

The Switch Series:

Implementing an Unplanned Rotavirus Vaccine Switch in Ethiopia



Recommendations



Develop a standard communication and change management plan to address anticipated and common challenges that health workers and community members face. It is important to ensure clear and consistent messages to those delivering and receiving vaccinations. A change management plan can support quicker uptake of new practices expected of health workers, such as different mechanisms for reporting or vaccine management.



Provide targeted, hands-on training to health care workers on new vaccine handling and delivery protocols. Immunization programs should consider timing and best mechanisms for providing this type of training to health workers. Additional materials, such as videos, pocket guides, and job aids, should be developed and shared with health workers to support proper handling and delivery protocols, taking into account any infrastructural or logistical challenges health workers and facilities face (e.g., connectivity, distribution issues, etc.).



Implement robust monitoring mechanisms for tracking vaccine usage and coverage, especially in areas with connectivity issues or conflict. Close monitoring of product switches, system performance, and vaccine uptake is crucial for timely, evidence-based decision-making and program adaptations. From the start, it's vital to design digitized tracking mechanisms that clearly define data sources and indicators, specifically considering health facilities with limited connectivity or in conflict zones. This inclusive approach enhances overall monitoring and promotes more effective immunization efforts.



Use vaccine product switches as an opportunity to strengthen the routine immunization system.

Many of the challenges that arise during a switch are not necessarily unique to that product. Activities and investments required during a switch can be implemented to overcome long-term and far-reaching challenges affecting multiple vaccines and improve sustainability and planning for the future.



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, ROTASIIL-Liquid (SII) (ROTASIIL), is a three-dose schedule, presented in two-dose vials.

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 support the switch at national and subnational levels. This **second of four case studies describes implementation of the product switch.**

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

²National immunization evaluation research

Table 1: Challenges and opportunities in implementing the RVV switch

Factor	Challenges	Opportunities
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 first 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 Rota3.
Reporting and Monitoring	<ul style="list-style-type: none"> The lack of updated recording tools, which required 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 MOH 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 new product, making it difficult to monitor the distribution and utilization status of the product. 	<ul style="list-style-type: none"> Once the DHIS2 was updated to include the necessary RVV data, JSI supported the MOH to triangulate data from the temporary reporting system in Google Sheets, DHIS2, and vaccine distribution to better monitor the switch process and health facility performance, ensuring that supply met demand. The MOH conducted regular review meetings at the national and regional levels to monitor progress, identify facility-level challenges faced, and develop tailored plans to address those challenges through follow-up visits at facilities which offered guidance and refresher training.
Health Worker Readiness	<ul style="list-style-type: none"> As noted, there were issues with the quality and rate of reporting by health facilities. This was partly because of the need for health workers to manually enter data into existing tools before DHIS2 updates were implemented. 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"> 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, addressing their concerns and improving their performance.

Lessons Learned

Strong Vaccine Management and Distribution Systems are Essential to an Effective Switch Process

- Infrastructure investments related to cold chain and product storage need to be considered first to accommodate new or different vaccine products. Consistent engagement of district and health facility managers can help determine current capacities and needs that require longer term planning and investment.
- Accurate forecasting is essential to ensure vaccine availability and effective, needs-based product distribution to health facilities.
- Clear communication and reporting on product distribution and use is important to monitor the switch process. Health facilities should use existing product stock before switching to a new product, and should report on which product was used and when throughout the switch process to better monitor supply and progress.

