



PHOTO: ERIC BOND/EGPAF, 2017



Elizabeth Glaser
Pediatric AIDS
Foundation



HIV-Positive Infants in Lesotho are Accessing Treatment Faster: Results of Point-of-Care Testing Supported by The Elizabeth Glaser Pediatric AIDS Foundation

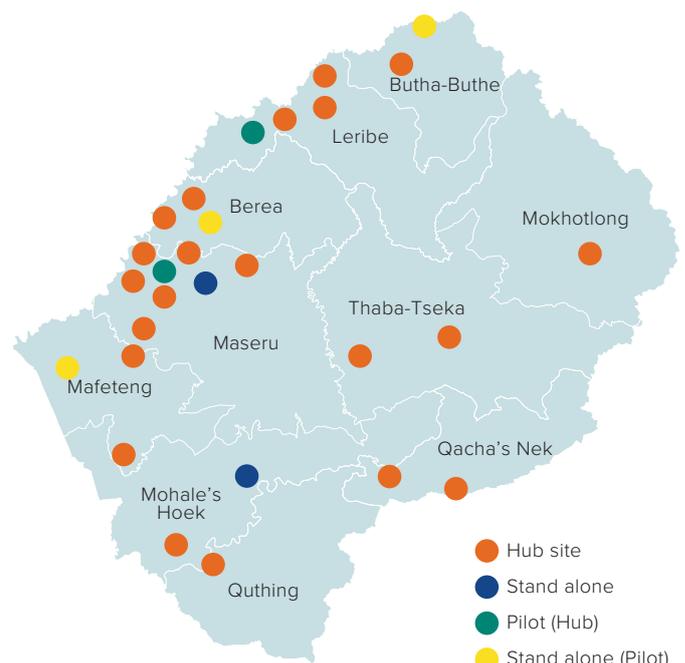
Infants who acquire HIV in-utero or at birth experience rapid disease progression, given their immature immune systems, with peak mortality occurring at 8 to 12 weeks of age. For HIV-infected infants, HIV testing before two months of age, prompt return of test results, and rapid initiation of treatment are key to survival. Through funding and support from Unitaid, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) leveraged its presence and experience in pediatric diagnosis, care, and treatment to support Ministries of Health in nine countries, including Lesotho, to hasten clinical decision-making by integrating point-of-care early infant diagnosis (POC EID) into national laboratory systems. Since August 2015, EGPAF has supported the Government of Lesotho to incorporate POC EID into the existing HIV diagnostic network through a systematic approach of selecting and gradually enrolling health facilities.

EGPAF-LESOTHO

Lesotho has the second highest HIV prevalence in the world, with 25.6% of adults aged 15-59 living with HIV (approximately 306,000 people)¹ and an additional estimated 13,000 HIV-positive children below age 15.² Without treatment, up to 50% of HIV-infected children will die before their second birthday. Yet, in Lesotho only 7,800 HIV-positive children are on antiretroviral therapy (ART).² Low rates of early infant HIV diagnosis (EID) and pediatric HIV testing continue to be the biggest barriers to initiation of lifesaving treatment. Indeed, the turnaround time from blood sample collection to the return of test results to caregivers for conventional lab-based EID (without POC) is typically between 30 and 90 days.³

EGPAF began supporting Lesotho's response to the HIV and AIDS epidemic in 2004, in collaboration with the Ministry of Health (MOH). This partnership saw access to comprehensive HIV/AIDS services rapidly expand

FIGURE 1. POC EID SITES



¹ Lesotho Population-Based HIV Impact Assessment (LePHIA), 2016/2017.

² UNAIDS, 2017.

³ Tiam A, Gill MM, Hoffman HJ, et al. Conventional early infant diagnosis in Lesotho from specimen collection to results usage to manage patients: where are the bottlenecks? PLoS One 2017; 12: e0184769.

throughout the country, with EGPAF establishing itself as a key clinical HIV service implementation partner.

In 2015, EGPAF launched the Catalyzing Expanded Access to Early Testing, Care and Treatment for HIV-Exposed Infants (POC EID) Project. Due to its long-established partnership with the country's MOH and its direct support to 200 facilities, EGPAF was well placed to integrate POC testing into the national In 2015, EGPAF launched the Catalyzing Expanded Access to Early Testing, Care and Treatment for HIV-Exposed Infants (POC EID) Project. Due to its long-established partnership with the country's MOH and its direct support to 200 facilities, EGPAF was well placed to integrate POC testing into the national laboratory network. Since then, the POC EID project has expanded access to affordable, effective and equitable testing for HIV-exposed Infants.

