



The Dengue Update



SUPPLEMENTAL ISSUE: Dengue Outbreaks Worldwide

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**CDC's
Dengue Branch
in Puerto Rico
is the largest
single dengue
research and
response unit
in the world.**

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Global dengue incidence during 2010 is rising at the highest rate since 1998. Many areas of the tropics and sub-tropics where dengue has been absent or mild in recent years are now epidemic. Especially affected are **Asia, the Americas, and the Caribbean**. Altogether more than **50 countries** have reported unusually high or early transmission. Typically, transmission peaks in equatorial regions during the annual rainy season, which is occurring now in many places. It is likely that increased rates during the first half of 2010 presage even more serious epidemics during the last half.

The geographic range of dengue virus transmission is similar to that of malaria, but unlike malaria, dengue infections are typically also found in urban areas throughout the tropics. The mosquito vectors of dengue, *Aedes aegypti* and *Aedes albopictus*, lay their eggs in water containers in and around houses. The countries mentioned in this bulletin are not a comprehensive list but rather an early indication of the mounting global threat.

Reports from **India** and **Southeast Asia**, especially **Indonesia, Sri Lanka, Taiwan, and Thailand**, are that the epidemic season started up to 4 weeks earlier than normal, in part due to heavy and unusually prolonged rains. **Vietnam**, for example, has incidence rates 10 times greater than in 2009.

In **Central and South America**, epidemics have been declared in **Peru, Venezuela, Colombia, Brazil, Nicaragua, Honduras, and Paraguay**, among others. Several of these countries are also seeing higher-than-usual case fatality rates from dengue hemorrhagic fever (DHF). In the first half of 2010, Brazil has recorded over 737,000 cases, an increase of 120% over this time last year. **Costa Rica** has reported increases of 382% and **El Salvador** 189% more since 2009. There is a similar trend in the Caribbean and North America. The **Dominican Republic** has declared a state of emergency because of "alarmingly high" case fatalities and **the Bahamas** has recorded its first cases since 2003. The **U.S. Commonwealth of Puerto Rico** has declared an epidemic, which will likely be the largest since 1998.

A number of areas where dengue has been absent or rare during the 21st century, have reported cases, including **Australia; Kathmandu, Nepal; Jeddah, Saudi Arabia, Reunion Island, Comoros, Tanzania and Senegal**. The first cases of dengue in **Florida** in 75 years were found at Key West late in 2009.

New Global Dengue Risk Resource

The Centers for Disease Control and Prevention (CDC) has long been a primary resource for information about the worldwide distribution of dengue virus transmission risk. That tradition continues with our launch of a powerful assessment tool.



This is a screen shot of dengue activity, May 3, 2010 - August 3, 2010. The dark blue regions illustrate ongoing transmission risk (CDC) and the red markers indicate recent transmission-related dengue reports (HealthMap). Once linked to the Dengue map, click on the red dots to view recent reports at that location.

In a joint effort, CDC and HealthMap have designed an interactive, web-based map that shows both areas of endemic dengue risk, as determined by CDC, and recent dengue activity, as collected from professional and media sources by HealthMap. The combined data are united in a newly published web page called DengueMap (www.cdc.gov/dengue or www.healthmap.org/dengue). The website is updated continuously, to communicate the most up-to-date information available.

This map will supplement the CDC Traveler's Health "Yellow Book," which provides travel-related advice (www.cdc.gov/travel) on topics such as the prevention and treatment of dengue. Whereas the "Yellow Book" is revised every two years, the dynamic updates to DengueMap can also capture recent events like introductions or reintroductions into areas where transmission has previously been absent. It is our hope that DengueMap will prove an invaluable resource to the public health community.