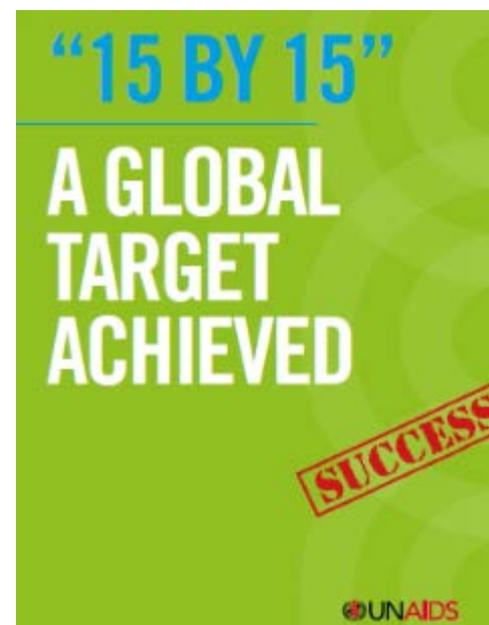
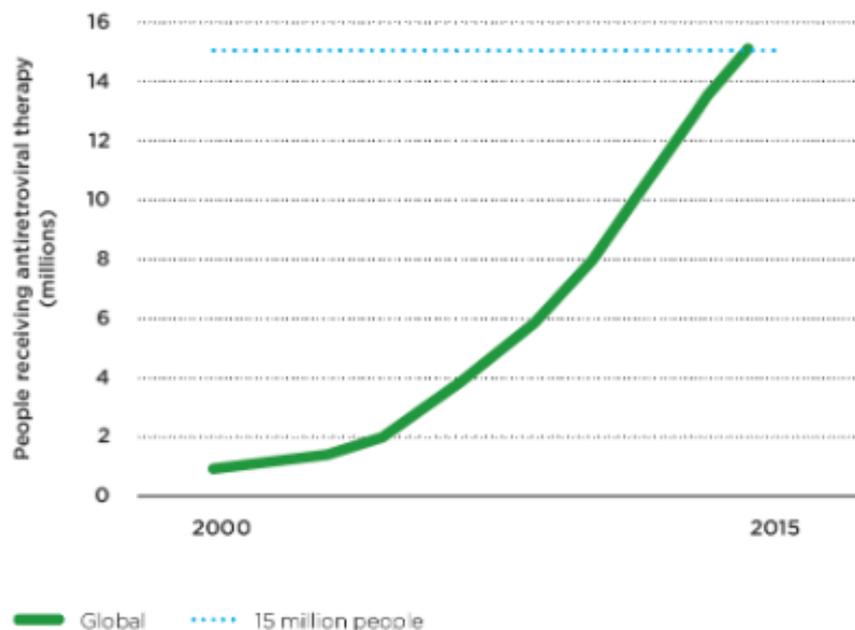


90-90-90

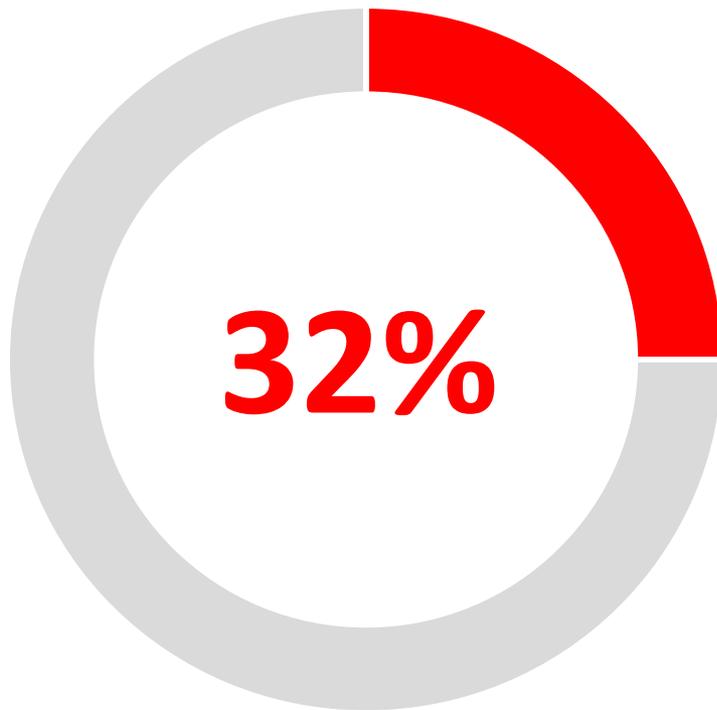
Improving access to infant and child
HIV diagnostic

