As previously noted, each country will be encouraged to prepare a national plan of action for the control of *A. albo-pictus*. The present regional plan of action presents guidelines, but adjustments related to local conditions will be needed. PAHO will provide advice and technical information for the formulation of national plans of action, and will also promote regional workshops to review each country’s plans.

Finally, it seems evident that new transportation technologies—such as the use of containerization in cargo shipping—have facilitated the dissemination of insects. For this reason, it appears advisable to review the existing international health regulations and make appropriate changes directed at coping with this problem.

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*Source:* This report is a condensed version of PAHO document CE99/15 "*Aedes albo-pictus* in the Americas, Plan of Action," produced by the Communicable Diseases Program under the coordination of Dr. E. J. López Antuñano for presentation at the 99th Meeting of the PAHO Executive Committee held in Washington, D.C., USA, on 22-26 June 1987.

The scientific and technical background of the Plan of Action is summarized in its Appendix, "Ecology, Biology, and Control of *Aedes albo-pictus* (Skuse)," which was prepared by Mr. José Escalada, PAHO Temporary Adviser. The manuscript was kindly reviewed by Dr. George Craig of Notre Dame University and Drs. Francisco Pinheiro and Michael Nelson of PAHO/WHO. The elaboration of the Plan of Action was a joint effort of the Pan American Health Organization, the Centers for Disease Control (Atlanta, GA; Fort Collins, CO; and Puerto Rico), and the Superioridad de Health Programs of the Ministry of Health, Brazil.

## Dengue in the Americas, 1985

The Americas experienced increased dengue activity in 1985, 68,998 cases being reported as compared to 43,434 cases in 1984 and 25,216 cases in 1983. As in 1983 and 1984, three serotypes (dengue-1, dengue-2, and dengue-4) circulated in the Region. Twenty countries reported dengue activity, and the serotypes involved were confirmed by virus isolation and/or serology in 14. Although all three serotypes were widely distributed in 1985, dengue-1 continued to be the predominant serotype in the Region. Three countries/areas (Mexico, Puerto Rico, and Venezuela) had all three serotypes circulating simultaneously, while five other countries had at least two serotypes in circulation (Table 1).

Nicaragua and Aruba, Netherlands Antilles, experienced major dengue epidemics in 1985. Small numbers of cases with severe and fatal hemorrhagic disease were reported in both countries. The Nicaraguan Ministry of Health reported 17,483 cases of dengue, most of which occurred late in the year. Dengue-1 was the predominant virus isolated (18 strains), but dengue-2 was also isolated (eight strains). In addition, seven cases of fatal hemorrhagic disease in adults were reported; one of these cases was confirmed as dengue-1 by virus isolation.

Aruba, with a 1983 population of 67,000, reported 24,000 dengue cases during a dengue-1 epidemic that began in late 1984 and continued through March 1985. One virologically confirmed case of fatal hemorrhagic disease (dengue-1) occurred in an adult
female. A sibling of this patient had died of a similar hemorrhagic disease three weeks earlier; however, the sibling’s disease was not confirmed as dengue.

Dengue transmission continued in Mexico, but to a lesser extent than in the previous two years. El Salvador and Honduras also reported dengue activity. In South America, both Colombia and Venezuela had confirmed dengue transmission. While three serotypes were confirmed in Venezuela, no outbreaks were reported. Beginning in October, the southern port city of Tumaco, Colombia, experienced a mixed outbreak of dengue-1 and dengue-2. A total of 7,797 cases was reported in the whole country in 1985, dengue-2 being the predominant serotype isolated.

With the exception of a small outbreak in Puerto Rico, dengue activity in the Caribbean remained sporadic in 1985. In Puerto Rico (2,371 cases reported), 133 cases were confirmed from late August through December. Two cases of hemorrhagic disease in children were confirmed by virus isolation—one of dengue-1 with a primary-type serologic response and one of dengue-2 with a secondary-type response. Forty-eight cases of suspected dengue were reported in the United States. However, only eight cases were confirmed, all of which had been imported.
Clinically, most of the illness reported in the Americas in 1985 was of the classic type. However, there appears to be an increased sporadic incidence of hemorrhagic disease associated with dengue infection in most countries in the Region.

NOTE: For the past several years, dengue transmission in the Americas has been characterized by more frequent epidemic activity. More countries have been reporting severe hemorrhagic disease, and the total number of cases of severe hemorrhagic disease has increased. The number of circulating dengue virus serotypes has also increased. In Asia, dengue fever changed from a benign influenza-like illness to become one of the leading causes of morbidity and mortality among Southeast Asian children. The current epidemiologic pattern of dengue in the Americas is similar to the pattern that occurred in Southeast Asia in the 1950s.

It is often believed that the highest risk of dengue hemorrhagic fever (DHF) is associated with dengue-2. This serotype, while widespread in the Region, has only occurred sporadically in recent years. Although secondary infection with dengue-2 is a definite risk factor in DHF, most severe and fatal cases of DHF in 1984 and 1985 were caused by dengue-1 or dengue-4. Furthermore, dengue-3 has been shown to cause severe and fatal DHF in some countries of Southeast Asia. Thus, health authorities should assume that all four serotypes are capable of causing epidemics of DHF, and they should act to establish proper surveillance for the disease.


RURAL HEALTH CARE: A WORLDWIDE ISSUE

Milton I. Roemer

Among the typical social aspects of rural life is a lesser development of services requiring skilled personnel and special technology—including health services with their trained health personnel, drugs, and equipment. Indeed, even though these health resources may be greatly simplified, their availability to rural people usually requires deliberate actions by society. They do not come about spontaneously in a free market. Thus, the great variety and diversity of actions designed to make these resources available in different countries are worth reviewing, if only to get a good perspective on strategies available for improving rural health care in Latin America.

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