



Image: Matthieu Zellweger

IMPACT STORY: EARLY INFANT DIAGNOSIS OF HIV USING POINT-OF-CARE TECHNOLOGIES

*To get more infants living with HIV
on treatment, faster*

The problem

Without treatment one in three infants living with HIV will die by 12 months of age.

HIV can pass from mother to infant during pregnancy, birth, or breast-feeding. Every year more than one million infants are born to HIV-positive mothers in 21 high-burden countries in Africa. Of these, an estimated 150,000 become infected with HIV. Without timely diagnosis and treatment, these infants are at high risk of premature death.

Only half of all infants exposed to HIV are tested. Only half of these receive their results. Tests are usually performed in centralized laboratories, in urban centres, far from where patients live. Samples and test results have to travel far and can be lost along the way. With test turnaround times averaging a few months, results that make it back to the patient may arrive too late to make a difference.

The solution

What is Unitaid doing?

Unitaid is investing to accelerate access to better tools for early infant diagnosis of HIV, to reduce test turnaround times. This can get more infants with HIV into care and on life-saving treatment faster in 15 African countries. The investment spans two projects: one in partnership with the Clinton Health Access Initiative (CHAI) and UNICEF, the other with the Elizabeth Glaser Paediatric AIDS Foundation (EGPAF).

The innovative testing devices are small, robust, and battery operated, and can be placed in rural clinics close to where infants live. Infants can be tested, receive their result, and start treatment often on the same day.

What results are emerging from the projects?

Initial findings from the projects show that these technologies deliver test results significantly faster, with a faster treatment initiation, for a greater proportion of infants tested (Figure 1). At scale, similar performance has the potential to transform the outlook for

hundreds of thousands of infants living with HIV. Some of the technologies also allow for different test types to be performed on the same device, which provides potential for integration between disease programmes (e.g. tuberculosis).

What are the remaining challenges and opportunities?

Though the point-of-care technology is more efficient at getting results back to patients than laboratory-based testing, the cost is currently higher. Putting devices at, or close to, the point of patient care in remote areas is also no simple task—there needs to be a way of ensuring that the device is working, the health worker is operating it correctly, and that there are no stock-outs of tests.

Our projects aim to address these problems. By identifying the most cost-effective and practical ways to deliver point-of-care testing to patients, we can enable countries to scale up these technologies as part of their networks for early infant diagnosis of HIV.

The main contributors to Unitaid are: France, United Kingdom, Brazil, Norway, Chile, South Korea, Mauritius, Madagascar, Spain and Bill & Melinda Gates Foundation.

IMPACT STORY

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Point-of-care testing links more infants living with HIV to treatment faster

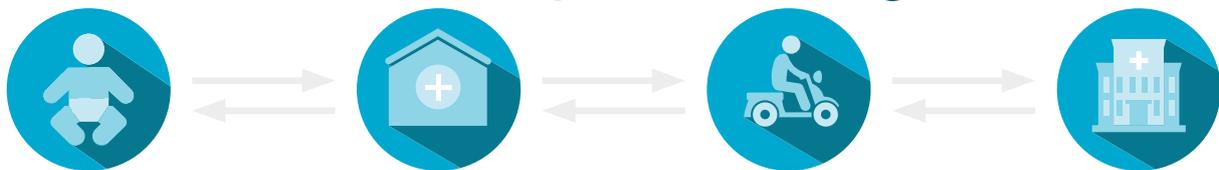
	 FASTER RESULTS¹	 MORE INFANTS DIAGNOSED¹	 MORE INFANTS TREATED¹	 MORE COST-EFFECTIVE²
LABORATORY-BASED TESTING	Median test turnaround time of 122 days	12% of infant patients received results within 60 days	13% of newly identified HIV positive children started on antiretroviral therapy within 60 days	While the cost of point-of-care tests is higher than conventional laboratory testing (\$21 versus \$15), point-of-care may be more cost-effective as it shortens the time it takes to diagnose infants and start them on HIV treatment, and leads to a greater proportion of results returned
POINT-OF-CARE TESTING	Median test turnaround time of 0 days	99.5% of infant patients received results within 60 days	87% of newly identified HIV positive children started on antiretroviral therapy within 60 days	

¹ Ilesh Jani et al. Effects of point-of-care testing on antiretroviral therapy initiation rates in infants. Conference on Retroviruses and Opportunistic Infections, 2017

² S.C. Frank et al. The clinical impact and cost-effectiveness of incorporating POC assays into early infant HIV diagnosis programs at 6 weeks of age in Zimbabwe: a model-based analysis. International AIDS Society Conference 2017.

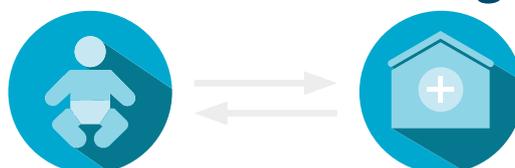
Point-of-care testing brings early infant diagnosis closer to those most in need

Laboratory-based testing



A few months for results to return

Point-of-care testing



Same day result return