**Impact and cost-effectiveness of rotavirus vaccination in 73 Gavi countries**

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**Background and aims**

Immunization has been a cornerstone of cost-effective reductions in child mortality and PHC is an essential tool to continue health progress globally. Previous cost-effectiveness analyses of rotavirus vaccination have found rotavirus vaccination to be highly cost-effective in low- and middle-income countries around the world and especially across Africa. Since the last cost-effectiveness estimates of rotavirus vaccination across Gavi countries, there have been many changes in global trends and new evidence is now available. Rotavirus mortality has decreased from 528,000 to 215,000 deaths worldwide, countries have experienced economic growth, additional countries have adopted rotavirus vaccines, rotavirus vaccine prices have decreased, and new products are entering the market. The purpose of this study is to reevaluate the impact and cost-effectiveness of rotavirus vaccination across Gavi countries, and Africa in particular.

**Methods**

This analysis estimates the costs and benefits of rotavirus vaccination projected across 10 birth cohorts from 2018 to 2027 in 73 Gavi countries using the recently developed PROVAC’s UNIVAC model. We track benefits and cost of vaccination for these cohorts over the first five years of life. During the period of analysis, individuals may or may not get rotavirus disease. If they get rotavirus disease, it can be non-severe or severe. Non-severe disease results in recovery with or without outpatient care. Severe disease results in recovery or death with or without outpatient or inpatient care. We also account for potential intussusception cases linked to rotavirus vaccination.

**Results**

Rotavirus vaccination would prevent more than 160 million cases, 80 million outpatient visits, 8 million hospitalizations nearly 600,000 deaths 15 million discounted Disability Adjusted Life Years. The majority of deaths are averted in the African region, the South East Asia region and the Eastern Mediterranean region. Savings from averted health care represent 770 million US$ from the government perspective and more than a billion from the society perspective. The cost to avert a DALY across these countries is $247 from the government perspective with a Gavi subsidy. The cost per DALY is less than $100 in the African region.

**Conclusions**

Rotavirus vaccination remains excellent value for money across Gavi countries though many of the important global trends contribute to higher cost-effectiveness ratios. This finding is particularly relevant for countries, including many in Africa, facing increased budget pressure due to declining international support and a desire to achieve cost-effective PHC.