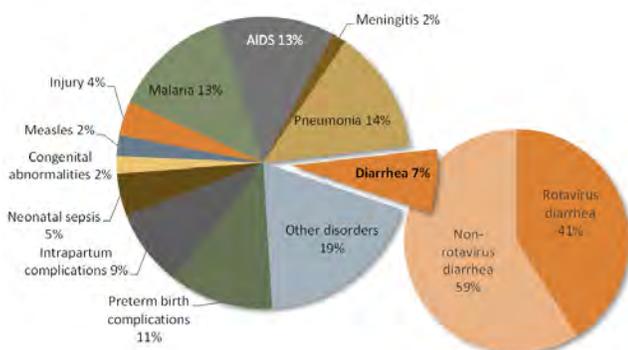


Rotavirus disease and vaccines in Malawi

Diarrhea is a leading killer of children in Malawi, causing approximately 11 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 2,500 Malawian children under five each year—accounting for 4.5 percent of all under-five deaths in Malawi.² It is estimated that one-third of diarrheal disease hospitalizations of Malawian children under five are caused by rotavirus.³ Studies in Malawi show that rotavirus vaccines are safe and effective against severe rotavirus disease and are a cost-effective intervention.⁴⁻⁶

On October 29, 2012, Malawi will become the 10th GAVI-eligible country to introduce rotavirus vaccines in its national immunization program. The high burden of rotavirus disease in Malawian children, coupled with the power of rotavirus vaccines to prevent childhood deaths and hospitalizations, underscores the incredible potential for Malawi's introduction of rotavirus vaccines to save children's lives.

Causes of death in Malawian children under five years of age, 2010^{1,2}



ROTAVIRUS IS THE LEADING CAUSE OF SEVERE AND FATAL DIARRHEA IN AFRICAN 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. However, in Malawi, approximately one-third of hospitalizations due to rotavirus occur in infants less than six months of age.³

Globally, rotavirus causes more than 450,000 deaths each year in children under five and is responsible for millions of

hospitalizations and clinic visits.^{7,8} Nearly a quarter of a million African children die from the deadly, dehydrating diarrhea caused by rotavirus infection every year, accounting for more than 50 percent of the global total.^{2,7}

Malawi Facts

Total population (2011)⁹:	15,380,888
Population children <5 (2011)¹⁰:	2,829,418
Mortality rate children <5 (2011)¹⁰:	83/1,000 live births
Total number <5 deaths (2011)¹⁰:	51,819
Number of <5 deaths due to diarrhea (2010)¹:	6,169
Number of <5 deaths due to rotavirus (2008)²:	2,558

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. Improvements in water quality, hygiene, and sanitation stop bacteria and parasites that cause other forms of diarrhea but do not adequately prevent the transmission 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 US. In the clinical trial in Malawi, rotavirus vaccines reduced severe rotavirus disease

by nearly 50 percent and all-cause diarrhea by 25 percent during the first year of life, when children are at greatest risk for severe dehydration from diarrhea.⁴

In June 2009, based in part on the clinical trial in Malawi that demonstrated rotavirus vaccines significantly reduced rotavirus disease in impoverished, high-mortality settings, the WHO's Strategic Advisory Group of Experts recommended that rotavirus vaccines be included in all countries' national immunization programs.¹¹ As of October 1, 2012, 38 countries have introduced rotavirus vaccines in their national immunization programs, including six in Africa: Botswana, Ghana, Morocco, Rwanda, South Africa, and Sudan.

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.¹² Researchers also have found use of rotavirus vaccines may protect unvaccinated children and adults by reducing transmission (an effect called herd immunity).¹³



ROTA VIRUS VACCINES ARE COST-EFFECTIVE AND A WISE INVESTMENT

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.^{6,7} 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

A study published in 2010 found that rotavirus vaccination for children under five in Malawi would be a highly cost-effective public health intervention.⁵ The study predicted that use of rotavirus vaccines would reduce rotavirus-related

deaths and treatment costs by more than 40 percent each year.⁵

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 Malawian 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 life-saving 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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Photo: Amy Gottlieb



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