



# Epidemiological Alert: Update on Dengue Situation in the Americas

(Published 18 March 2011)

## INTRODUCTION

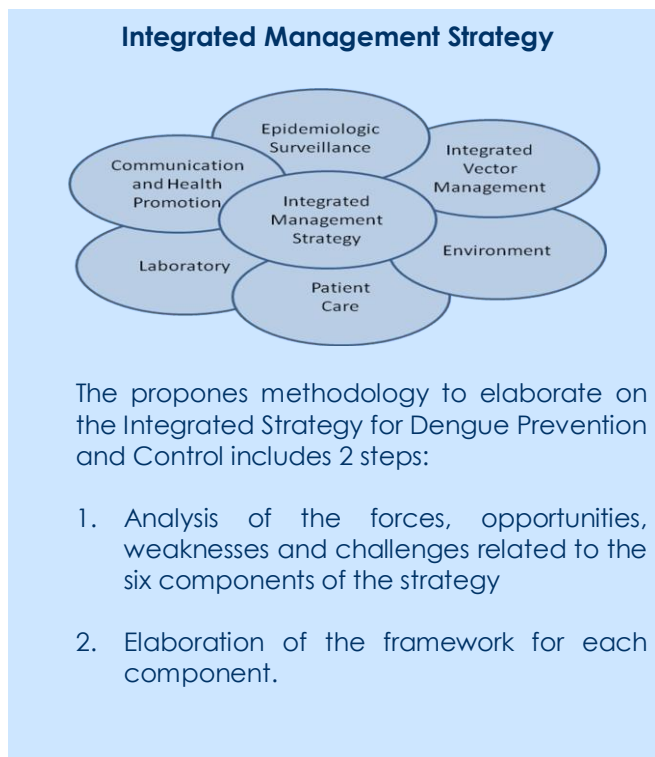
The high activity of dengue during the first trimester of 2011 in several countries in the southern hemisphere in the Region of the Americas has necessitated the rapid implementation of management plans on both the local and national levels. This allows for an opportunity to reiterate the importance of the **Integrated Management Strategy** for the prevention and control of dengue (IMS-Dengue).

The IMS-Dengue, proposed and approved by the Ministries of Health at the 44<sup>th</sup> Meeting of the Directing Counsel<sup>1</sup>, urges Member States to consider dengue as a national priority and to initiate a change in the focus of their national programs through the incorporation of an integrate strategy that promotes health through action-based practices. PAHO/WHO, through the Regional Dengue Program, has enacted their International Dengue Technical Group to work as an operating branch during the process of implementing the IMS-Dengue programs at the national level.

The IMS-Dengue is based on six pillars: 1) epidemiological surveillance, 2) patient care, 3) integrated vector control (entomology), 4) laboratory, 5) social communication, and 6) environment. Presently, 18 countries and the four sub-regions have designed and implemented their own strategies and currently, the English and French Caribbean countries are also at work to complete programs. These 18 countries that already have implemented strategies account for nearly 95% of the morbidity due to dengue reported in the entire Region.

This alert proposes to explain the current dengue situation in the Region and to encourage national authorities to implement actions in a timely manner to decrease the morbidity and mortality in addition to the social and economic burdens of dengue epidemics. Preparation of a dengue response should begin much earlier than the after the appearance of the first cases, with actions oriented to control environmental and social factors that indicate high indices of infection through the mosquito transmitter.

<sup>1</sup> Proposed and approved by the Ministers of Health in the 44<sup>th</sup> Session of the Directing Counsel of the Pan American Health Organization in September 2003, through Resolution CD 44.R9.



The information presented in this updated has been obtained through data provided by the Ministries of Health of the Member States through reports sent to PAHO/WHO or from updates on their websites.

Up to Epidemiological Week (EW) 9 of 2011, a total of 206,097 cases in the Region of the Americas have been reported, including 2,744 cases of severe dengue and 223 fatalities. Following is a description by sub regions of the situation in those Member States which had access to up-to-date information.

Box 1. Number of dengue cases and severe dengue by sub region in the Americas up to the epidemiological week 9 of 2011. Data provided by the Ministries of Health of the Member States through reports sent to PAHO/WHO or from updates on their websites.

