MCSP Mozambique Program Brief
Strengthening Immunization Services

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Goal

The Maternal and Child Survival Program (MCSP) in Mozambique used the Reaching Every District/Reaching Every Child (RED/REC) strategy at health facility levels and in communities to improve immunization rates. RED/REC strengthens the planning abilities and efficiency of immunization services while encouraging community members to use immunization services at health facilities and during outreach.

Alcidio Vito Saldulani Mashisa, 24, vaccinates a baby at the Nihessiua Health Centre in Nampula, Mozambique.
Photo: Kate Holt/MCSP

Background

Although the routine infant immunization coverage in Mozambique is reasonably high (80% for DPT3 in 2017 by World Health Organization [WHO] and UNICEF estimates), it still falls short of the established targets for the country and is significantly lower than coverage in the surrounding countries. According to the IMASIDA 2015 survey, only 66% of children aged 12 to 23 months were fully vaccinated, and only about half of those children had received all of the required vaccines by 12 months of age. This indicates a problem with timely and correct vaccination, which contributes to occasional outbreaks of vaccine-preventable disease. The overall coverage rate also masks inequities within districts.

Several factors challenge the efforts of Mozambique's Expanded Program on Immunization (EPI) to improve immunization coverage. Undertrained health care workers, high staff turnover, underperforming cold chain equipment, frequent stock-outs of vaccines and immunization materials (syringes and safety boxes), cancellation of immunization activities, and inadequate financial flows all create missed opportunities for vaccination and higher risk of vaccine dropout.

Program Approach and Results

MCSP used several interrelated approaches at the national and district levels in Nampula (23 districts) and Sofala (11 districts) provinces to address these challenges, with a particular focus on four districts in Nampula and three districts in Sofala with low immunization coverage. In this brief, we describe MCSP's assistance to the Ministry of Health and Provincial Health Departments in Nampula and Sofala provinces and the results of these efforts.

Supported the Ministry of Health (MOH) to improve national immunization program planning, management, and implementation. Through engagement in the immunization technical working group (TWG), MCSP advised assessments such as the EPI review and Gavi joint appraisals, the development of management tools, and the MOH's efforts to plan immunization activities, revise norms and guidelines, and strengthen the capacity of EPI personnel.

Results: Immunization program management improved. MCSP developed an immunization schedule calendar that provides guidance to health care workers on immunization schedules, doses, and intervals (see Figure 1). The calendar was finalized, reproduced, and distributed in 86 MCSP-supported health facilities (56 in Nampula and 30 in Sofala). It is used as an important tool for consultation and communication between health care providers and mothers. MSCP worked with EPI to develop and revise the immunization supportive supervision checklist, which has been approved for national use. The tool provides a structured approach for supervision to improve health workers' knowledge and immunization expertise.

Figure 1. National Vaccination Calendar

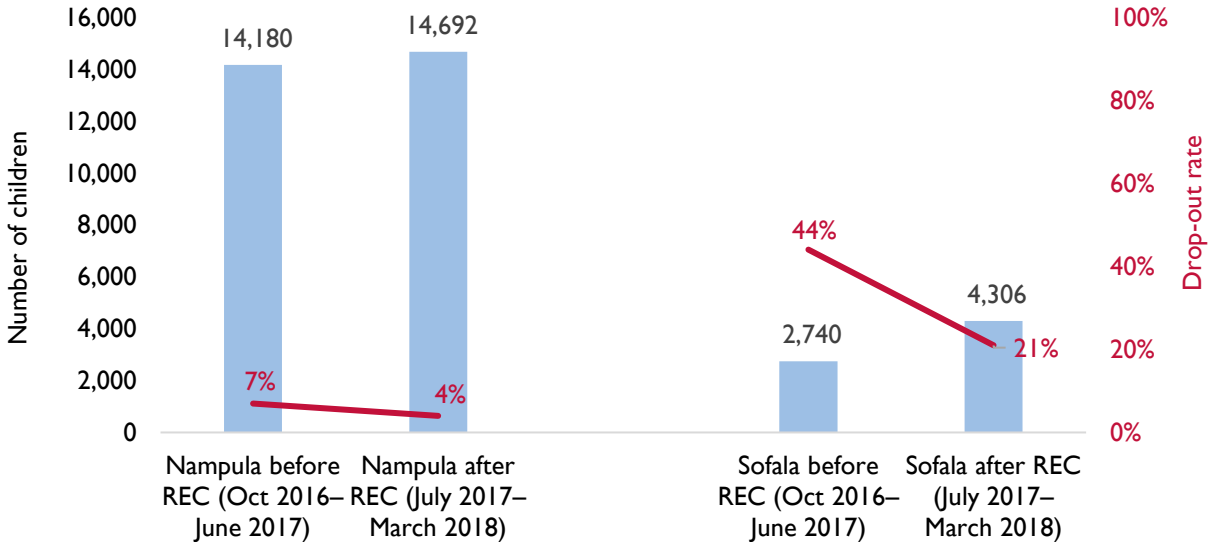
Finally, MCSP worked closely with the MOH and National Institute of Statistics to develop an improved methodology to estimate district populations more accurately and establish more realistic target populations for all reproductive, maternal, and child health programs, including immunization. This contributed to improved program monitoring, evaluation, and forecasting of vaccine need. The coefficients used to estimate district populations will be reviewed once 2017 census data are available. To date, they have been used to support planning for the national measles and rubella campaign and to estimate targets for human papillomavirus (HPV) vaccine rollout across the country.