METHODOLOGY AND SITE IDENTIFICATION

To ensure that HIV-exposed infants have timely access to HIV testing, EGPAF strategically placed new-to-market POC platforms within health facilities. Site selection and classification of sites was a joint effort between EGPAF, the MOH, and key stakeholders. Prior the intervention, site-level data from 2015 were extracted and reviewed for 255 health facilities from national databases, to ascertain how sites should be designated. Indicators such as the number of HIV tests performed per year, number of HIV-exposed infants per year, number of pediatric tests performed per year, and whether the site would be able to initiate HIV-positive infants on treatment onsite were reviewed.

Facilities testing higher numbers of HIV-exposed infants were equipped with POC EID machines and their staff trained on their use. Some were classified as standalone testing sites that process, on site, their own clients' samples. Others were classified as hub testing sites that process samples from their own clients and also samples from other, nearby facilities. Smaller-volume facilities were selected as spoke sites that send samples to the nearby hub testing sites. Site assessments were conducted to determine optimal machine placement and to identify upgrades needed to prepare them for POC EID testing.

PROJECT SCALE-UP AND RESULTS IN LESOTHO

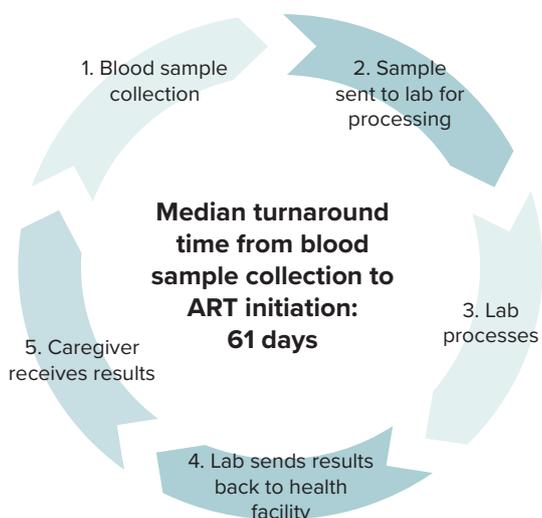
The project began with a pilot at five sites, from December 2016 to April 2017. Scale-up began in July 2017. By June 2018, the project had expanded to 6 stand-alone testing sites, 23 hub testing sites and 131 spoke sites. Results from all 160 sites up to April 30, 2019 are presented below.

- Administered 18,030 tests
- Reduced turnaround time between sample collection and caregiver receipt of results from a median of 63 days (conventional EID) to 0 days at testing sites (hub/standalone sites) and 9 days at spokes⁴
- Reduced the median number of days from sample collection to ART initiation for HIV-infected infants from 61 days (conventional EID) to 1 day at both testing and spoke sites⁵
- Detected HIV in 195 infants
- Initiated 186 of the 195 HIV-positive infants (95.4%) on ART
- By April 2019, more than 80% of all early infant tests in Lesotho were done using POC

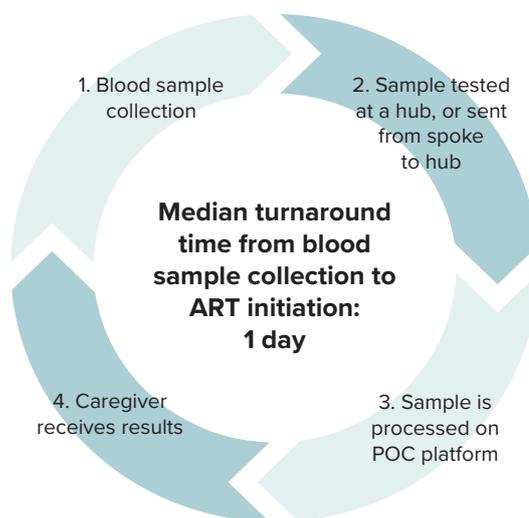
CONCLUSION

New-to-market, POC technology ensures that infants are screened on-site and receive their test results quickly, so those who test HIV-positive can be rapidly enrolled on lifesaving ART. POC testing platforms have proven to be easy to use in a variety of service delivery settings, and do not require trained laboratory technicians to operate. In Lesotho, POC EID has improved the speed of return of HIV test results and enabled earlier ART initiation, allowing HIV-infected infants to live longer and healthier lives.

Acknowledgments: *This project is made possible thanks to Unitaids support. Unitaids accelerates access to innovation so that critical health products can reach the people who most need them.*



Conventional EID process



POC EID Process

⁴ Interquartile ranges (IQRs): Baseline IQR under conventional EID: 45-76.25 days; testing site POC IQR = 0-0 days; spoke site POC IQR = 6-21 days

⁵ Baseline conventional EID IQR: 50-64 days; POC IQR: 0-5 days