

# Impact of Point-of-Care EID Testing into the National EID Program: Pilot Experiences from Malawi

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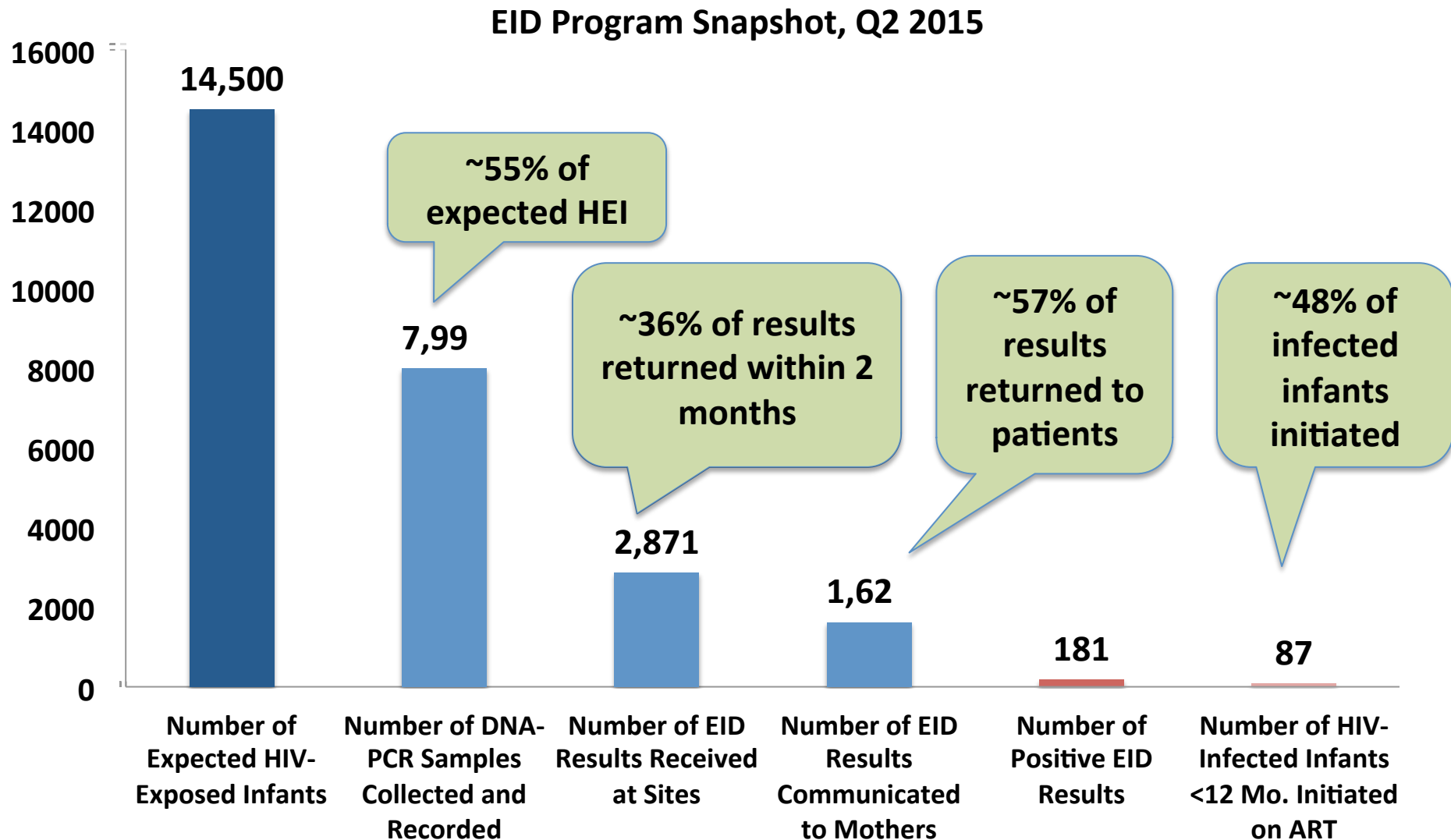
# Background of the Malawi EID Program

- 1 Malawi has 650 health facilities that do HIV exposed child follow-up<sup>1</sup>
- 2 Dried Blood Spot (DBS) sample collection for EID is done at these sites
- 3 The country has 9 conventional labs that provide EID testing
- 4 About 34,512 EID tests were done in 2015<sup>2</sup>

Source: 1. Integrated HIV Program Report Q3 2015, Ministry of Health, Malawi  
2. LIMS Data accessed at [www.eidmalawi.org](http://www.eidmalawi.org) on 15 July 2016 at 16:10

# Loss to Follow Up (LTFU) of HIV Exposed Infants (HEI)

➔ High estimated number LTFU of HEI at different stages of the cascade



# POC EID Pilot Design

## Objectives

- To assess the operational characteristics of a device to *inform an optimal national deployment strategy* scale up is made
- To understand the **patient impact of implementing POC** EID technologies on test turnaround times, retention, and ART initiation

## Methods

- **Period:** from September 2015 to June 2016
- **Sites Selection:** devices were placed at 7 sites
- **Baseline data:** data on conventional testing was collected retrospectively for same number of months preceding EID POC implementation at POC sites