Strengthened the immunization microplanning process. RED/REC improves immunization coverage and addresses inequities in coverage by helping to identify and reaching out to underserved populations. MCSP worked with EPI to adapt the 2017 WHO Regional Office for Africa RED/REC guide for use in Mozambique, and together with the MOH and in coordination with UNICEF, supported implementation of the RED/REC strategy in the seven MCSP priority districts in Nampula and Sofala with low immunization coverage. The main interventions supported health facility staff to identify and map underserved communities, develop microplans for health areas and districts, improve resource utilization, implement integrated outreach services (immunizations, nutrition, and family planning) in underserved communities and, ultimately, raise immunization coverage.

Results: Microplanning reduces vaccination dropout rates. During program implementation, MCSP supported 242 mobile brigades through improved microplanning and logistical support, contributing to a cumulative 241,149 children under 12 months of age receiving the Penta3 vaccination (DPT/Hib/Hepatitis B third dose) in MCSP-supported areas. Figure 2 shows the number of vaccinated children and the Penta 3 vaccine dropout rate at the 14 health facilities implementing the RED/REC strategy before and after training in the microplanning process in Nampula and Sofala. As shown, the Penta 3 vaccine dropout rate declined by 43% in Nampula and 52% in Sofala, and the number of children immunized increased markedly after the introduction of REC, particularly in Sofala.

Microplanning Workshop for Chemba RED/REC, Sofala province. Photo: Santos Sipaneque/MCSP

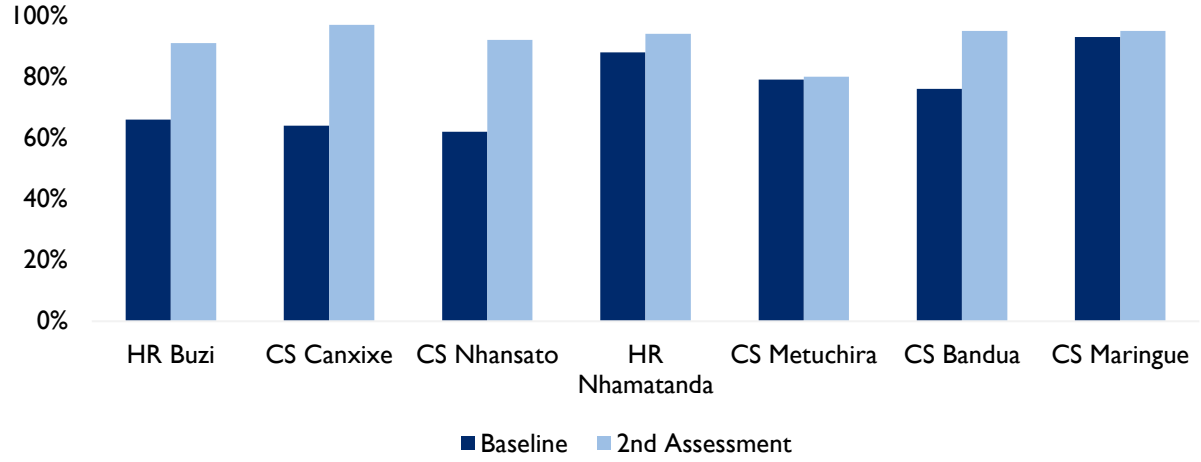
Figure 2. Number of children who received Penta 3 vaccine and dropout rates in priority health facilities (HFs) implementing the RED/REC strategy in Nampula (8 HFs) and Sofala (6 HFs)



