypes in Circulation: DEN-1, 2, and 4.

Affected Areas: Buenos Aires, Capital Federal, Catamarca, Chaco, Chubut, Corrientes, Entre Rios, Formosa, Jujuy, La Pampa, Mendoza, Misiones, Salta, Santa Fe, and Santiago del Estero.

Measures Taken: Strengthening the network of care and control measures in affected municipalities. These include clean-up, outbreak control, destruction of breeding sites using larvicides, spraying activities with focus on the area near the homes of affecting persons, and spatial searches for patients showing symptoms of dengue fever.

Brazil

Up to 2 June 2010, the Ministry of Health of Brazil reported 447,769 suspected cases of dengue.

Severity: There were 2561 confirmed cases of severe dengue with 117 deaths.

Serotypes in Circulation: DEN-1, 2, and 3.

Affected Areas: Minas Gerais, Goiás, Mato Grosso do Sul, São Paulo, Mato Grosso, and Paraná

Measures Taken: Intensified vector control through house-to-house visits for treatment and elimination of breeding sites. An Increase of R \$ 128 million has been provided to municipalities at a higher level of risk. Distribution of educational materials (CD-ROM, manual) on clinical management to doctors, nurses, and health workers. The PAHO/WHO Country Office in Brazil has

been permanently monitoring the situation and providing technical advice on outbreak management: in Goiás (Goiânia and Aparecida) and Minas Gerais (Belo Horizonte), support has been in the form of holding various technical meetings, helping purchase supplies (larvicides and adulticides), and providing training.

Paraguay

Up to 2 June, total notifications of suspected dengue cases admitted to the surveillance system amounts to 17 530. Confirmed cases amounted to 8277, the 16, 4% of all confirmed cases are under 15 years. The epidemic is now considered of great intensity to exceed the rate of 100 cases per 100 000 inhabitants.

Severity: 15 deaths have been confirmed.

Serotypes in Circulation: DEN-1, 2 and 3.

Affected Areas: Amambay, Alto Parana, Asuncion, Central, and Concepción

Measures Taken: During EW 21 and 22, the field operations team began implementation of the second and third phase of interventions to corroborate the persistence of dengue virus in areas affected by major outbreaks. A search was conducted for febrile cases, breeding sites were destroyed, and community education was provided in affected areas.

Caribbean

Puerto Rico

Up to EW 19, the Secretary of Health of Puerto Rico reported 3,541 cases of dengue, of which 1,658 have been laboratory confirmed. According to the endemic channel, cases continue to be reported in epidemic areas.

Severity: Health authorities have confirmed 20 cases of severe dengue and two deaths.

Serotypes in Circulation: DEN-1, 2, 4.

Measures Taken: The Secretary of Health is carrying out continual and intensified vector and diseases control activities and alerting the public as to preventive measures.

Dominican Republic

Up to EW 18, the Ministry of Health of the Dominican Republic reported 2,883 cases of dengue, of which 1,705 have been laboratory confirmed.

Severity: There were 398 confirmed cases of severe dengue and 16 deaths.

Serotypes in Circulation: DEN-1, 2, and 4.

Measures Taken: A review of national standards has been conducted, with emphasis on care of dengue patients. In addition, there has been an intensification of vector control activities, e.g. destruction of breeding sites and spraying for adult mosquitoes. In those municipalities in which dengue deaths were recorded, meetings were held at the local level to discuss, identify, and correct problems related to quality of care.

French Territories

La Cellule d'Epidemiologie interrégionale des Antilles (CIRE), through its epidemiological bulletin, has reported the occurrence of dengue outbreaks in French Guiana, Guadeloupe, and St. Martin.

In **French Guiana**, up to EW 19, a total of ,430 suspected cases of dengue were reported, of which 1,640 were laboratory confirmed. Of the total number of cases, 71 required hospitalization and there was death. The serotypes in circulation are DEN 1, 2, and 4.

In **Guadeloupe**, up to EW 20 some 7,260 cases of dengue were reported, of which 1,315 were laboratory confirmed. The number of cases requiring hospitalization was 106. The serotype in circulation was DEN-1. To date, no deaths have been reported.

General Recommendations

PAHO/WHO continues to provide technical support for the prevention and control of dengue outbreaks in the Region, through its expert group, the PAHO International Dengue Task Force (GT-Dengue), mainly in the areas of epidemiological surveillance, vector control, clinical and patient management, and risk communication.

With the entry of the rainy season in certain subregions, it has become necessary to intensify the following activities:

- Keep all water containers closed or covered.
- Clean the inside of all water containers (tanks, batteries, and barrels), or at least change the water once a week if possible. This prevents the mosquito larvae from reaching adulthood.
- Change the water in aquatic plants and flower vases once a week. If possible, remove them from your home.
- Remove anything that might impede water flow household water lines, thus avoiding standing water.
- Destroy or take to the landfill any unusable object that may hold water as bottles, cans, paper cups, tires, etc.
- Tires, new or used, must be removed or protected to prevent water accumulation. They constitute an efficient hatchery for *Aedes aegypti* to breed.
- Clear your yard for trash and remove any household objects that can collect water, thus becoming potential vector breeding sites.