CASE STUDY
Improving the retention of mother-baby pairs at Seshote Health Center in Leribe District, Lesotho

Summary
Seshote Health Center is a small facility in the rural, mountainous area of Leribe District in Lesotho. In August 2016, with support from USAID, Seshote's eight-member quality improvement (QI) team established an improvement aim: to increase retention of mother-baby pairs (MBPs) seen at the facility from 0% in August 2016 to 55% by February 2017. Although mother-to-child transmission accounts for 90% of new HIV infections among children in Sub-Saharan Africa, risks are reduced to below 5% when prevention of mother-to-child transmission interventions are implemented. Three change ideas were tested: 1) create an appointment book dedicated to MBPs; 2) schedule mothers and their babies for appointments on the same day; and 3) track mothers who did not show up for appointments. As of February 2017, retention of MBPs was still low, at 14%. In March 2017, ASSIST staff held a meeting with members of the Seshote QI team, to discuss the team's challenges. After reflecting on their experience, the team recommitted to using quality improvement methods to improve retention of MBPs. With a greater sense of ownership, accountability, and motivation, the Seshote Health Center team was able to improve MBP retention from 39% in April to 69% in August 2017. This improvement contributes to Lesotho's work under the Partnership for HIV-Free Survival. In addition, the Seshote Health Center QI team has implemented structures and processes to sustain their commitment to ongoing improvement.

Introduction
The Partnership for HIV-Free Survival (PHFS) is a six-country (Kenya, Lesotho, Mozambique, South Africa, Tanzania, and Uganda) initiative, conceived by the World Health Organization (WHO) and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to improve prevention of mother-to-child transmission (PMTCT). National Guidelines for Prevention of Mother-to-Child Transmission of HIV were first launched in Lesotho in February 2003. There are currently 206 PMTCT sites nationwide, including 23 adolescent health corners. This reflects an increase in program coverage from 16% in 2006 to 81% in 2010. This was made possible through training of health care providers, adoption of the provider-initiated testing and counselling approach, involvement of implementing partners, and decentralization of PMTCT services to the health center level (National guidelines for PMTCT, 2013). PHFS was established to implement the 2013 WHO Consolidated Guidelines on the use of Antiretroviral Drugs for Treating & Preventing HIV Infection through quality improvement (QI) and collaborative learning methods and thus increase HIV-free survival.

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Lesotho continues to have one of the highest HIV prevalence rates in the world, with an estimated 25% of adults living with HIV. Prevalence rates vary among Lesotho’s ten districts, and range from 17% in Mokhotlong to 28% in Maseru. Seshote Health Center, located in Leribe District, was one of the facilities in Lesotho supported by United States Agency for International Development (USAID) Applying Science to Strengthen and Improve Systems (ASSIST) QI initiatives. Leribe is among the districts most affected by the epidemic with an HIV prevalence rate estimated at 25.4% (DHS, 2014).

QI activities under ASSIST were launched at Seshote in August 2016. Onsite training for facility staff were conducted whereby QI principles, approaches, and concepts were introduced. The center then formed a facility QI team consisting of clinical staff, counselors, and community partners. After identifying service delivery gaps, the team established a QI project to improve retention in care of mother-baby pairs (MBPs) to increase HIV-free survival of babies born to HIV-infected women.

As is the case with the rest of Lesotho, HIV affects women in Leribe at a disproportionately higher rate than men: 31% of women of childbearing age (15-49) are living with HIV compared to 17% of adult men in the same age group. The Seshote Health Center QI team, supported by ASSIST staff, set out to explore approaches for interventions aimed at protecting HIV-exposed infants.

**Problem Analysis**

HIV can be transmitted from an HIV-positive mother to her child during pregnancy, childbirth, or breastfeeding. Mother-to-child transmission (MTCT) accounts for 90% of new HIV infections among children in Sub-Saharan Africa but through prevention of mother-to-child transmission (PMTCT) interventions, including antiretroviral therapy (ART) for the mother, nutrition counseling, and cotrimoxazole prophylaxis for the infant, risks are reduced to below 5%. Therefore, it is imperative to retain HIV-positive mothers and their HIV exposed infants (HEIs) in care.

Retention of MBPs is measured as a percentage. The numerator is the number of mother-baby pairs who have come for services during the reporting period, while the denominator is the number of mother-baby pairs who are receiving services in the facility in the last 24 months. Transfer-ins and HIV-positive mothers who have just delivered are added into the numerator; transfer-outs, deaths, and graduated mother-baby pairs (who completed the 24-month follow-up) are subtracted from the denominator. This data is collected monthly from the under-five HEI registers and appointment books.