2015 treatment coverage

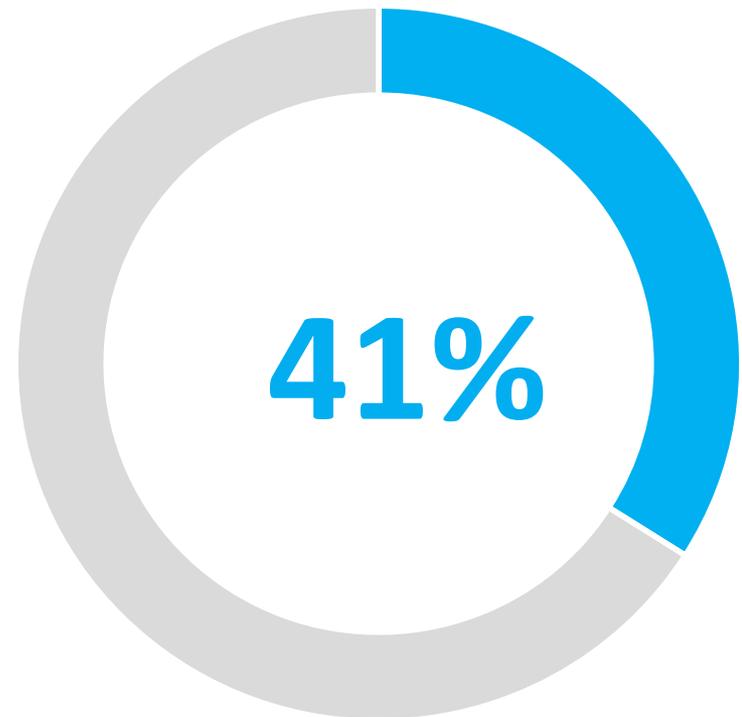
Number of people receiving antiretroviral therapy, 2000–2015