Sub-regions	Dengue*	Incidence Rate x 100,000	Number of Severe Dengue cases**	Number of Deaths	Rate of Lethality
North America, Central America and Mexico	7,503	5.1	150	0	0
Andean Region	39,833	38.9	971	49	5.1
Southern Cone	157,973	65.1	1,603	174	10.9
Hispanic Caribbean	772	3.3	20	0	0
English and French Caribbean	16	0.2	0	0	0
<b>TOTAL</b>	<b>206,097</b>	<b>39.4</b>	<b>2,744</b>	<b>223</b>	<b>8.1</b>
*Sum of Dengue + Severe Dengue					
**Includes dengue shock syndrome and/or all forms of severe dengue					

## ANDEAN SUB-REGION

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### BOLIVIA

The outbreak which first developed in the department of Beni in January of this year has been spreading to other regions facilitated by environmental problems that are common during the rainy season.

As of epidemiological week (EW) 9 of 2011 the departments most affected by dengue were Beni, Santa Cruz, La Paz, Cochabamba, Pando, and Tarija, where the highest accumulated incidence rates were registered ranging between 41.8 and 228.6 per 100,000 inhabitants. Up to date 6,852 dengue cases and 17 deaths were registered. Since 2010 the serotypes DEN-1, DEN-2 and DEN-3 circulate in Bolivia.

## PERU

The department of Loreto, located in the northern region of the country and its capital city Iquitos, registered an outbreak of dengue beginning week 51 in 2010 with the simultaneous circulation of serotypes DEN-1, DEN-2, and DEN-4. This outbreak is considered the largest registered in the region.

As of EW 9, Loreto reported a total of 12 fatalities. Additionally, 74% of the 18,776 cases registered in Peru were concentrated in this department.

Since EW 7 a sustained decrease in the number of suspected cases and hospitalizations was observed in Loreto. As of EW 9 the cumulated incidence rate was 19.6 per 100,000 inhabitants. The municipalities with the highest incidence rates were Iquitos (46.0), Belén (39.6), San Juan Bautista and Punchada (23.4). It is important to mention that the last reported death due to dengue was on 5 February, 2011.

The local authorities have undertaken several important actions including the massive collection of water-holding containers in the city of Iquitos, the fumigation of educational institutions. The active local government participation has been key in controlling the outbreak.

## COLOMBIA

Following the significant outbreak that was registered in the second semester of 2010, Colombia has presented fewer cases in comparison to this time last year however according to its epidemic report remains an area of risk.

Up until week 8, there were 6,025 cases of dengue reported, of which 312 were severe dengue. Additionally, there were 30 deaths due to dengue reported with 18 of those confirmed; this represents a 5.8% lethality rate for cases of severe dengue. The Ministry of Health of Colombia is enhancing all the components of IMS-Dengue, with special emphasis in patient care.

## SOUTHERN CONE

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### ARGENTINA

During 2011 and as of EW 10, a total of 55 dengue cases were registered nationally in the provinces of Buenos Aires (3), the city of Buenos Aires (3), Mendoza (1), Santa Fe (46), and Salta (2). During EW 9, a dengue outbreak was confirmed by serotype DEN-1 in the city of Romang, in Santa-Fe province.

Among the responses that have been implemented are the active search for new cases, cleaning streets, the elimination of water-holding containers, the search for larvae and treatment of breeding sites. Additionally, steps to isolate the areas where outbreaks were focused as well as fumigation campaigns have been undertaken in the areas where dengue cases have been reported<sup>2</sup>.

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<sup>2</sup> INFORME DE VIGILANCIA DE DENGUE. Ministerio de Salud de Argentina. Actualización 11/03/2011

## **BRAZIL**

As of EW 8 of 2011, Brazil notified 155,618 dengue cases. In addition 1,588 cases of severe dengue and 163 deaths were registered, which represented 67% and 73% of the total cases registered in the Americas.

The 52% of the notified cases were registered in 6 states: Acre (11%), Amazonas (13%), São Paulo (2%), Paraná (10%), Minas Gerais (9%) and Goiás (7%). This year an increase of dengue in Amazonas was observed, different from other years, when few cases were registered<sup>3</sup>.

## **PARAGUAY**

During EW 9 in 2011, there were 1,155 dengue cases confirmed by both laboratory and epidemiological investigation which represents the lowest registered incidence rate since the same time last year. A total of 112 confirmed cases were hospitalized with 10% of those showing signs of severe dengue<sup>4</sup>. A total of 11 deaths were confirmed this year.

The confirmed cases in the areas where transmission is persistent are distributed in the departments of Alto Paraná, Concepción, Amambay, and the Metropolitan Area. Currently, serotypes DEN-1 and DEN-2 are co-circulating with a predominance of serotype DEN-2.

