

The Switch Series:

Lessons from a Compulsory Rotavirus Vaccine Switch in Ethiopia



Lessons Learned

- Optimized coordination and readiness is an important baseline for a vaccine product switch.
- Assessing and upgrading reporting and monitoring systems should be a priority, as adaptable tools are critical to successfully implementing a switch.
- Integrated training and planning ensures all health workers have necessary information and skills while leveraging available resources.
- Strong vaccine management and distribution systems are essential to an effective switch process.
- Regular performance monitoring supports real-time problem solving and sustainability.
- Build in time for responsive and intentional supportive supervision for health workers.
- Consider vaccine schedule alignment and integrate demand generation activities.
- Commit to maintaining performance and sustainability.
- Use vaccine product switches as an opportunity to strengthen the entire routine immunization system.

Background

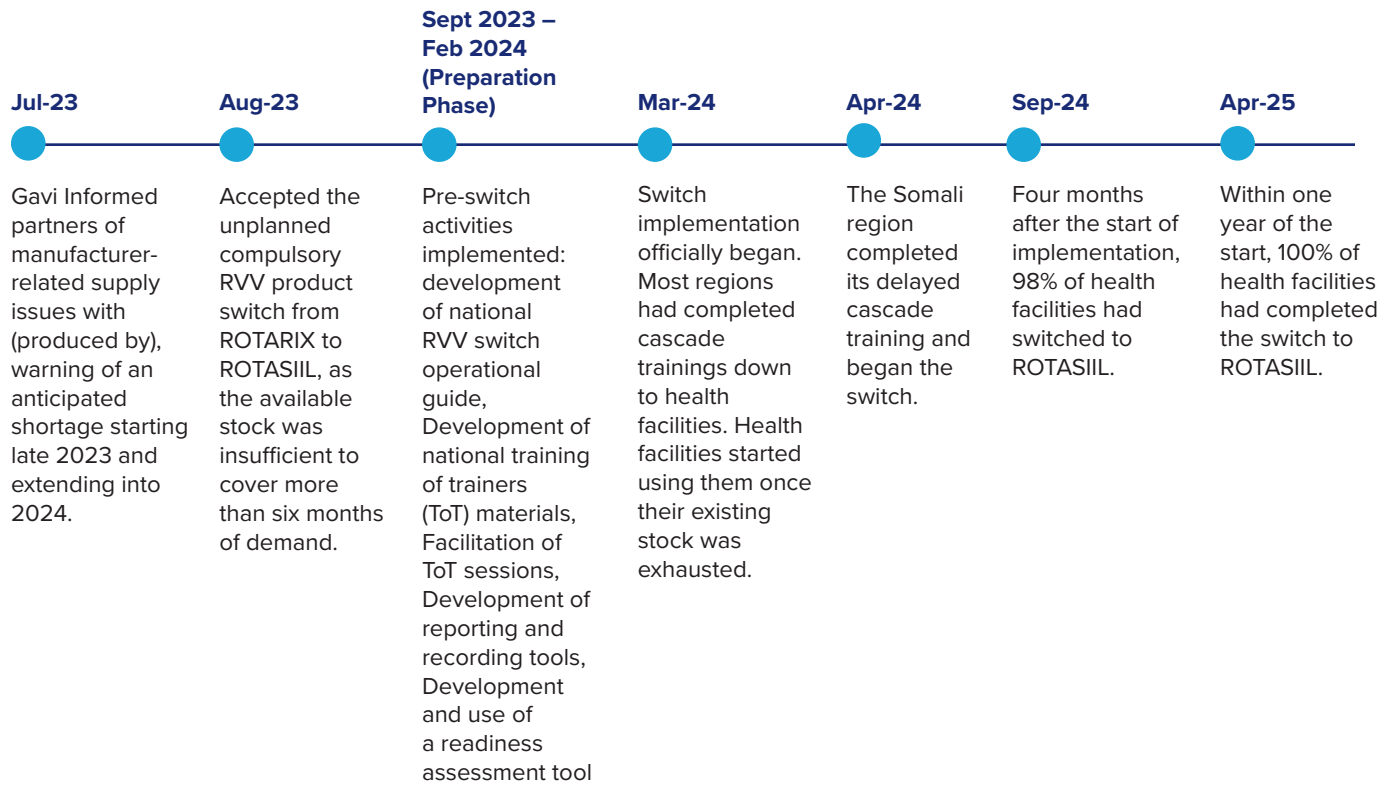
Ethiopia introduced the rotavirus vaccine (RVV) into the national immunization program in 2013 using ROTARIX, which has a two-dose schedule. In 2023, RVV coverage was estimated to be 70 percent. The government aims to achieve 95 percent coverage.^{1,2}

In July 2023, Gavi informed partners of manufacturer-related supply issues related to ROTARIX, made by GlaxoSmithKline. This product shortage began in late 2023 and persisted into 2024. As a result, Gavi identified a subset of countries requiring a vaccine product switch, including Ethiopia. The RVV product that was available for affected countries, ROTASIL-Liquid (SII) (ROTASIL), is a three-dose schedule, presented in two-dose vials, as opposed to the two-dose schedule of ROTARIX.