The Ethiopian MOH effectively forecasted the amount of ROTASIIIL needed, ensuring vaccine availability. However, there were challenges with cold chain capacity, electricity, and refrigerator maintenance. These challenges were not unique to the RVV product switch but affected the routine immunization system more broadly. Although the MOH directed facilities to use their remaining stock of ROTARIX before switching to ROTASIIIL, there was some confusion about which vaccine to provide. Because temporary and manually updated reporting tools were used, mixed reporting of products contributed to difficulty monitoring product use. **Despite these challenges, the vaccine was distributed to all health facilities, supplies were effectively monitored at all levels of the health system, and there were no vaccine stockouts.**

Regular Performance Monitoring Supports Real-time Problem Solving and Sustainability

- Use of existing platforms like supportive supervision and monthly review meetings helps monitor vaccine switch performance. These regular check-ins facilitate sharing of best practices and problem-solving based on real-world experiences from health workers in different settings, while offering the space for structured feedback.
- Define data sources and indicators and integrate them into routine monitoring mechanisms (i.e., DHIS2) as soon as possible. Take into consideration the needs of health facilities with connectivity issues or conflict-afflicted areas from the start to improve monitoring efforts. Without defining these from the start, it will be difficult to accurately monitor coverage and make necessary adaptations.
- Close monitoring should continue in the year following switch completion to ensure sustainability. This is especially important when reporting systems and tools have been adapted, updated, and distributed during the switch to ensure documentation is accurate and to help MOH make coverage improvement decisions.

At the beginning of the switch, reporting and monitoring tools had to be manually updated by health facilities and a temporary reporting system was used to record the third dose of ROTASIIIL. The lack of updated recording and reporting tools made monitoring the status of the switch more difficult until revised tools could be distributed. To solve these challenges, the MOH and partners, including JSI, used existing platforms to monitor performance and created additional process indicators to compare coverage of Penta3 and third dose of ROTASIIIL given their cohesive schedule. This enabled the team to compare the dropout rate between doses. JSI also triangulated information from different sources to monitor the switch performance and ensure vaccine supply met demand. **Within seven months, 98 percent of health facilities had switched to ROTASIIIL, and within a year 100% had switched.**

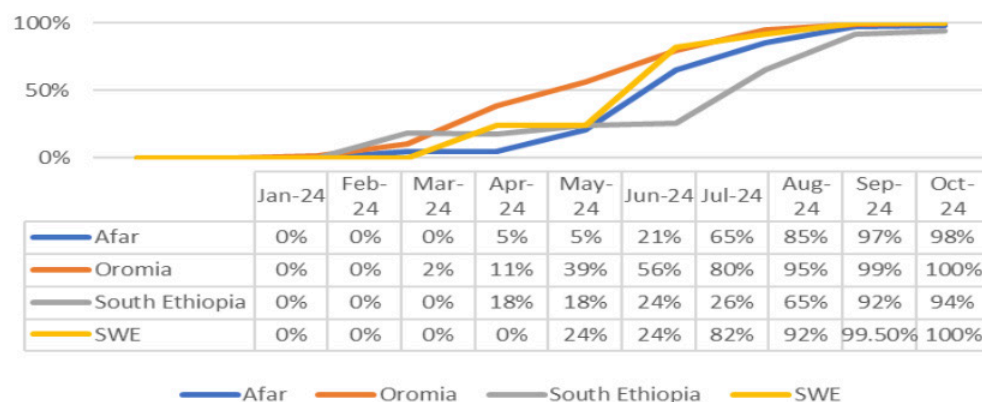


Figure 1. Percentage of health facilities that switched to ROTASIL

Build in Time for Responsive and Intentional Supportive Supervision for Health Workers

- Update supportive supervision checklists to include indicators for the product switch. This will help technical advisors and managers conduct visits that are integrated with other immunization activities.
- Ensure sufficient time and resources for supportive supervision visits that incorporate mentorship and provide on-the-job training to support health workers to implement new practices. This can complement training completed in preparation for a vaccine switch.
- Use reporting and performance data to plan your supportive supervision visits. Supportive supervision should be used as an opportunity to understand why something has not gone as expected, to problem-solve, and take tailored action.