## **OTHER COUNTRIES IN THE SOUTHERN CONE**

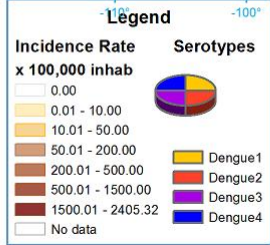
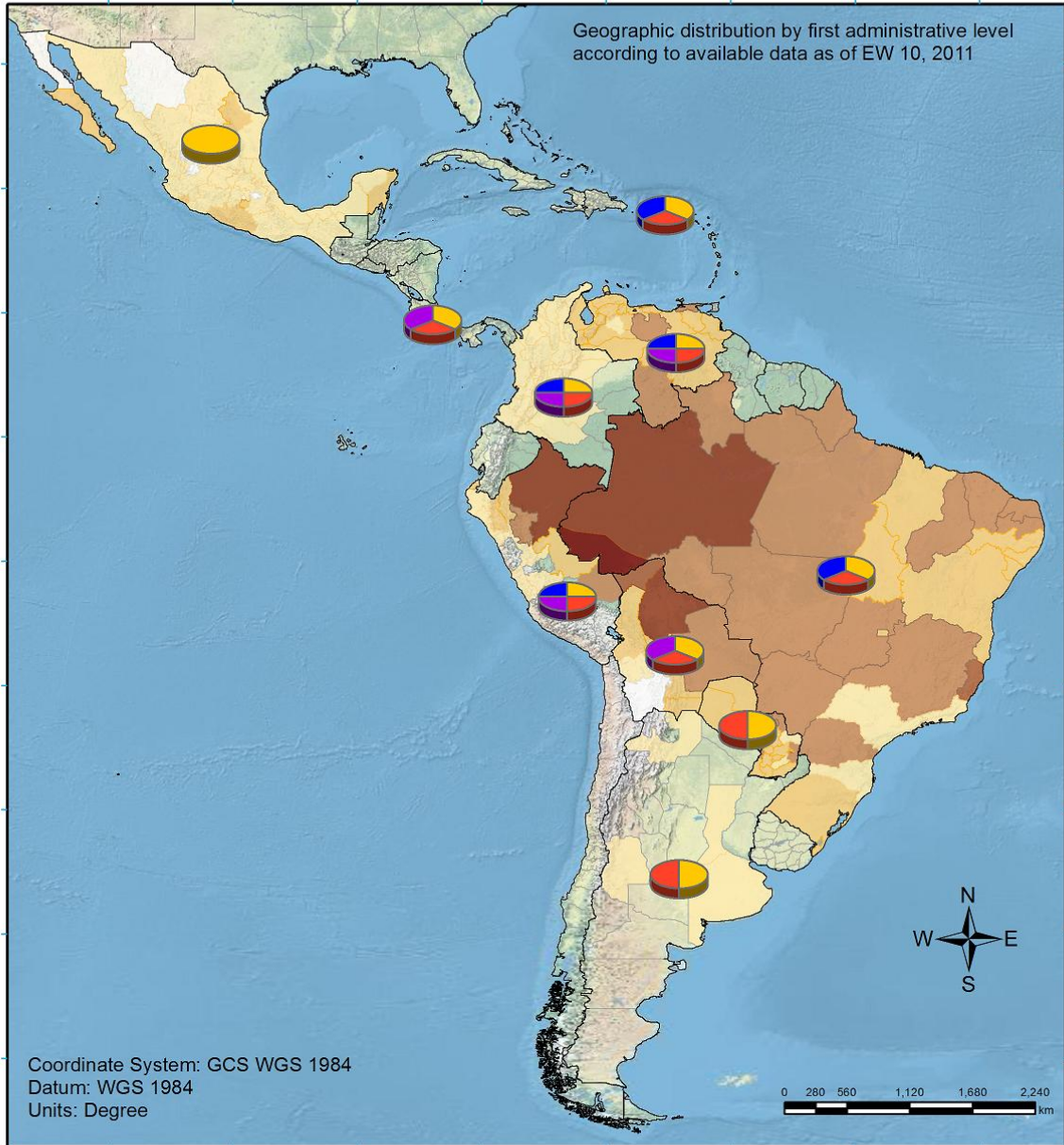
Both continental Chile as well as Uruguay continues to be the only countries in the region where the dengue virus has not presently been registered as endemically circulating.