Improved the quality and use of immunization data. To improve data quality at the point of care, including data collection, analysis, and use for immunization-related actions, MCSP trained health providers to conduct quarterly data quality self-assessments (DQSAs) and facilitated follow-up meetings to discuss findings and drive evidence-based decisions related to immunization activities. MCSP also supported district quarterly immunization data review meetings to strengthen the quality and use of routine data.

Results: Immunization data quality improved markedly. With support from MCSP, the MOH trained 50 district managers and health care workers (23 in Nampula and 27 in Sofala) on the DQSA methodology. Data quality improved to varying degrees across facilities, as seen in the summary DQSA scores in Figure 3 for seven MSCP-supported facilities. As shown, the facilities in this subset, which started with scores of less than 80%, improved an average of 22 percentage points within a 3-month period. Figure 4 shows how one health facility in Sofala's Nhamatanda district faired on each DQSA element over 3 months, with improvements in the completeness of the child register and stock cards, and improved data management quality.

Figure 3. Overall data quality self-assessment (DQSA) scores for EPI services in seven facilities in Sofala, baseline and second assessment (after 3 months)



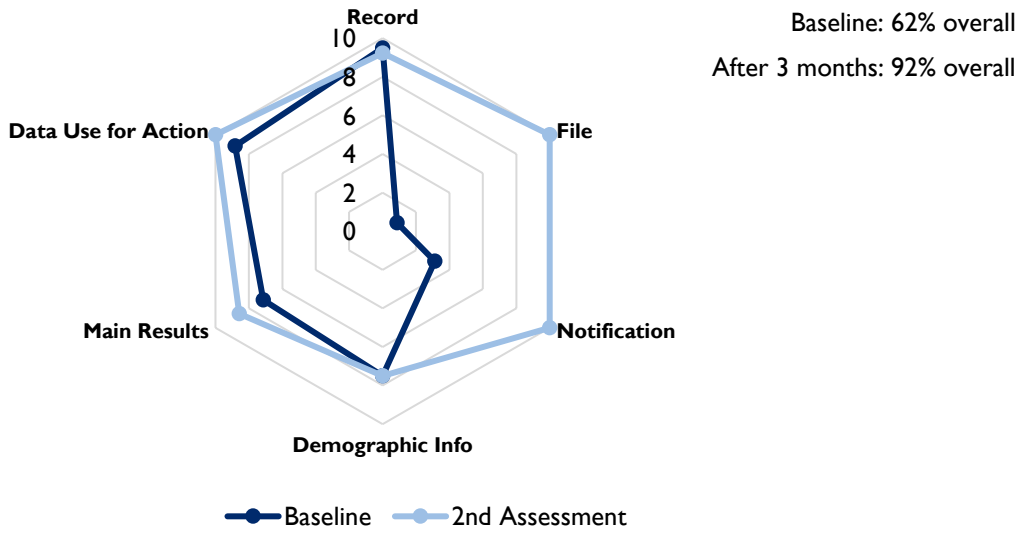
Introduced new vaccines. To support and sustain new vaccine introduction and switches, MCSP contributed technical inputs to the Gavi applications, vaccine introduction strategies, and disease control initiatives.

Results: Three vaccines were introduced or switched. At the national and provincial levels in Nampula and Sofala, MCSP worked alongside partners to plan, train, and supervise the switch from trivalent oral polio vaccine (tOPV) to bivalent OPV (bOPV), as well as the switch from pneumococcal conjugate vaccine 10 (PCV10) valent to PCV13 valent, ensuring health workers had the most up-to-date information and understood the changes. Additionally, MCSP supported the introduction of the measles-rubella vaccine, which replaced the measles vaccine, and encouraged the MOH/EPI to take advantage of the new vaccines scheduled for the second year of life as an opportunity for young children to access not only immunization but also other health interventions, including vitamin A and deworming.