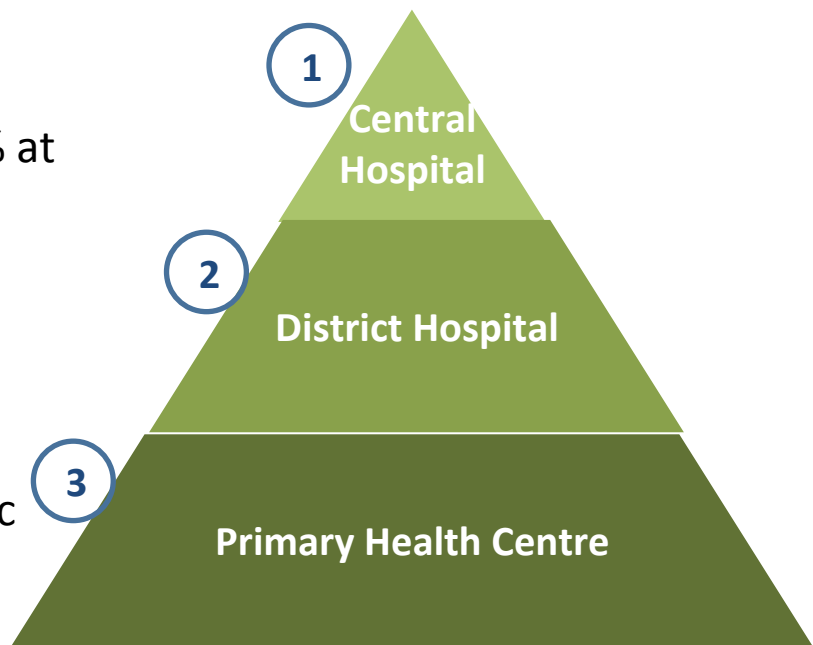
## Study Population

- **Mother-infant pairs (MIPs)** attending post-natal care services in need of EID testing
- **Babies less than 12 months of age** (national EID guidelines)

# Site selection

## Inclusion criteria:

- **High burden:** HIV prevalence among women >10% at each site
- **High volume:** High EID volumes maximize patient impact based on 2014 LIMS data
- **Strong buy-in:** Sites expressed interested in implementing POC EID
- **Patient / clinic flow:** Facility-specific patient / clinic flow informed device placement strategies



## Device placement strategies within a facility

- ✚ Testing at various entry points → Device in a common lab (1) (2)
- ✚ In-patient testing → Device in pediatric ward (1)
- ✚ Testing from mother-infant-pair (MIP) clinic → Device in MIP clinic (2) (3)
- ✚ Testing all HEIs in peripheral low volume sites → Device shared between 2 primary HCs or networked with peripheral sites (3)

# Preliminary Findings – Device Utilization

➔ **Device utilization:** Hospitals appear to be the “sweet spot” for POC EID, while device sharing by rural health centres can maximize device utilization as well

## Device Utilization By Type of Facility during the study period

Facility Type by Device Placement	Number of POC Tests/ Site	Proportion of Total Tests
ART clinic - Central Hospital	102	12.6%
Pediatric Ward -Central hospital	87	10.7%
Lab – District hospital	222	<b>27.4%</b>
Mother Infant Pair Clinic – District hospital	155	<b>19.0%</b>
Rural Health Centre	71	8.7%
Rural HC Sharing	176	<b>21.6%</b>
<b>Total</b>	<b>813</b>	<b>100%</b>

# Preliminary Findings – Entry point Deployment

➔ POC is likely to help find more HIV positive infants when deployed in the pediatric wards

Percentage of HIV Positive Infants by entry point within a clinic during the study period

Entry Point	HIV Test Result		Total	% Positive
	Positive	Negative		
PMTCT/ART/MIP	18	697	715	3%
Pediatric Ward - Inpatient	21	23	44	<b>48%</b>
Pediatric Ward - Outpatient	6	48	54	11%
<b>Total</b>	<b>45</b>	<b>768</b>	<b>813</b>	<b>6%</b>

# Preliminary Findings – Patient Impact

➔ POC testing allows for significantly reduced test turnaround times along the testing and treatment cascade as well as improved ART initiation rates

	Conventional	POC
TAT: sample collection to results received	56 days	0 days
TAT: sample collection to ART initiation	38 days	0 days
Proportion of results received within 60 days	41%	100%
Proportion of HIV+ patients starting ART	51.6%	91.1%



# Preliminary Findings - Acceptability

➔ POC EID user acceptability was largely positive for all operators

User Acceptability of the POC Device ( n=20 Operators interviewed)	
Ease of use	95% of operators
Ability to better treat and manage HIV-positive infants	95% of operators
Patients willing to wait for results	85% of operators
Patients willing to come back the next day	65% of operators
Device suitable for non-lab staff	95% of operators
Device suitable for all types of health facilities	55% of operators

# Operational Challenges

## Challenges During Implementation of POC EID

<b>Tracking ART initiation of referrals</b>	When infants are managed by a referring facility
<b>Poor documentation and weak linkages</b>	Children discharged/transferred out from inpatient care immediately after a test and before initiating treatment
<b>Device down times</b>	Absence of a local service/maintenance point
<b>Short shelf-life of test cartridges</b>	Especially earlier batches which expired in six months
<b>Difficulty to control device operation</b>	Some people learned to operate the device on the job without formal training
<b>Delayed in-patient initiation</b>	Delayed initiation of treatment among HIV-positive infants receiving in-patient care due to unstable medical conditions

# Key takeaways and Recommendations

- **POC machine largely accepted by end users including non-lab staff**
- **District Hospitals appear to be the “sweet spot” for maximizing POC EID utilization, while device sharing by rural health centers can increase device utilization as well**
- **Pediatric ward seems the main entry point to identify HIV+ babies.**
- **A number of operational challenges remain to be addressed.**
- **Final findings to be published soon**
- **MOH and partners should consider decentralization of EID testing using POC devices in order to allow for wider access to EID testing**

# Feedback? Questions?



**Zikomo!**

**Thank You!**