The Ethiopian Ministry of Health (MOH) accepted the unplanned, compulsory RVV product switch in August 2023 because the remaining stock of ROTARIX was not sufficient to meet the population's needs for more than six months. Although it was anticipated to begin in December 2023, the first phase of the switch ultimately took place in March 2024. JSI, through a Gates Foundation-funded project, provided system support to the MOH from August 2023 to April 2025 to enable the switch process at national and subnational levels. This series of four case studies describes the preparation for and implementation of the RVV product switch. **This case study provides an overview of the full switch process.**

¹<https://immunizationdata.who.int/global/wiise-detail-page/rotavirus-vaccination-coverage?CODE=ETH&ANTIGEN=ROTAC+ROTA1&YEAR=>

²National immunization evaluation research



Implementing a vaccine product switch successfully requires careful planning and coordination as well as strong service delivery, communication, and monitoring strategies. Despite the unplanned nature of the RVV switch in Ethiopia, the MOH successfully implemented the switch because of cross-partner collaboration and its ability to effectively integrate the switch into routine immunization activities.

Table 1: Challenges and opportunities in implementing the RVV switch

Factor	Challenges	Opportunities
Program Planning and Coordination	<ul style="list-style-type: none"> The MOH anticipated having only three months to plan for the switch, which is significantly less time than the government typically takes to prepare for switch or introduction-related activities. At the time of the RVV product switch, the MOH was developing its multi-year immunization plan, including introducing the second dose of inactivated polio vaccine (IPV2), switching from a two-dose schedule to a single dose schedule for human papillomavirus (HPV) vaccine, implementing HPV multi-age cohort vaccination, conducting catch-up activities, and integrating COVID-19 vaccination into the routine immunization system. 	<ul style="list-style-type: none"> Ethiopia has strong, functional immunization coordination platforms that enable quick and effective communication and collaboration across partners from national to sub-national levels. The MOH could integrate RVV switch preparatory activities, such as microplanning, health worker training, updates to monitoring tools, with other immunization activities, leveraging resources and creating efficiencies.
Delivery and Logistics	<ul style="list-style-type: none"> ROTARIX and ROTASIIL have different presentations. Because of the adapter, the packaging system for ROTASIIL needed extra space. Many health centers had concerns about storage constraints and potential contamination of products. Some regions in Ethiopia are affected by conflict, creating additional challenges to distribution. 	<ul style="list-style-type: none"> The MOH could use existing well-built distribution and cold chain systems to deliver vaccines to health posts and prevent stockouts The MOH distributed medical supplies, including vaccines, to conflict-affected areas by military convoys and airlift.
Health Worker Readiness	<ul style="list-style-type: none"> Health workers needed training on the new RVV product and to be prepared for the switch at the same time they were facing other competing priorities (planning for other vaccine introductions and switches, regular service delivery activities). Further, there were limited resources for activities like training for the RVV switch. Because of time constraints, the TOT was implemented without the vaccine on-hand. There were issues with the quality and rate of reporting by health facilities partly because of the need for health workers to manually enter data into existing tools before DHIS2 updates were enabled. Health workers faced challenges handling and administering the vaccine. ROTASIIL was more complex to deliver than ROTARIX because of the use of an adapter and syringe rather than a squeezable tube. It took longer for health workers to administer the vaccine, and they needed to manage children spitting during vaccination. 	<ul style="list-style-type: none"> Because the RVV switch was happening at the same time as the HPV vaccine switch and IPV2 introduction, training for the three products could be integrated as one, streamlining activities and leveraging existing resources. However, this required additional training time and became challenging as the training was cascaded to the facility level as it was delivered in a less standardized way, and elements like videos could not be shown in facilities experiencing connectivity issues. Supportive supervision visits enabled a crucial opportunity to identify and solve challenges that health workers faced. By updating the supportive supervision checklist and conducting regular, integrated visits, technical advisors could provide on-site correction and guidance to health workers, improving their performance and responding to their feedback.
Reporting and Monitoring Tools	<ul style="list-style-type: none"> Reporting and monitoring tools like vaccination cards, tally sheets, and registration books did not account for a third dose of RVV. Updating, printing, and distributing these tools would not be time or cost effective. The use of a parallel reporting system and manual updates to tools significantly affected the reporting rate of health facilities. This also negatively impacted data quality, affecting the MOH's ability to monitor the switch process. Health facilities were instructed to use existing stock of ROTARIX before switching to ROTASIIL. However, vaccine stock management tools did not specify the product making it difficult to monitor the distribution and utilization status of the new product versus what was still in circulation of the old. 	<ul style="list-style-type: none"> As a temporary solution, health workers were instructed to record the third dose of RVV under the designated area after the second dose on vaccination cards. Similarly, in the tally book, health workers were instructed to add a separate row on the tally sheet and record the third dose in an empty shaded box under Rota in the vaccine register.
Demand Generation	<ul style="list-style-type: none"> Although RVV was introduced in Ethiopia in 2013, ROTARIX has a two-dose schedule. ROTASIIL has a three-dose schedule, requiring caregivers to bring their children back to a health facility for the third dose. 	<ul style="list-style-type: none"> Because RVV was not new in Ethiopia, communication activities could be focused on messaging related to the rationale of switching and what was different about the new product. For example, health providers needed to communicate the change in the number of doses required to caregivers at the time of vaccination. The third dose of ROTASIIL is delivered at the same time as the third dose of the pentavalent vaccine (Penta3). The aligned vaccine schedules meant caregivers didn't need to add another health facility visit for the third ROTASIIL.

