

Gates Foundation Commits \$55 Million to Accelerate Dengue Vaccine Research

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SEATTLE -- To accelerate the development of a vaccine to prevent dengue and dengue hemorrhagic fever, debilitating diseases affecting children in the developing world, the Bill & Melinda Gates Foundation today announced a \$55 million grant to the International Vaccine Institute (IVI) to support the Pediatric Dengue Vaccine Initiative (PDVI).

Dengue is caused by a group of four mosquito-transmitted viruses that infect 50-100 million people in the developing world each year, and is on the rise globally. In its most severe form – dengue hemorrhagic fever – dengue infection can result in shock, hemorrhages, and death.

Introduction of a dengue vaccine could prevent more than 500,000 hospitalizations and 3,000 deaths annually, primarily among children.

While there is an urgent need for a safe and effective dengue vaccine, research efforts have moved forward slowly, with only four out of twenty potential dengue vaccines having been evaluated in early, small-scale studies. The grant announced today will enable PDVI, an international consortium of leading research institutions, public health organizations, and private industry, to move promising candidate vaccines for dengue quickly into clinical trials and to conduct research on assays and diagnostics to ensure the safety of the candidate vaccines.

“Although dengue incidence is on the rise in nearly 100 countries around the world, its prevalence mainly in the poorest countries has been a deterrent to progress,” said Dr. Regina Rabinovich, director of the foundation’s Infectious Diseases program. “Promising candidates can be evaluated and offer hope that one day this disease will no longer threaten

children in the developing world."

The number of countries reporting dengue hemorrhagic fever has increased more than four-fold over the past three decades, and in 2001-2002, dengue epidemics reached an all-time high in Brazil, Venezuela, Ecuador, Peru, Thailand, Vietnam, and Myanmar. The number of cases in the Americas has risen from 60,000 in 1980 to 700,000 in 2000. In 2001, Hawaii reported its first dengue outbreak in more than 50 years.

Current dengue prevention measures rely on protecting against and eliminating the mosquito that transmits the dengue viruses to humans. However, this mosquito is remarkably well adapted to urban environments because it breeds inside homes, and has proven very difficult to control even with stringent efforts. As a result, current dengue control programs have been unable to protect the millions of children at risk of infection and illness, heightening the need for an effective dengue vaccine.

"Dengue is exacting an enormous toll on the health and economic development of millions of families in the developing world," said Dr. Samuel Katz, Chairman of the IVI Board of Trustees, PDVI's host organization. "It is critical to assess more fully the real impact of this disease and to begin an accelerated phase of research and development to develop a safe and effective vaccine."

PDVI, founded in 2001 with a grant from the Rockefeller Foundation to IVI, will use the grant announced today to develop at least two clinical trial sites in Southeast Asia and South America. This research infrastructure will enable researchers to move vaccine candidates rapidly into large-scale human trials. In addition, the grant will enable PDVI to examine the extent and impact of dengue in the developing world.

"Now we must begin an accelerated phase of research and development to develop a safe and effective vaccine," said Dr. Scott Halstead, Interim Director of PDVI. "By moving forward aggressively with both laboratory

research and clinical trials, we can help prevent the suffering of hundreds of thousands of children every year."

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