

Journal special edition outlines rotavirus burden and need for vaccines

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The *Journal of Infectious Diseases* has released a special edition, *Global Rotavirus Surveillance: Preparing for the Introduction of Rotavirus Vaccines*. This special edition provides a significant contribution to the understanding of rotavirus disease burden and the impact of rotavirus vaccines, which have the potential to save an estimated 228,000 lives annually.

As the leading cause of severe diarrheal disease, rotavirus exacts a tremendous toll on health systems, particularly in the world's poorest countries. In addition to compiling data on rotavirus incidence from around the globe, this collection of scientific articles also covers strain diversity, the need for continued disease surveillance, and [vaccine](#) cost-effectiveness. The release of these pivotal data comes on the heels of the World Health Organization's (WHO) June 2009 recommendation that vaccines preventing rotavirus—the most common and lethal form of diarrheal disease—be included in every country's national immunization program.

Rotavirus is responsible for the death of more than half a million children under age 5 annually and causes approximately 40 percent of diarrhea-related hospitalizations. Nearly every child in the world, regardless of socio-economic status or geographic location, will contract rotavirus by age 3. However, its burden is disproportionately felt in developing countries in Africa and Asia, where rotavirus is often fatal because children cannot access emergency care.

"Rotavirus is one of the most deadly diseases children in the developing world face," said Dr. John Wecker, director of the Vaccine Access and Delivery Global Program at PATH. "Vaccination holds the key to making it one of the most preventable diseases."

Regional surveillance networks have generated rotavirus disease and strain burden data in nearly 60 countries since 2001, demonstrating tremendous burden and supporting the need for widespread rotavirus vaccine use. The WHO has advocated for the global introduction of rotavirus vaccines as a key component of the strategy to reduce child deaths from diarrheal disease—the second leading killer of children today.

"As these articles demonstrate, the burden of rotavirus is felt worldwide," said Marc-Alain Widdowson, epidemiologist at the U.S. Centers for Disease Control and Prevention and lead author of the introductory article in the special edition. "The global health community must work together with public and private sector partners to help every country use available interventions—including vaccines—to stop child diarrheal disease deaths."

Vaccines preventing rotavirus have been licensed in more than 100 countries, many of which are in the industrialized world, and their routine use is dramatically reducing severe infections. The vaccines have not yet reached many of the places where the rotavirus burden is greatest—especially in the developing countries of Africa and Asia.

"Vaccines are the best way to prevent rotavirus-related hospitalizations in industrialized countries and to avoid unnecessary child deaths in places where access to medical care and lifesaving interventions may be limited," said Dr. Duncan Steele, senior technical advisor for PATH's Vaccine Development Global Program and co-author of the introductory article in the special edition. Steele started his work on the article while

at the WHO's Initiative for Vaccine Research.

Today, two orally administered vaccines preventing rotavirus, Rotarix™—produced by GlaxoSmithKline Biologicals, and RotaTeq®, produced by Merck—are available, and new vaccines are in development. The WHO recommendation on global use of these vaccines was based on large-scale clinical trials demonstrating vaccine efficacy in impoverished, high-mortality settings. It builds on a 2006 recommendation to include rotavirus vaccines in the national immunization programs of countries in Europe, Latin America, and North America. Informed by the WHO decision, the GAVI Alliance has committed to providing eligible countries with financial support for rotavirus vaccine introduction and is currently accepting applications.

More information: To access the Journal of [Infectious Diseases](#) supplement Global Rotavirus Surveillance: Preparing for the Introduction of [Rotavirus](#) Vaccines, please visit: www.journals.uchicago.edu/toc/jid/200/s1

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