Key Results

Within one year from the start of the first phase of the switch, **100%** of health facilities switched to ROTASIIL. As of April 2025, coverage for all three doses in four JSI-supported regions was **90%** in Afar, **100%** in Oromia, **84%** in South Ethiopia, and **82%** in South West Ethiopia.

Key Considerations

Based on the experience of the forced RVV switch in Ethiopia, below are key questions to consider when preparing for and implementing a switch:



Decision-making:

- Does the alternative product offer a comparative advantage or additional benefits to the existing product?
- Is the process of switching programmatically feasible in the current context?
- Did the selection of the vaccine product include considerations for integration?
- Are there opportunities for integration and/or schedule alignment with other planned programming? Would integration of activities or services align with and/or support priority policy agendas?



Planning:

- Do coordination and collaboration platforms exist and are they functional? Do existing tools and processes support integrated activity planning?
- Are existing resources sufficient to implement the switch and/or can other resources be leveraged?
- Would integrating services or activities result in more efficient use of human and financial resources? Would it reduce the burden on existing human resources?
- Are there sufficient human resources to assign focal points at national and subnational levels?
- Can sufficient time be allocated to train and support human resources to deliver services in an integrated manner?



Vaccine management and distribution:

- Does the vaccine require any cold chain management changes?
- Can the existing health system infrastructure support effective management and distribution of the vaccine? Can it enable and support activity integration?
- Are existing vaccine forecasting and supply monitoring mechanisms accurate?



Monitoring:

- Can existing monitoring platforms be leveraged for the new vaccine product?
- What indicators are needed to monitor switch performance and vaccine coverage? What data sources will be used?
- Can monitoring and reporting tools be easily used and updated? How soon?
- Are there functional feedback systems in place to respond to challenges as they arise?



Supportive supervision:

- Can supportive supervision visits and tools for different immunization activities be integrated?
- Are plans for supportive supervision responsive to reporting data and performance reviews?
- Can supportive supervision visits be aligned with training schedules to support refresher and on-the-job training without requiring additional visits?



Service Delivery

- Can existing service delivery strategies and mechanisms be used to implement the switch?
- Are there opportunities for integrated service delivery during outreach, campaigns, or supplemental immunization activities?
- Can integrating the delivery of the new vaccine product improve the quality of services delivered? Improve the client's service experience?



Sustainability and resilience:

- Are existing planning, monitoring, and reporting systems functional and adaptable? Can they be sustained and easily updated in the short- and long-term?
- Is the health system resilient enough to withstand unforeseen events and can it be responsive to the needs and challenges of different contexts?
- Are there any near or long-term concerns about the sustainability of vaccine supply?
- Can integrating immunization activities improve sustainability of new practices and requirements for vaccine delivery?
- What information does the immunization program need to understand the resource and health system implications of the product switch and what is required for sustainability?