Before the project began, it was not clear how many HIV-positive mothers that had HEI were receiving services from the facility. Furthermore, mothers were not always coming to the facility for services with their exposed infants. Services were also not well integrated or coordinated, causing mothers to have multiple visits to the facility, some of which were missed. Given these challenges, retention of MBPs could not be properly measured, and their baseline was 0% of MBPs retained in care. The Seshote QI team set as their improvement aim to increase MBP retention at the center from 0% in August 2016 to 55% by February 2017.

**Improvement Strategy**

In August 2017, the QI team first started by identifying how many HIV-positive mothers receiving health care services from the facility had infants that were below two years. Initially 36 MBPs were identified. The QI team advocated for the use of an appointment book dedicated specifically to MBPs. In the appointment book, both the mother and her HEI were scheduled for services. This facilitated early identification of missed appointments and enabled nurses to mobilize resources for follow-up.

The second change idea introduced was to schedule appointments for mothers and their babies on the same day. During the combined visits, MBPs were offered packaged health care services including:

- ART refills, viral load testing, and counseling for the mother
• Height assessment, nutritional assessment (using mid-upper arm circumference), immunizations, cotrimoxazole prophylaxis, and HIV testing for the baby
• Weight assessment for both mother and baby

The date for mother and baby’s next appointment was then entered in the appointment book and the patient-held booklet (a small booklet where patients’ medical records and appointments are documented), as well as clearly communicated to the mother to ensure her understanding of the importance of subsequent visits for both her and her infant.

The third change idea introduced was to track mothers who were not showing up, using village health workers (VHW), Mothers-to-Mothers (M2M) groups, and the Lesotho Network of AIDS Services Organization (LENASO), and to consistently provide education to mothers on the importance and benefits of attending same-day appointments with their babies. Even with these efforts in place, no significant improvement was evident.

Results

Implementation of improvement strategies faced challenges. Initial improvement from August to October 2016 was slow, as both the facility and the clients were still getting used to the new interventions. In December, most of the staff members key to the QI team had gone home for the holidays, so proper tracking and documentation did not take place, as evidenced by 37% retention in January. Following the December holidays, the team struggled to get back on track; motivation was low, and meetings were not consistently held. In February and March 2017, MBP retention was 7% and 8%, respectively.

In March, ASSIST staff held a meeting with facility staff, to support the QI team in engaging with these challenges and getting back on track. During the meeting, the team discussed lack of ownership, collaboration, and motivation by the QI team. Teamwork plays a big part in quality improvement. The ASSIST team helped the facility team reflect on their teamwork and performance; the facility staff were enthusiastic about working together to bring back the team’s moral. This meeting, together with ongoing support from ASSIST, has resulted in a steady increase in MBP retention rates, from 39% in April to 69% in August 2017 (see Figure 1).

Figure 1. Retention of MBPs at Seshote Health Center, Aug 2016–Aug 2017

![Figure 1](image-url)
Following the restarting of improvement work in March, the QI team at Seshote held weekly meetings where progress on the MBP project was discussed. These meetings enabled the team to identify challenges and address them early. The team’s ability to analyze their own data, identify and solve challenges kept the team motivated.

The Seshote QI team continued to use the appointment specifically for MBPs and schedule mother and baby appointments together, ensuring that they received the standard package of services at each visit. The team also worked with M2M groups to make sure they informed mothers ahead of time to be sure to attend their clinic sessions together with their babies.

**Way Forward**

Seshote Health Centre’s mother-baby pair retention efforts align with care for HEIs as supported by the National PMTCT guidelines, by ensuring that HEIs are followed up closely, monitored for normal growth, development, and general health, and receive prophylaxis. As PMTCT services are integrated into routine maternal and child health services, the mother and infant are offered services through this department for a period of 24 months. At the end of this period, the mother is discharged to an ART clinic for continuation of services, while the infant’s services continued to be offered in the under-five clinic.

The Seshote QI team has identified new change ideas to test:

- Put the identification number of children under two years of age on the front page of their mother’s ART card to speed up the process of identification during check-ups and assessments.
- Give patients enough medication to last them at least two days after the next appointment date.

The QI team hopes to receive further training and coaching on data collection, quality service provision, and the development of innovative ideas for sustainability and continued quality improvement.

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