JSI supported the MOH to integrate RVV indicators into the existing supportive supervision checklist. Within two to three months after the switch, national level supportive supervision was conducted in all regions to monitor the status of the RVV switch and other new vaccine introductions. Inconsistency in use of reporting and recording tools, skills gaps of health workers related to administering ROTARSIIIL, and reporting on administration of third dose were among gaps observed. The MOH overcame these challenges by providing on-the-job training, re-orientation, and tailored mentorship to health workers during supportive supervision. **Following these actions, the reporting rate of the health facilities significantly improved and by March 2025, among four JSI-supported regions (Afar, Oromia, South Ethiopia, South West Ethiopia), 100% of health facilities were reporting on Rota3 through DHIS2.**

Consider Vaccine Schedule Alignment and Integrate Demand Generation Activities

Where vaccine schedules align, integrate demand generation activities. A focus on improving demand across vaccinations provides an opportunity to improve the routine immunization system.

Because RVV was not new in Ethiopia, health workers could focus communication activities with caregivers on the rationale for the product switch and differences between the two products, mainly that caregivers needed to return for a third dose. What was helpful in this product switch was that the ROTASIIL schedule was aligned with that of pentavalent vaccine. The third dose for each vaccine was administered on the same schedule, which meant caregivers did not need to return for additional vaccine visit. However, the demand-related challenges affecting the uptake of Penta3 and other childhood vaccinations also affected ROTASIIL, highlighting that solutions to those challenges can have broader impacts across routine immunization. Uptake of the third dose of RVV is increasing, and the gap between the third dose of pentavalent vaccine and RVV is narrowing, a positive sign and a result of an effective switch process. **As of April 2025, Rota3 coverage was 90% in Afar, 100% in Oromia, 84% in South Ethiopia, and 82% in South West Ethiopia. Coverage for Penta3 in those regions was 81% in Afar, 105% in Oromia, 101% in South Ethiopia, and 88% in South West Ethiopia.**

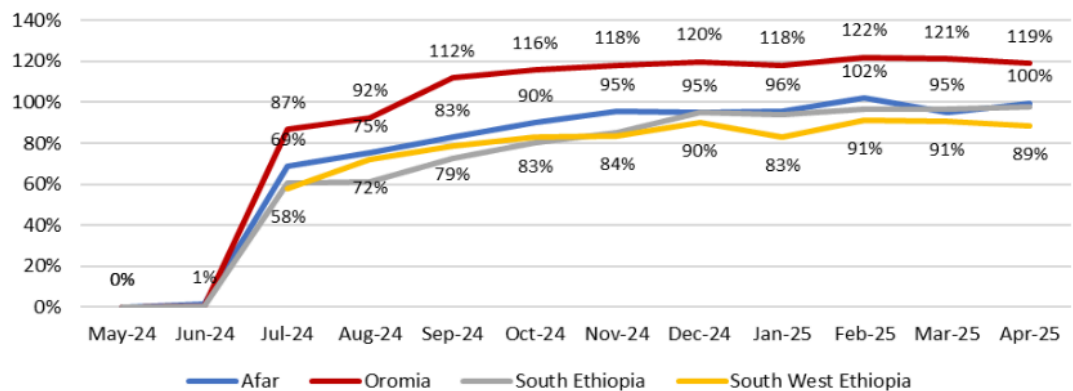


Figure 1. Rota3 coverage by region, 2024-2025

Commit to Maintaining Performance and Sustainability

Following completion of a switch, maintaining performance and sustainability are essential. At this phase, the most critical issues are continuing to improve and maintain performance, sustainability, and integration. With the monitoring and reporting tools updated, consideration of ROTASIIL can be integrated into microplans at the district level to ensure effective planning and vaccine delivery. Supportive supervision and health worker training must continue to be a focus in the upcoming year to sustain new practices, identify and address any additional challenges, and ultimately improve uptake. Relevant RVV indicators, like the third dose of ROTASIIL, should continue to be an intentional point of discussion during review meetings over the next year as they are integrated and sustained in routine immunization monitoring processes at all levels of the health system. Additionally, continued monitoring and evaluation of RVV will help the MOH and partners better understand resource and health system implications of the product switch, enabling better decision-making and planning for the coming years.

Key Considerations

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



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?
- 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?



Sustainability:

- 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? How can this information be collected through monitoring activities during and after the switch?