Global ART coverage is lower among children



Children



Adults

Ambitious, but achievable, new target



90%

diagnosed



90%

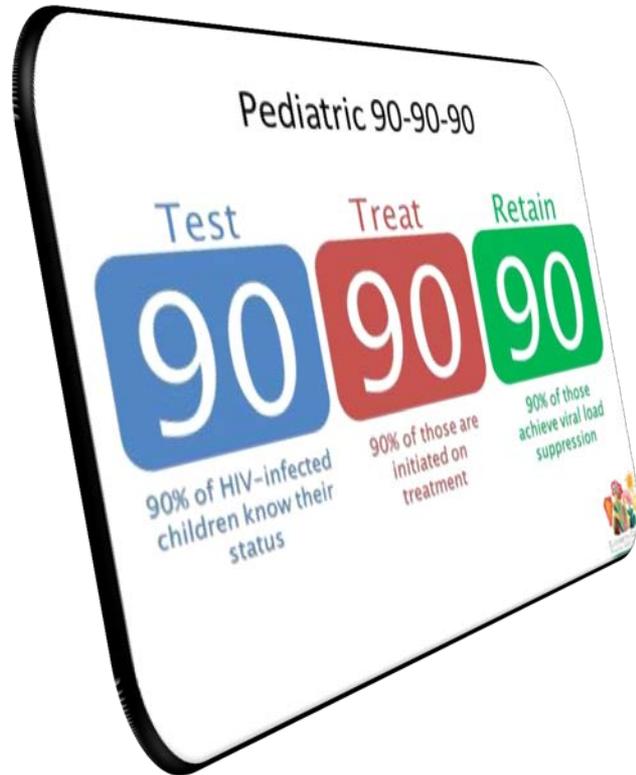
on treatment



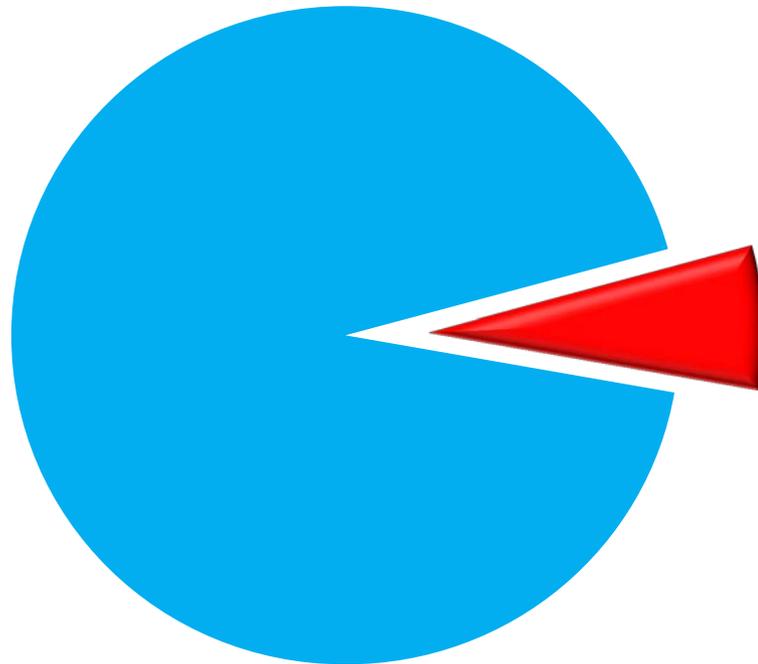
90%

virally suppressed

Looking at 90-90-90 from the child's perspective



**Children “only” account for about 6-7%
of people in need of ARV treatment**

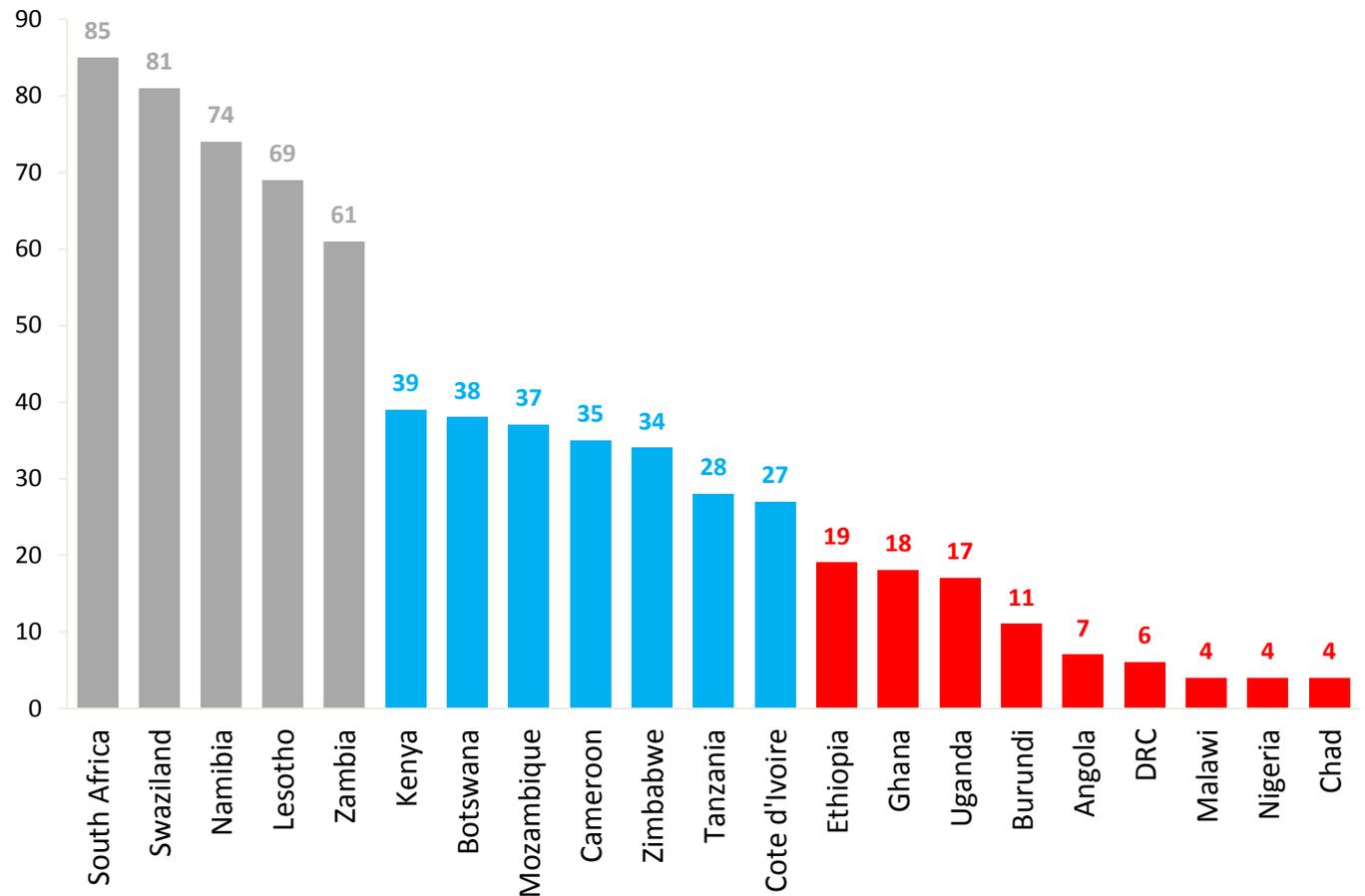


Children in need of ART

Why are people not accessing treatment?

- **Lack of knowledge of HIV status**
- **Punitive policies and laws**
- **Stigma and discrimination in health care settings and the community**
- **Stretched health care workers**
- **Disparities in access to affordable medicines**
- **Disparities in investments**

Access To Virologic HIV Testing (Early Infant Diagnosis) 2012



*Lesotho data represents 2011 coverage data

Source: UNAIDS, UNICEF and WHO, 2013 Global AIDS Response Progress Reporting, and UNAIDS modeling 2012 HIV and AIDS estimates.





Reduced commodity prices



■ \$ 150 million in costs savings over the next five years.

■ Will change the market for viral load testing in LMICs by improving access and competition.

