



Emerging and Reemerging Infectious Diseases, Region of the Americas

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Dengue Outbreak in Paraguay, 2007

Asunción, 29 January 2007: On 15 January 2007 the Ministry of Public Health and Social Welfare of Paraguay ([MSPBS](#)) declared an epidemiological alert for the entire nation in light of the number of dengue cases and the real possibility of dengue hemorrhagic fever (DHF) cases. On 20 January 2007, the first two fatalities from DHF were reported.

Summary of the Current Situation in Paraguay

As of Monday, 29 January 2007 (Epidemiological Week No. 5), the following figures were reported:

- 1,394 reported cases of dengue fever
- 8 cases of dengue hemorrhagic fever (DHF)
- 3 deaths
- Case-fatality rate: 37.5%
- Departments Affected:
Asunción, Central, Amambay, Alto Paraná, Cordillera, Guairá



With continuous communication with the [PAHO Country Office in Paraguay](#), the Department of Health Surveillance and the National Vector Control Program made public the country's epidemiological situation and activities being carried out. Their objective is also to report promptly to decision-makers and activate surveillance activities in accordance with the MERCOSUR plan regarding dengue prevention and control in border areas.

Current Situation

Paraguay has reported two dengue epidemics, one in 2000 and the other at the beginning of 2006. The Ministry of Public Health and Social Welfare of Paraguay (MSPBS) has recorded 29,000 confirmed cases over the past seven years.



- In 2006, 1,700 cases were reported in a classical dengue outbreak in Asunción, with the Dengue 3 (DEN-3) serotype. The country managed to bring this outbreak under control and was able to minimize the level of transmission until October, when an increase in the number of cases was detected.
- During the first week of January 2007, there were 390 cases of dengue, with 161 reported in the second week and 120 during the third, including two fatal cases of DHF with acute clinical symptoms. The reported cases correspond to the DEN-3 serotype.
- As of Monday, 29 January 2007

(Epidemiological Week No. 5), 1,394 cases of dengue fever had been reported, with 8 cases of DHF and 3 deaths.

- The presence of DEN-3 in Asunción gives reason to suspect the possibility of a mass outbreak, though there has been a timely response and the outbreak has been controlled on time with regard to the population groups susceptible to this serotype.
- Based on the DHF cases recorded in Paraguay, the public health authorities have taken a series of measures to avoid the appearance of more cases and to prevent deaths from DHF.
- The outbreak is concentrated in the capital city of Asunción and in the cities of Pedro Juan Caballero, Paraguarí, Quiindy, San Lorenzo, Fernando de la Mora, Capiatá, and Lambaré. Affected departments include Central, Amambay, Alto Paraná, Cordillera, and Guairá.

Prevention and Control Activities Underway

The following specific activities are currently being carried out:

- The Ministry of Public Health and Social Welfare, the Armed Forces, municipal health authorities, neighborhood commissions, the private sector, and the urban transportation system are all participating in control measures to eliminate the disease-transmitting vector and any breeding sites—neighborhood by neighborhood.
- Regional authorities were called on to scale up their preparedness and response system and their primary-care services to handle DHF during this incipient phase.
- The country has developed its capacity for response and for having trained personnel to provide treatment in cases of DHF and Dengue Shock Syndrome (DSS). However, this is the first time face that the health system will be tested in its ability to handle DHF.



Vector Control Activities

- The infestation indices for second semester 2006 were lower when compared to 2005 data. However, infestation indices began to increase between October and December 2006 in some neighborhoods. The indices of 15% fell to 3%–4%. Without proper waste management, however, there could be an increase.
- Increased rainfall and climate change have been the most determining factors for this resurgence.
- Elimination of breeding sites activities are being carried out in the neighborhoods, and special spraying has been employed.
- There is a sufficient supply of insecticides for eliminating adult mosquitoes and larvae when providing a timely response.
- Resources have been mobilized and/or reallocated for outbreak response, with 120 campaigns involved in making house calls.
- The main breeding sites are cans, plates under plant pots, and tires.
- Interventions are being carried out by the District Attorney's Environmental Office to fine, indict, or incarcerate recurring offenders.
- " The Program Director has praised the control measures and response activities that are being carried out by local authorities (improvement in tire facilities, uncultivated patios, etc.).

Raising Public Awareness with Dengue Mosquito Day

On Thursday, 25 January 2007, the President of the Republic—together with his cabinet—made the decision to convene a major mobilization. On 29 January, activities to eliminate breeding sites were intensified. Through a Presidential Decree, a short holiday was declared for all civil servants in the country to give them the time to support this event.

The Ministry of Health has requested technical cooperation from PAHO/WHO in organizing and carrying out this event. To act on this request, PAHO responded immediately by sending a consultant in Communications who had taken part in organizing *Dia Dengue (Dia D, or Dengue Day)* in Brazil. In addition, a team was formed in the PAHO Country Office to provide support not only in organizing the event but also in responding to the current epidemic.

Mass Communication

- Despite the communications efforts, communities are still not supporting the elimination of breeding sites.
- The greatest problem and complaint at the grassroots level is the lack of continuity in municipal trash-collection services.
- The "D-Day" activities in Paraguay support raising awareness and providing information to the public to involve everybody in identifying mosquito breeding sites and eliminating them.

External Technical Cooperation

To comply with current technical-cooperation agreements, PAHO is providing advisory services in the following areas:

1. Mass Communication
2. Patient-Information Services

3. Health-Service Organization

It is noteworthy that Paraguay has prepared its *Strategy of Integrated Management for the Prevention and Control of Dengue* ([EGI-Dengue](#)) and developed its ability to respond to the increase in the number of cases, not only institutionally but also comprehensively, as we can see when dengue cases started appearing in 2006. We need to remember that dengue-related problems transcend the borders of the health sector and that it is crucial to involve other sectors as well as key actors outside the sector.

During the past year, an outbreak occurred in the Tri-Country Border Zone in Puerto Iguazú, which was handled appropriately by Argentina, Paraguay, and Brazil. This is an experience worth replicating.

At this time, there is also a high level of collaboration among another three bordering countries: Argentina, Brazil, and Bolivia. Border commissions and other local mechanisms have been formed that are sending out systematic information on the spread of this outbreak via networks established in both the subregion and region, in order to guarantee immediate response to the appearance of new cases or outbreaks in border areas.

Source: Information obtained by the [PAHO Regional Program on Dengue](#) through the PAHO Country Office in Paraguay ([PAHO-Paraguay](#)), based on data from the central database [Centro de Cómputos DiVEI](#) run by the Ministry of Public Health and Social Welfare (*Ministerio de Salud Pública y Bienestar Social* / [MSPBS](#)) of Paraguay.