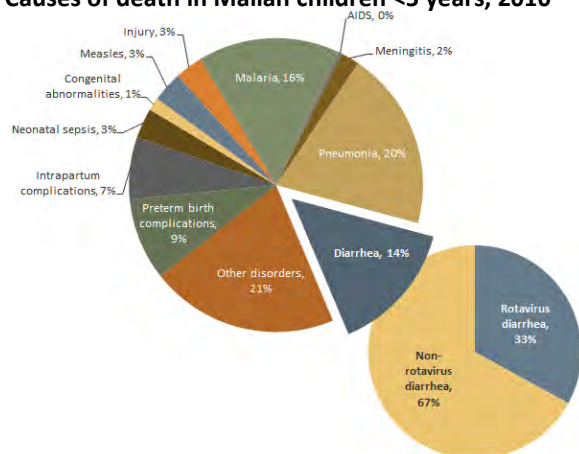


Rotavirus disease and vaccines in Mali

Diarrhea is a leading killer of children in Mali, causing approximately 14 percent of deaths in children less than 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 7,200 Malian children under five each year.^{2,3} It is estimated that one third of all under-five diarrheal disease hospitalizations in Mali are caused by rotavirus.³ The Global Enteric Multicenter Study (GEMS) recently confirmed the public health burden of rotavirus in Mali, demonstrating that it is the most common cause of moderate-to-severe diarrhea in young children under five years of age.⁴ Studies in Africa show that the rotavirus vaccines are safe and effective against severe rotavirus disease and are cost-effective.⁵⁻⁷

On January 14, 2014, Mali will become the 20th GAVI-eligible country to introduce rotavirus vaccines in its national immunization program. The burden of rotavirus disease in Malian children, coupled with the power of rotavirus vaccines to prevent childhood deaths and hospitalizations, underscores the potential for Mali's introduction of rotavirus vaccines to save children's lives.

Causes of death in Malian children <5 years, 2010^{1,3}



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

Globally, rotavirus causes more than 450,000 deaths each year in children under five and is responsible for millions of hospitalizations and clinic visits.^{2,3,8} Nearly a quarter of a million African children die from the dehydrating diarrhea caused by rotavirus infection every year, accounting for more than 50 percent of the global total of rotavirus deaths.^{2,3} The vast majority of countries with the highest child death rates from rotavirus are in sub-Saharan Africa.^{2,3}

Mali Facts

Total population (2012)⁹: 14,853,572
Population children <5 (2012)¹⁰: 2,864,503
Total live births (2012)¹⁰: 704,985
Mortality rate children <5 (2012)¹⁰: 128/1,000 live births
Total number <5 deaths (2010)¹: 124,069
Number of <5 deaths due to diarrhea (2010)¹: 17,977
Number of <5 deaths due to rotavirus (2008)²: 7,253

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 is the best way to prevent severe rotavirus disease and the deadly, dehydrating diarrhea that it causes. Improvements in water quality, hygiene, and sanitation stop bacteria and parasites that cause other forms of diarrhea but do not prevent the spread of rotavirus. Lifesaving rotavirus vaccines should be introduced as part of a comprehensive approach to control diarrhea, 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 currently two orally administered rotavirus vaccines available: 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 US. Clinical trials in Africa (South Africa, Ghana, Kenya, Malawi, and Mali) found that rotavirus vaccines reduced severe rotavirus disease by more than 60 percent during the first year of life, when children are at greatest risk of severe rotavirus disease.^{5,6}

In June 2009, based in part on results from clinical trials in Africa demonstrating that rotavirus vaccines significantly reduced rotavirus disease in impoverished, high-mortality settings, the WHO Strategic Advisory Group of Experts recommended that rotavirus vaccines be included in all countries' national immunization programs.¹¹

As of January 1, 2014, more than 50 countries have introduced rotavirus vaccines in their national immunization programs, including more than 10 in Africa.¹² Thirteen additional countries in Africa have been approved by GAVI for rotavirus vaccine support: Angola, Cameroon, Central Africa Republic, Republic of the Congo, Djibouti, Eritrea, Guinea-Bissau, Kenya, Madagascar, Niger, Sierra Leone, Togo and Zimbabwe.¹³

Rotavirus vaccines are saving lives and improving health in countries where children have access to them. Swift and significant declines in hospitalizations and deaths due to rotavirus and all-cause diarrhea have been observed in many countries with rotavirus vaccines in their national immunization programs.¹⁴ Rotavirus vaccines may protect unvaccinated children and adults by reducing spread of rotavirus (an effect called herd immunity).^{14,15}

ROTAVIRUS VACCINES ARE COST-EFFECTIVE AND A WISE INVESTMENT FOR MALI

Rotavirus vaccines are cost-effective, and 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.⁷

Diarrhea not only accounts for a substantial public health burden (illness and death) in Mali, it also represents a significant burden on household economic costs.¹⁶ A recent analysis in Mali revealed that the average episode of diarrhea cost US\$4.11 in medical (e.g., fees for doctors/traditional healers, medication, diagnostics), nonmedical (e.g., transportation), and indirect (e.g., productivity losses) expenditures.¹⁶ The cost to treat diarrhea can be prohibitive for many Malian families that live on less than US\$1 per day.¹⁶

Rotavirus vaccines are an essential, lifesaving intervention in comprehensive diarrhea control. Accelerating access to rotavirus vaccines will not only save the lives of Malian children but also lessen the heavy economic and health burden of rotavirus disease, contributing to poverty reduction and economic growth. GAVI and its partners plan to support the introduction of lifesaving rotavirus vaccines in more than 30 of the world's poorest countries by 2015.

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

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MAILING ADDRESS
PO Box 900922
Seattle, WA 98109 USA

info@path.org
www.path.org

STREET ADDRESS
2201 Westlake Avenue
Suite 200
Seattle, WA 98121 USA