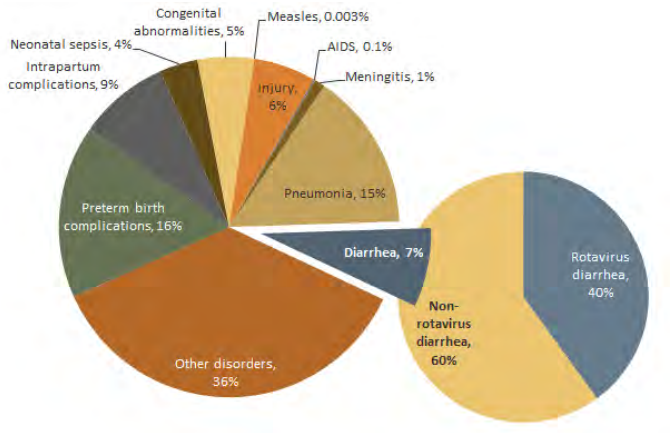
Rotavirus disease and vaccines in Uzbekistan

Diarrhea is a leading killer of children in Uzbekistan, causing approximately seven 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 1,000 Uzbek children under five each year.[2,3] It is estimated that one third of all under-five diarrheal disease hospitalizations in Uzbekistan are caused by rotavirus.[2] Studies in Europe show that the rotavirus vaccines are safe and effective against severe rotavirus disease and are cost-effective.[4,5]

In mid-2014, Uzbekistan will introduce rotavirus vaccines into its national immunization program with GAVI support. The burden of rotavirus disease in Uzbek children, coupled with the power of rotavirus vaccines to prevent childhood deaths and hospitalizations, underscores the potential for Uzbekistan's introduction of rotavirus vaccines to save children's lives.

Causes of death in Uzbek children <5 years, 2010[1,3]



ROTAVIRUS IS THE LEADING CAUSE OF SEVERE AND FATAL DIARRHEA IN 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.[2,3,6] More than 10,000 of those deaths occur in the World Health Organization's European (EURO) region. According to WHO EURO, while low-income and lower middle-income EURO countries—including Uzbekistan—are home to only 13 percent of all children under the age of five in the region, they account for 72 percent of estimated annual rotavirus deaths.[7]

Uzbekistan Facts

Total population (2012)[8]: 29,776,850

Population children <5 (2012)[9]: 2,989,345

Total live births (2012)[9]: 622,647

Mortality rate children <5 (2012)[9]: 40/1,000 live births

Total number <5 deaths (2010)[1]: 31,476

Number of <5 deaths due to diarrhea (2010)[1]: 2,360

Number of <5 deaths due to rotavirus (2008)[2]: 1,091

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, exclusive 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 Europe

(Czech Republic, Finland, France, Germany, Italy, and Spain) found that rotavirus vaccines reduced severe rotavirus disease by more than 90 percent during the first two years of life, when children are at greatest risk of severe rotavirus disease.[4]

In June 2009, the WHO Strategic Advisory Group of Experts recommended that rotavirus vaccines be included in all countries' national immunization programs.[10] As of May 15, 2014, more than 55 countries have introduced rotavirus vaccines in their national immunization programs.[11] Over 25 of these countries have introduced with GAVI support, including three in the WHO EURO region: Armenia (2012), Moldova (2012), and Georgia (2013).[11] Of the more than 10 additional countries that have been approved by GAVI for support to introduce rotavirus vaccines in the future, one country—Tajikistan—is in the WHO EURO region.[12]

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 in Europe and around the world.[13] Rotavirus vaccines may protect unvaccinated children and adults by reducing spread of rotavirus (an effect called herd immunity).[13]

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

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.[5] 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.[5]

In Uzbekistan, a 2007 study found that rotavirus vaccines would be cost-effective.[15] Rotavirus disease is estimated to cause 5,300 hospitalizations annually in children under five years of age, and to cost US$406,000 annually in Uzbekistan for medical (e.g., hospital fees and medicines), non-medical (e.g., transportation), and indirect (e.g., lost work hours) costs. The study estimated that universal rotavirus vaccination in Uzbekistan could reduce hospitalizations and deaths by 91 percent and save approximately US$370,000 annually in hospitalization costs.[15]

Rotavirus vaccines are an essential, lifesaving intervention in comprehensive diarrhea control. Accelerating access to rotavirus vaccines will not only save the lives of Uzbek 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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