

What did Ghana's switch to ROTAVAC require?

Short answer:
approximately US\$453,000 in expenditures



In 2020, Ghana switched from using ROTARIX® to ROTAVAC® in its national immunization program. PATH worked with Ghana Health Service and the University of Ghana to analyze the economic implications of this switch. This fact sheet is part of a series on key results of these analyses, collectively providing a case study on Ghana's rotavirus vaccine product switch. (*Manuscript pending submission to a peer-reviewed journal.*)

When a country decides to switch from one vaccine product to another, it triggers a range of activities to make the switch a reality. This may include planning and training, social mobilization, and procurement of refrigerators and other logistics, as needed. As part of an economic analysis of Ghana's rotavirus vaccine product switch, PATH, Ghana Health Service, and the University of Ghana conducted key informant interviews at the district and regional levels in six regions and 12 districts of the country as well as the central-level offices responsible for overall immunization program management. Through these interviews, the team estimated Ghana's total **financial** and **economic costs** for the activities and investments required for the switch.

Financial costs =

actual expenditure on goods and services purchased by the government at the time of the switch.

Economic costs =

financial costs + the value of in-kind resources used (e.g., salaries of existing healthcare staff, donated supplies, etc.)

Map of study sites



Switch activities

Planning and training

While ROTARIX and ROTAVAC are both live, oral rotavirus vaccines, they differ in important ways:

- » ROTARIX requires two doses while ROTAVAC requires three.
- » ROTARIX comes in single-dose containers while ROTAVAC comes in multidose vials.
- » ROTARIX is stored at 2 to 8°C while ROTAVAC must be kept frozen at the central level.

The vaccine change therefore required substantial planning and training across the Ghanaian health system, including the central, regional, district, and health facility levels. Planning and coordination committees held several meetings and Ghana Health Service conducted stakeholder engagement workshops. There were also minimal costs for monitoring and evaluation, which were included in this category.

Social mobilization

Another critical activity for the switch was to conduct social mobilization and information, education, and communication (IEC) activities to inform local stakeholders and community members about the switch. Parents in Ghana needed to understand why their infants would now receive three doses of rotavirus vaccine, especially if an older child had received two when ROTARIX was still in use.

Procurement of refrigerators and other logistics

ROTAVAC has a smaller cold chain volume per course than ROTARIX and hence could be accommodated into the existing cold chain without the need for new cold chain procurement. Only one district out of the twelve sampled in the study reported that one refrigerator was provided because of ROTAVAC introduction. Otherwise, for all other facilities in the study, there were no additional refrigerators or other purchases associated with the switch. Additionally, rotavirus vaccines were already part of the routine immunization schedule and are co-administered with existing vaccines. Therefore, no incremental financial costs were incurred for vaccine storage, transport, or service provision because of the switch to ROTAVAC.

The cost of switching

Financial costs associated with the rotavirus vaccine switch were estimated to be **US\$453,070** and economic costs were estimated to be **US\$883,626**.

- » The biggest cost driver for the switch was training, contributing to 77.6 percent of the financial costs and 65.2 percent of the economic costs.
- » Social mobilization and IEC activities were the second most significant financial cost driver (15.7 percent) but were the lowest cost driver for economic costs (9.5 percent).
- » Planning and coordination committees and stakeholder engagement workshops had the least impact on financial costs and had slightly higher economic costs than social mobilization and IEC.



Learn more about Ghana's rotavirus vaccine product switch with the three other fact sheets in this series:



Why did Ghana switch to a different rotavirus vaccine?



Was the switch from ROTARIX to ROTAVAC cost-saving for Ghana?



Did Ghana's switch to ROTAVAC free cold chain capacity?

