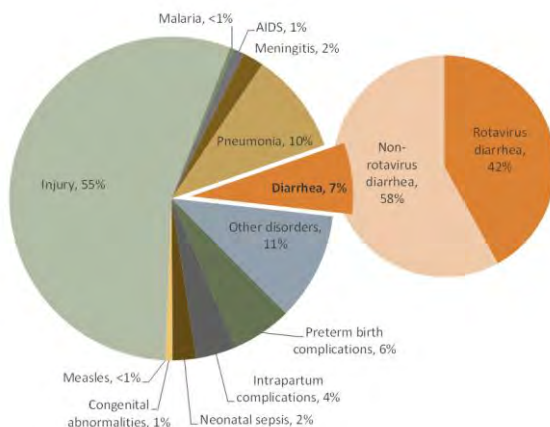


Rotavirus disease and vaccines in Haiti

Diarrhea is a leading killer of children in Haiti, causing approximately 7 percent of deaths in children under five years of age.¹ Rotavirus, the most common cause of severe and fatal diarrhea in young children worldwide, takes the lives of more than 2,200 Haitian children under five each year—accounting for nearly half of all under-five diarrheal deaths in Haiti.^{2,3} Studies in Latin America and the Caribbean show that rotavirus vaccines are safe and effective against severe rotavirus disease and are a cost-effective intervention.⁴⁻⁶

On April 27, 2013, Haiti will become the 14th GAVI-eligible country to introduce rotavirus vaccines in its national immunization program. Haiti is also the last of five GAVI-eligible countries in the Latin America and Caribbean region to introduce the vaccine. The high burden of rotavirus disease in Haitian children, coupled with the power of rotavirus vaccines to prevent childhood deaths and hospitalizations, underscores the incredible potential for Haiti's introduction of rotavirus vaccines to save children's lives.

Causes of death in Haitian children under five years of age, 2010^{1,3}



On January 12, 2010, a catastrophic earthquake hit Haiti resulting in 230,000 deaths, which likely is reflected in the extraordinarily high percentage of injuries as the cause of death in the graphic above.

ROTAVIRUS IS THE LEADING CAUSE OF SEVERE AND FATAL DIARRHEA IN CHILDREN <5 YEARS OLD

Rotavirus is a virus that causes gastroenteritis—an inflammation of the stomach and intestines. If left untreated, it can lead to severe dehydration and death. Generally,

children six months to two years of age are most vulnerable to infection.

Globally, rotavirus causes more than 450,000 deaths each year in children under five—approximately 5 percent of all deaths in children under five.³ Thirty-seven percent of all deaths from diarrhea in children under five are caused by rotavirus. In Latin America and the Caribbean, rotavirus causes an estimated 15,000 deaths, 75,000 hospitalizations, and two million clinic visits.⁷

Haiti Facts

Total population (2011)⁸:	10,123,787
Population children <5 (2011)⁹:	1,244,540
Mortality rate children <5 (2011)⁹:	70/1,000 live births
Total number <5 deaths (2011)⁹:	18,514
Number of <5 deaths due to diarrhea (2010)¹:	3265
Number of <5 deaths due to rotavirus (2008)²:	2,234

ROTAVIRUS TREATMENT AND PREVENTION STRATEGIES

Rotavirus is highly contagious and spreads easily from person-to-person through contaminated hands and objects. It cannot be treated with antibiotics or other drugs. Mild rotavirus infections can be treated effectively in the same manner as other forms of diarrhea, by providing fluids and salts (oral rehydration therapy). However, children with severe rotavirus diarrhea can become dehydrated and often need intravenous fluids or they risk dying. In developing countries, this type of urgent health care is often inaccessible or unavailable, making rotavirus prevention through vaccination critical to saving children's lives.

