

Dengue fever costs billions in health care, lost productivity and absenteeism

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Researchers at Brandeis, in collaboration with several other institutions worldwide, have pinpointed for the first time the multi-country economic costs of dengue fever, the endemic and epidemic mosquito-borne illness that is a rapidly growing public health problem in tropical and sub-tropical countries. The study, published in the May issue of the *American Journal of Tropical Medicine and Hygiene*, assessed the direct and indirect costs of dengue cases in eight American and Asian countries, tallying the collective economic burden of dengue in those countries at about \$1.8 billion annually.

About 2.5 billion people, two-fifths of the world's population, live in parts of the world affected by [dengue](#), and an additional 120 million people travel to dengue-affected areas annually. Between 50 and 100 million people are infected each year, and the World Health Organization says the number is rising due to human population growth and the increased spread of vector mosquitoes. Unlike malaria, dengue is more prevalent in urban than rural areas. Dengue illness involves sudden severe headache, muscle and joint pain, diarrhea, vomiting, and a high fever typically lasting about a week. In a small number of cases, it develops into dengue hemorrhagic fever and proves fatal.

The study set out to estimate the true [economic costs](#) of a case of dengue, whether the patient was treated at home or in the hospital, including school absenteeism, lost productivity, and the unpaid time of caregivers.

"This study shows that a case of dengue affects not only the patient, but also other household members who must take off from work or school to provide care," said coauthor Donald Shepard, Ph.D, a health economist at the Heller School for Social Policy and Management at Brandeis University.

Five countries in the Americas participated in the study: Brazil, El Salvador, Guatemala, Panama, and Venezuela, along with three Asian nations: Cambodia, Malaysia, and Thailand.

"We found that the economic cost of this disease is high—at least \$1.8 billion yearly in these 8 countries after adjusting for price differences and under-reporting of cases," said lead author Jose Suaya, M.D., Ph.D., a visiting scholar at Brandeis's Heller School.

Because mosquitoes transmit the disease, patients come from all age groups and economic levels. While 29% of patients came from households with less than primary education, 27% were from households with some college or equivalent. The study followed 1,695 patients. The average illness lasted about 11 days, whether the patient was hospitalized or treated in clinics, although hospitalized cases averaged about three times the cost of ambulatory patients.

"Our study shows that dengue poses a very heavy economic burden to the health system and society, and it underscores the need for full development of preventive measures, such as a dengue vaccine and vector control," said Suaya.

Source: Brandeis University ([news](#) : [web](#))

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