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<sup>3</sup> Portal Saúde Brasil. Updated 18, March, 2011

<sup>4</sup> Boletín Epidemiológico de la SE 9. Dirección General de Vigilancia de la Salud. Ministerio de Salud Pública y Bienestar Social de Paraguay

# Dengue Incidence Rate and circulating serotypes in the Americas's countries Epidemiological weeks 1 to 10, 2011



PAHO-WHO/HSD/IR/ARO

Data sources:  
PAHO Dengue Regional Program and  
countries Ministries of Health



Cartographic Sources:  
PAHO-SALB, 2010  
ESRI: World Physical Base Map, 2011.

## **FINAL CONSIDERATIONS**

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Dengue is endemic to the Americas and in the last two decades, there has been an upward trend in dengue incidence with epidemics peaking ever higher and recurring almost regularly every three to five years. This can be attributed to the accumulation, in these lapses, of large sectors of the population that are susceptible to the infection, to the circulation of different serotypes of the virus, to the increase in the virulence of the circulating strains, and to the dissemination of the vector to new areas in the Region, not to mention the macro-factors (environmental, socioeconomic, political, and social) that influence the transmission of dengue.

The IMS-Dengue is a model for management with the objective to strengthen national programs for the goal of reducing morbidity, mortality, and the social and economic burdens generated by outbreaks and epidemics of dengue. An added value is that it allows for comparisons with similar processes developed by other countries and with the sub-regional strategies.

In the 18 countries in the Region of the Americas that have implemented their own IMS-Dengue, a constant exchange of information has developed in technical areas as well as with those decision-makers in the ministries and municipalities. This has allowed for generalizing and sharing experiences and lessons learned in each case in the different areas and an increased drive to progress the strengthening of these areas.

## **RESULTS OF THE NATIONAL DENGUE MANAGEMENT STRATEGIES**

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The following are several positive results reported in the countries that are implementing the IMS-Dengue:

- Greater coordination in the ministries from both the technical and management sides.
- Greater coordination with other sectors, especially with municipalities
- Improved coordination with organized community groups as well as the implementation of new local communication projects to facilitate the change of habits and conduct related to dengue.
- Increases in the capacity to mobilize resources and a noticeable change in the agreed-upon framework which has increased cost-analysis of activities and work and helped to facilitate negotiations with possible donors.
- The development of new skills and abilities in the areas of community participation, education, and anthropological investigation.
- Increased capacity to respond and the incorporation of new tools for epidemiological surveillance such as rapidly reviewing infestation indices.

Despite these results, it is necessary to intensify and concentrate work forces in the areas that are considered key to increase the impact. Among those are a few we can mention:

- a) Work to confront identifiable weaknesses and challenges in every country during the process of creating an IMS-Dengue to achieve the desired results through the implementation of national strategies.
- b) Identify and mobilize financial resources to facilitate the execution of national strategies.
- c) Strengthen the priority health care network for timely and appropriate patient care with cases of severe dengue to avoid fatalities.
- d) Promote interagency public policies to control macro-factors that effect the transmission of dengue, giving special attention to strengthened urban planning, reducing poverty and inadequate environmental sanitation (water and garbage) to sustainably prevent dengue and other vector-transmitted diseases.
- e) Monitor and evaluate the implementation of the national and regional IMS-Dengue programs that will allow for the continuation of these actions and the incorporation of new control tools.
- f) Evaluate the evidence to determine the magnitude of the problem represented by discarded tires and plastic water receptacles that can cause a growing problem as possible breeding sites for the dengue mosquito vector and promote alliances between governments and private industries to search for solutions.
- g) Allocate more specific resources, where appropriate, to strengthen the technical capabilities and the formation processes for more human resources to better develop neglected areas such as entomology and social communication.
- h) Support the scientific investigation into new technical tools and permanent evaluation of the practices to achieve the most impact in the prevention and control of dengue.
- i) Make use of the adoption of the International Health Regulations (2005) for the timely detection of cases and early analysis of disease outbreaks.

Finally, it is important to reiterate that before the appearance of an outbreak, prevention and control measures should be organized on a global—not just a health-sector—level.

To find out more information about the Integrated Management Strategy for dengue prevention and control in the Region of the Americas you can access the following documents:

- [La Estrategia de Gestión Integrada para la Prevención y el Control del Dengue en la Región de las Américas, 2007. \(In Spanish\).](#)
- [Strengthening implementation of the global strategy for dengue and dengue haemorrhagic fever](#)