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WORLD

India Sets Major Offensive Against Deadly Rotovirus

New Delhi to vaccinate millions of children against rotavirus following its success against polio



Health volunteers recently administered pulse polio vaccine drops to children in Bhopal, India. *PHOTO: EPA/SANJEEV GUPTA*

By **SURYATAPA BHATTACHARYA**

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NEW DELHI—In a dingy hospital ward in India's capital, 10-month-old Vaishnavi Singh was hooked up to an intravenous drip, clinging to life after five days of severe vomiting and diarrhea.

Doctors this week said they suspected the infant girl, whose family lives in a nearby slum, was infected with the rotavirus or another pathogen spread by the country's

endemic poor hygiene. The highly contagious rotavirus, which can be contracted from food or water contaminated with feces, kills about 120,000 children under the age of five each year in India.

On Saturday, India is set to begin one of the biggest public-health campaigns in its history, with plans to immunize millions of children against the virus, which can also stunt growth among survivors.

Vaccines for rotavirus have existed for years. Mexico, for example, has nearly halved the number of cases since it began immunizations in 2007. But India was focused on other priorities, including a campaign to eradicate the polio virus, health officials say. India hasn't had any new polio cases for five years.

“In the middle of the struggle [with polio], I don't think the country could take on another big project,” said Pradeep Halder, deputy commissioner of India's immunization program.

But encouraged by the successful polio campaign and the advent of a low-cost, oral rotavirus vaccine produced by Indian company Bharat Biotech, public-health authorities have now drafted ambitious plans to eventually vaccinate 30 million children a year against the virus.

The Bharat Biotech version costs about \$3 per child compared with around \$45 for vaccines from international pharmaceutical companies and researchers say it is equally effective.

India accounts for one-fourth of global diarrhea deaths, of which at least 40% cases are linked to the rotavirus, according to the United Nations World Health Organization. Rotavirus also causes victims to vomit, which like diarrhea leads to rapid dehydration.

More than half of India's 1.2 billion population defecate outdoors, which helps spread the virus. India is trying to curb the practice with an educational campaign. Hundreds of thousands of children in the country are hospitalized every year, straining India's overburdened public-health system.

Three million children in four Indian states will be vaccinated in the first phase of the new government campaign. Bharat Biotech will manufacture 20 million doses initially for the government's immunization program, said Krishna Ella, the company's chairman.

The Gates Foundation, the Global Alliance for Vaccines and Immunization, and the WHO are providing support and financial backing for the vaccination effort.

By curbing rotavirus variety of diarrhea, the vaccine will save an estimated 50,000 lives a year in India, immunization experts say. It will also ease the serious economic burden

the virus puts on households and the nation.

A majority of poor Indians pay out-of-pocket for medical expenses, sometimes having to settle bills for incidentals upfront. Some spend as much as 75% of their annual income on treatment of rotavirus diarrhea, according to the Indian Council of Medical Research.

Field trials have shown India's version of the vaccine can protect against all four strains of rotavirus in children as young as six weeks. More than 7,000 children were vaccinated as part of the field trials in India.

Ramanan Laxminarayan, an immunization expert and lecturer at Princeton University, said India's cheaper version of the anti-diarrheal vaccine could help curb the virus globally, especially in poorer countries.

"If it is successful here there is no reason why it won't be successful everywhere else," he said.

The polio campaign helped India establish a structure, including thousands of health workers and organizations, which is expected to be effective fighting rotavirus.

"I think through that there will be a formidable campaign that will be launched," said Davinder Gill, chief executive of Hilleman Laboratories, which runs vaccine research in a partnership with Merck and London-based Wellcome Trust, which funds biomedical research.

Vaishnavi Singh's father, Kuldeep Singh, took his daughter to the hospital soon after she fell ill, but was sent home with oral rehydration salts. They returned when the child started vomiting, unable to keep down the oral solution. Doctors said she would survive.

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Corrections & Amplifications:

India hasn't had any polio cases in five years. An earlier version of this article incorrectly stated that India hasn't had any polio cases in nearly two years. (March 24, 2016)