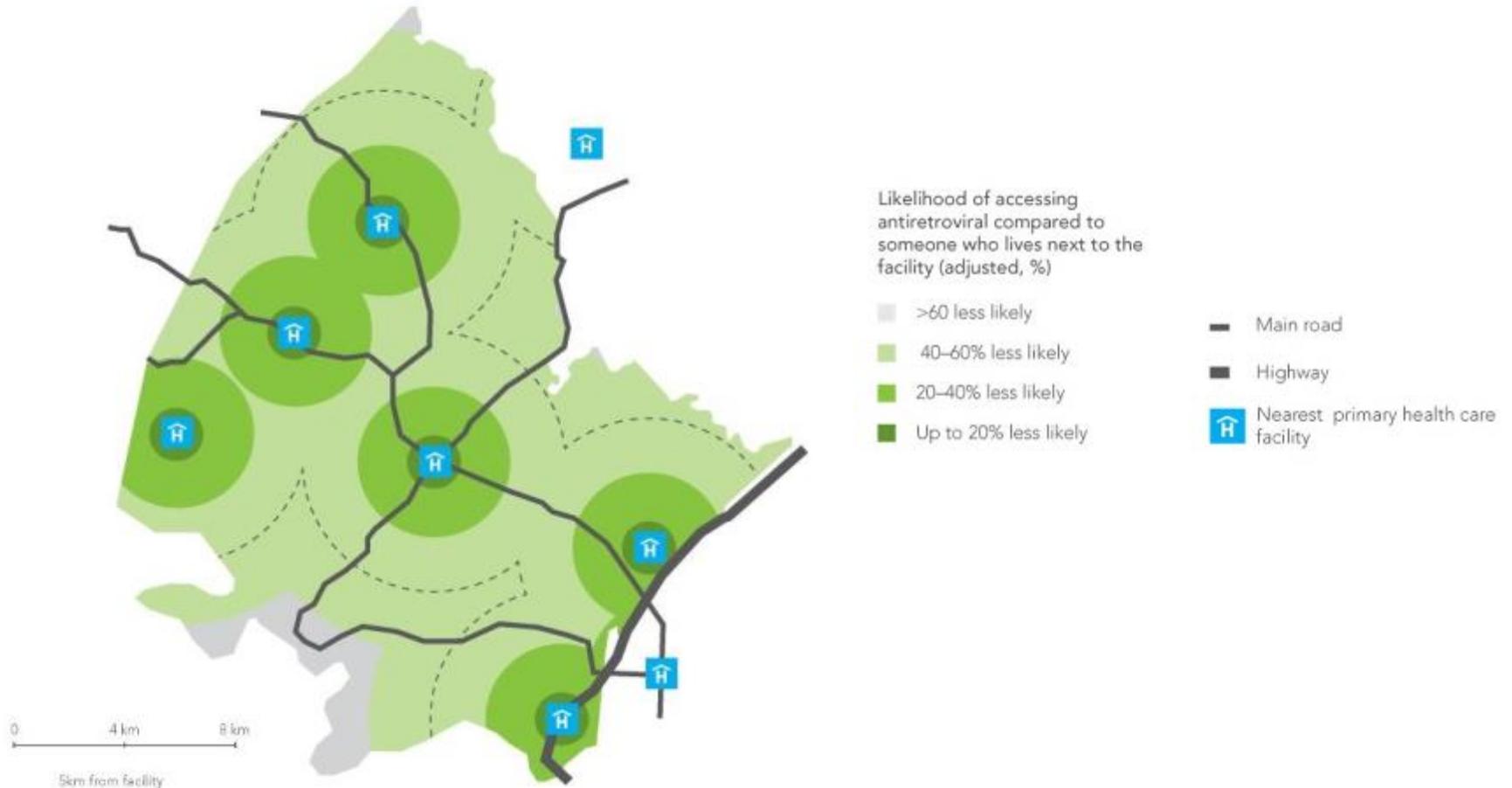




EID Agreement yields results



Location matters

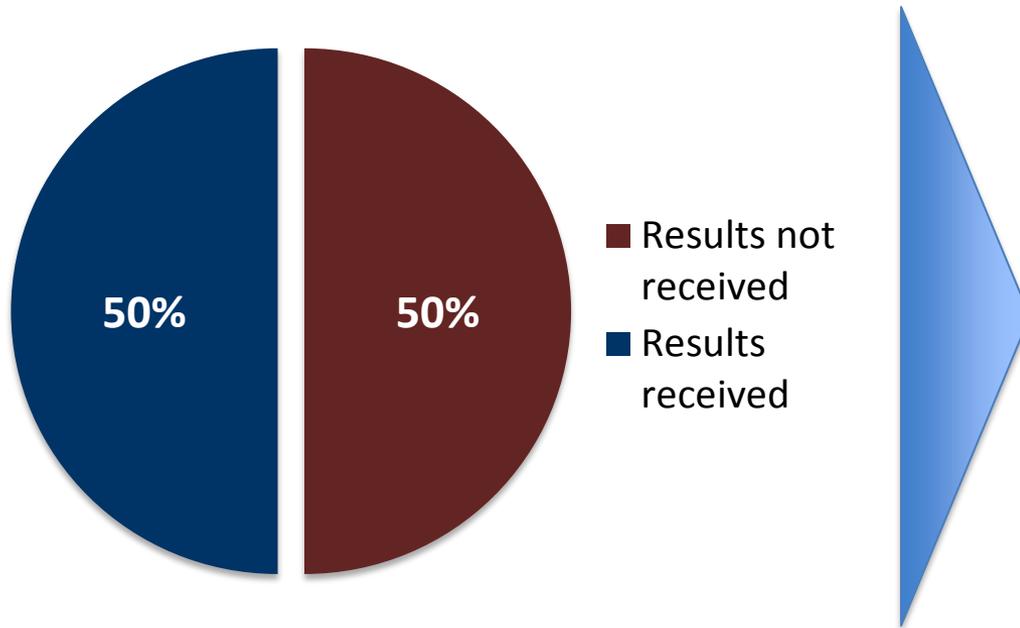


Relative likelihood of HIV-positive adults (15–49 years) accessing antiretroviral therapy due to the distance from their nearest primary healthcare facility.

