What is early infant diagnosis (EID)?

Babies born to mothers living with HIV are at risk of contracting HIV before and during their birth and through breastfeeding. It is critically important that they are tested for the virus as soon as possible after they are born. This process is called early infant diagnosis (or EID).

Why is EID so important?

HIV is particularly dangerous for babies and young children. If they have HIV and are not treated quickly, they can become ill or die - without treatment as many as 50% of children living with HIV die before their second birthday. So, any child born to a mother who is living with HIV should be tested as soon as possible within the first 6 weeks of their life, again at 9 months and at the end of breastfeeding.

The good news is that treatment is very effective. If a child living with HIV begins treatment early they can lead a long and healthy life. There are also many different types of child-friendly drugs available that help to make it easier for children to take their treatment, including syrups and granules that dissolve on the tongue.
What is different about point-of-care EID?

Point-of-care EID is a much simpler process. A blood sample is taken from the baby at a health facility, the sample is put into a machine then and there, the machine produces the test results within a few hours, and the caregivers can be given the results on the same day.

Point-of-care machines are gradually and strategically being introduced into many countries and they are making a big impact. They are simple to use, there are no delays in returning the results and no opportunities for the results to get lost.

Caregivers get the results quickly and most importantly, children that are found to be living with HIV can begin treatment sooner. As advocates it is important that we understand the value of this new technology and lobby for greater access for our communities.

How are infants tested for HIV?

The tests used to detect HIV in adults measure antibodies in the blood – antibodies that are produced by the body to attack the HIV virus. These tests can’t be used on young children because they may find antibodies that were produced by the mother and passed on to the baby during pregnancy or through breastmilk. A different test is needed for young children that looks for the HIV virus itself – called a virological test.

It is very quick and easy to get a blood sample from a baby (just a spot of blood from a pinprick is enough) but it can take a long time to get the test results. The whole testing process usually takes between 30 and 90 days. Because many results are lost during that time and caregivers need to return to the clinic for the results, as many as 50% of caregivers never get the test results at all.
What are the global guidelines on EID?

The World Health Organisation recommends:

- All infants exposed to HIV should be tested at six weeks and those at highest risk should be tested at birth.
- Infants who test positive should be quickly linked to care and treatment.
- Infants found to be negative should be retested when they are 9 months old.
- All infants exposed to HIV should have a repeat test at the end of the breastfeeding period.

WHO is encouraging governments to use POC EID machines, saying the technology has been shown to work and it:

“provides the opportunity to reduce test turnaround times, limit patient loss along the HIV testing cascade, reduce infant mortality, and allow for task shifting to lower cadres of health workers at decentralised facilities.”

What is the cost of POC EID?

Despite the costs of buying equipment and training health workers, POC EID makes financial sense, especially as it is a much more reliable way of returning test results to caregivers than conventional lab testing. The high result return rate makes POC EID very cost competitive as these figures show:

<table>
<thead>
<tr>
<th></th>
<th>Lab-based EID</th>
<th>Point-of-care EID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost per test result returned to caregiver within 3 months</td>
<td>USD $ 28-49</td>
<td>USD$21-33</td>
</tr>
<tr>
<td>Cost per HIV-positive infant identified and started on treatment</td>
<td>USD $ 1,205</td>
<td>USD $ 1,060</td>
</tr>
</tbody>
</table>

POC machines also have other uses that make them even more cost effective. In a healthy facility where the demand for infant HIV tests is relatively low, the machine can also be used to carry out different tests. This includes testing for other diseases such as TB, HPV, and measuring HIV viral load.
POC EID machines are being used across Africa including in: Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Congo, Côte d’Ivoire, the Democratic Republic of the Congo, Equatorial Guinea, Eswatini, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe.

Each country is at a different stage, some are just beginning pilot projects and others are already rolling out POC EID programmes across the country. You can check with your National AIDS Commission to see what the latest situation is in your country.

What should we advocate for?

To make the most of point-of-care EID technology we need to advocate for a whole package of interventions including:

- More strategically placed POC machines, a reliable supply of the cartridges needed for the machines, and training programmes for the staff using them;
- Information on EID and support for parents of children exposed to HIV;
- A wide set of services for families affected by HIV including; psychosocial support, family planning services, child-friendly treatment options, family testing and treatment; and,
- Support for community-based organisations (CBOs) so that they can encourage HIV testing and work to reduce stigma and discrimination within communities.

Visit here* to see a “Strategic framework” for more guidance and tips for CBOs and advocates wanting to support EID of HIV.

* https://bit.ly/2YjFxKM