Reinforced vaccine supply and cold chain management. At the national level, MCSP participated in the immunization logistics TWG, which aims to improve vaccine supply, distribution, and cold chain management. In Nampula and Sofala, the MCSP team also provided technical assistance at the provincial, district, and health facility levels.

Results: Vaccine supply and cold chain stabilized. MCSP reproduced and distributed vaccine management tools, such as stock cards and requisition books, to all 86 MCSP-supported health facilities. MCSP provided technical assistance to health care workers in estimating the required quantity of vaccines, basic preventive maintenance of the cold chain, and vaccine handling practices to minimize stock-outs and improve supply chain management. Within the provinces, there was better coordination of vaccine distribution and improvements in vaccine management. However, challenges with timely vaccine distribution from the national to the provincial level still remain.

Figure 4. Qualitative completeness of data from data quality self-assessments (DQSAs), Nhansato health facility, Sofala, baseline and after 3 months



Addressed causes of missed opportunities for vaccination at health facilities. MCSP worked with health facilities to introduce simple processes to reduce the number of missed opportunities for vaccination.

Results: Fewer missed opportunities for vaccinations. MCSP worked with health care workers to develop a tracking system at the facility level to ensure all children who need immunizations are identified, even if they present for other consultations. MCSP worked with health care providers to ensure daily visits to the maternity ward to vaccinate all newborns within a day of birth with Bacillus Calmette–Guérin and polio vaccines, even over weekends, when access to the cold chain is often not available. Another process innovation encouraged health facilities to establish a single point for weighing all children under age 5 (sick and healthy children), which ensured an opportunity to verify vaccination status. Finally, MCSP provided guidance to health care workers on how to conduct education sessions for community members to encourage their adherence to the immunization calendar, reinforced by the MCSP-supported printing and dissemination of the calendar.

Challenges and Recommendations

Stock-outs of vaccines and immunization supplies continue to be a challenge in both provinces. Although the situation has improved, it is far from ideal, and stock-outs persist, leading to missed opportunities to vaccinate, an increased burden on health care workers to collect vaccines, and an unreliable health system.

Recommendation: Continue to strengthen the supply chain at all levels. Procurement and timely vaccine delivery will only improve through better resource analysis and improved information sharing between delivery levels. Through discussions with the National Logistics Working Group, the MOH is exploring the possibility of outsourcing transportation for distribution from the national level to the district level. Implementing partners should continue to monitor and raise awareness in Sofala and Nampula about the unreliable supply chain, its impact on immunization activities, and the need to support its strengthening.

Limited access to transport delays outreach. Through RED/REC and updated community mapping, health facilities are improving the development of effective and integrated outreach plans that include family planning, nutrition, and immunization activities. However, due to a lack of transportation, these plans are not always implemented as designed. This can de-motivate not only health care workers but also the communities who wait for their visits.

Recommendation: Take steps to improve transport at district and facility levels. The lack of government transportation options and competing priorities for transport use at the district and facility levels make it difficult to expand the mobile brigade system. There are also limited resources for maintaining existing equipment. A system for maintaining equipment is necessary. Instead of placing the responsibility of vehicle maintenance on health facility staff, another option to explore is contracting out by the district and health facility of local transport both for vaccination outreach and vaccine distribution.

Facility staff, including data technicians, are not fully engaged in data analysis and use. Data analysis meetings are too often held at senior management levels, with only district heads and program focal points participating. Although it has proven challenging to do so, MCSP has organized data analysis discussions at the facility level and this should continue. Doing otherwise is a missed opportunity to build the capacity of those who should be more systemically analyzing and using the data they generate for local decision-making.

Recommendation: Promote a culture of data use to achieve higher immunization coverage rates. It is important to empower and build the capacity of local providers to analyze and interpret immunization coverage and supply data. Doing so will enable facility staff to identify possible problems early on and develop their own strategies to solve them and identify those children who need active follow-up. This will improve coverage rates and reduce missed opportunities. Periodic evaluation meetings and follow-up are needed and must involve health facility staff.

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