Source: Location, Location: Connecting people faster to HIV services, UNAIDS; Geneva, 2013

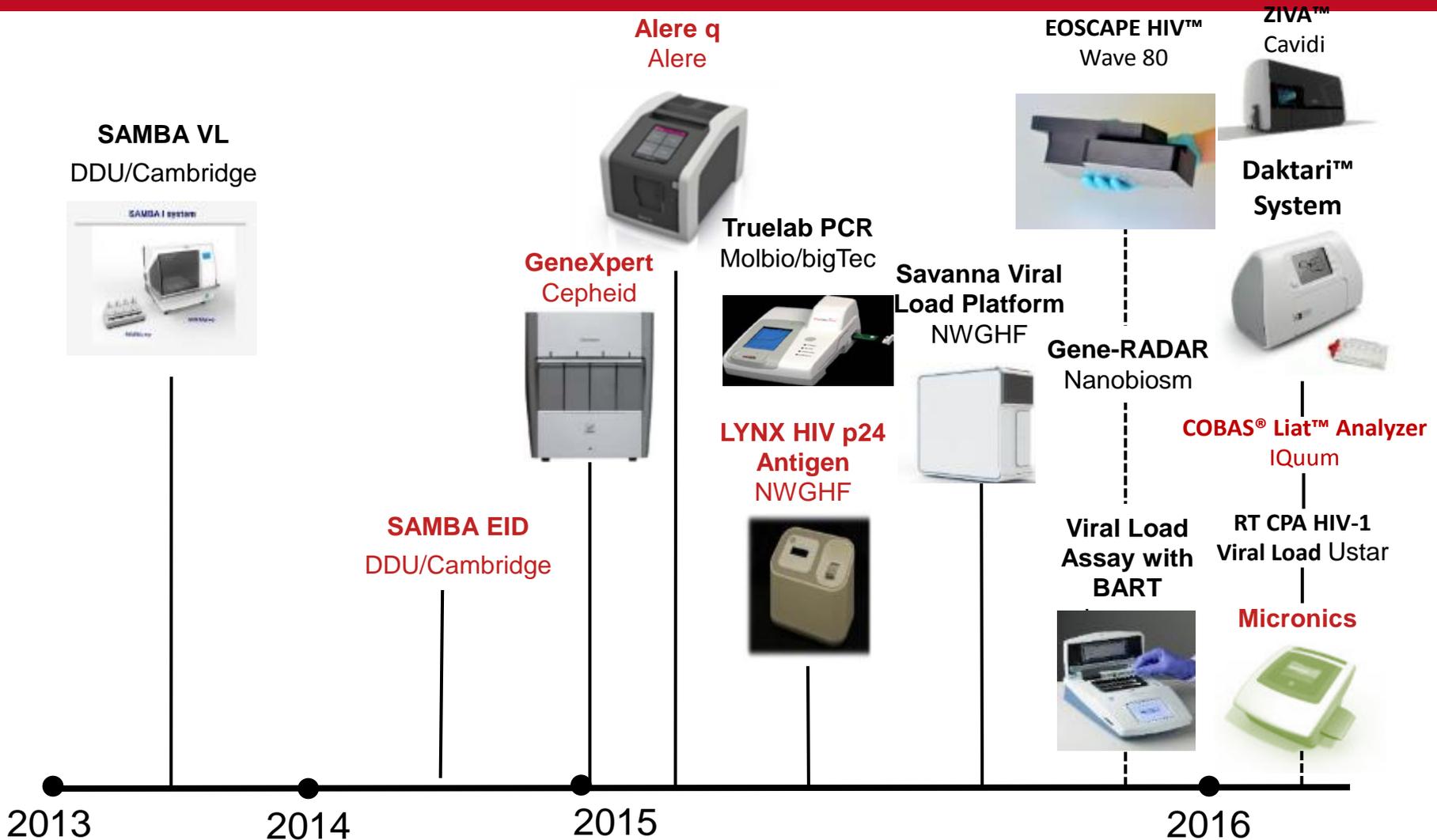
With conventional EID, many test results are never received by the infant or caregiver

