Impact of Rotavirus Vaccine: Better than Anticipated

Since 2006, two oral live-attenuated rotavirus vaccines, Rotarix (GlaxoSmithKline Biologics) and RotaTeq (Merck Vaccines), have been licensed for use globally to combat the leading cause of severe gastroenteritis for children under-5 years of age. In pre-licensure trials, rotavirus vaccines showed high efficacy (85%-98%) against severe rotavirus disease in high and middle income countries of the Americas and Europe but modest efficacy (50%-64%) in low income countries in Africa and Asia. As of May 2017, 85 countries have introduced rotavirus vaccines into their national immunization programs. Marked reductions in rotavirus hospitalizations and all-cause diarrhea hospitalizations and mortality have been observed in numerous countries that have introduced rotavirus vaccine since the licensure of rotavirus vaccines a decade ago. Among children <5 years of age, all-cause diarrhea hospitalizations have decreased by 41%, 30%, and 46% in low, medium, and high child mortality countries, respectively, that have introduced rotavirus vaccines. Hospitalizations and emergency department visits due to rotavirus have been reduced by 71%, 59%, and 60% in low, medium and high child mortality countries, respectively. In addition to declines in disease burden among children directly protected by rotavirus vaccination, declines in rotavirus vaccine have also been seen in children too old to have received rotavirus vaccine and as well as in adults in some settings. Reductions in seizures have also been observed following rotavirus vaccination in some settings. The impact of rotavirus vaccines should continue to be monitored as they are introduced into new settings and countries that have not yet introduced rotavirus vaccine should consider including them into their national immunization program.