Vaccination offers the best hope for preventing severe rotavirus disease and the deadly dehydrating diarrhea that it causes. Because rotavirus is extremely contagious, tools that stop bacteria and parasites that cause other forms of diarrhea such as cholera—improvements in drinking water, hygiene, and sanitation—do not adequately prevent the spread of rotavirus. Lifesaving rotavirus vaccines should be introduced as part of a comprehensive approach to control diarrheal disease, along with other interventions, including oral rehydration therapy, breastfeeding, zinc treatment, and improvements in water and sanitation.

TWO SAFE AND EFFECTIVE ROTAVIRUS VACCINES ARE SAVING LIVES TODAY

There are two orally administered rotavirus vaccines available today: Rotarix[®], manufactured by GlaxoSmithKline, and RotaTeq[®], manufactured by Merck & Co., Inc. Both vaccines have been shown to be safe and effective in large-scale clinical trials in Africa, Asia, Europe, Latin America, and the United States. Clinical trials in Latin America found that rotavirus vaccines reduced severe rotavirus disease by more than 80 percent during the first year of life, when children are at greatest risk for severe rotavirus diarrhea.⁴

As of April 27, 2013, 45 countries have introduced rotavirus vaccines in their national immunization programs, including 17 in Latin America and the Caribbean: Bolivia, Brazil, the Cayman Islands, Columbia, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Venezuela.

Rotavirus vaccines are saving lives and improving health in countries where children have access to them. Swift and significant declines in hospitalization and deaths due to rotavirus and all-cause diarrhea have been observed in many countries that have included rotavirus vaccines in their national immunization programs, especially those in Latin America.^{10–12} Researchers also have found use of rotavirus vaccines may protect unvaccinated children and adults by reducing transmission (an effect called herd immunity).¹³

ROTAVIRUS VACCINES ARE COST-EFFECTIVE AND A WISE INVESTMENT

Rotavirus vaccines are cost-effective especially in Latin America and the Caribbean,^{5,6} where in addition to GAVI vaccine prices for eligible countries, PAHO's Revolving Fund, a mechanism for the pooled procurement of vaccines and related supplies, provides non-GAVI eligible PAHO member states affordable access to rotavirus vaccines.¹⁴

In GAVI-eligible countries, where 95 percent of deaths due to rotavirus occur, more than 2.4 million child deaths can be prevented by 2030 by accelerating access to lifesaving rotavirus vaccines.⁶ If used in all GAVI-eligible countries, rotavirus vaccines could prevent an estimated 180,000 deaths and avert 6 million clinic and hospital visits each year, thereby saving US\$68 million annually in treatment costs.⁶

Rotavirus vaccines are an essential and lifesaving intervention in comprehensive diarrhea-control strategies.

Accelerating access to rotavirus vaccines will not only save the lives of Haitian children but also lessen the tremendous economic and health burden of rotavirus disease, thereby contributing to poverty reduction and a growing economy. GAVI and its partners plan to support the introduction of lifesaving rotavirus vaccines in at least 40 of the world's poorest countries by 2015, immunizing more than 50 million children.

For more information on rotavirus disease and vaccines please visit <http://rotavirusvaccine.org>.

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¹¹do Carmo GM, Yen C, Cortes J, et al. Decline in diarrhea mortality and admissions after routine childhood rotavirus immunization in Brazil: a time-series analysis. *PLoS Med*. 2011;8(4):e1001024.

¹²Patel M, Pedreira C, de Oliveira LH, et al. Duration of protection of Pentavalent rotavirus vaccination in Nicaragua. *Pediatrics*. 2012;130(2):e365–372.

¹³Lopman BA, Curns AT, Yen C, Parashar UD. Infant rotavirus vaccination may provide indirect protection to older children and adults in the United States. *Journal of Infectious Diseases*. 2011;204:980–986.

¹⁴PAHO's price for Rotarix[®] is US\$6.88/dose and RotaTeq[®] is US \$5.25/dose.



PATH is an international nonprofit organization that transforms global health through innovation. We take an entrepreneurial approach to developing and delivering high-impact, low-cost solutions, from lifesaving vaccines and devices to collaborative programs with communities. Through our work in more than 70 countries, PATH and our partners empower people to achieve their full potential.

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