Based on an average of 3 countries from a UNICEF review of EID service delivery, 50% of positive **EID** test results are NOT received by the patient¹



- Wasted reagents
- Wasted HR time
- Unnecessary repeat testing
- Infants lost to follow-up before receiving results
- Poor linkage between testing and care & treatment
- High infant mortality

POC HIV EID (and viral load) products: available and pipeline*



*Estimated as of December 2014; timeline and sequence may change. Platforms in red have specific EID assay.

No market launch date set by company.



Next stage POC Technologies – 2016

Device	Testing Menu	Core Technology	Predicted Availability
 	<ul style="list-style-type: none"> HIV VL & EID 	<ul style="list-style-type: none"> Manual NA extraction Isothermal NAAT Bioluminescence detection 	<ul style="list-style-type: none"> 2016
 	<ul style="list-style-type: none"> HIV VL & EID, TB+ DST, HBV, Malaria 	<ul style="list-style-type: none"> Automated NA extraction Gen 2 qPCR NAAT Fluorescence detection 	<ul style="list-style-type: none"> 2016
	<ul style="list-style-type: none"> HIV VL & EID 	<ul style="list-style-type: none"> Automated NA extraction Isothermal NAAT Fluorescence detection 	<ul style="list-style-type: none"> 2016
 	<ul style="list-style-type: none"> HIV VL 	<ul style="list-style-type: none"> Integrated NA extraction qPCR NAAT Fluorescence detection 	<ul style="list-style-type: none"> 2016
 	<ul style="list-style-type: none"> HIV VL 	<ul style="list-style-type: none"> Integrated NA extraction NAAT Fluorescence detection 	<ul style="list-style-type: none"> 2016
 	<ul style="list-style-type: none"> EID 	<ul style="list-style-type: none"> HIV p24 antigen Lateral flow detection 	 <ul style="list-style-type: none"> 2016

Next stage POC Technologies – Beyond 2016

	Device	Testing Menu	Core Technology	Predicted Availability
		<ul style="list-style-type: none"> HIV VL & EID, TB+ DST, HBV, Malaria 	<ul style="list-style-type: none"> qPCR NAAT Gen 3 Fluorescence probes detection 	<ul style="list-style-type: none"> Beyond 2016
		<ul style="list-style-type: none"> HIV EID, TB +DST, Malaria, STIs, others 	<ul style="list-style-type: none"> qPCR NAAT Microarray nanowire detection 	<ul style="list-style-type: none"> Beyond 2016
		<ul style="list-style-type: none"> HIV VL, TB + DST 	<ul style="list-style-type: none"> Isothermal NAAT 	<ul style="list-style-type: none"> Beyond 2016
		<ul style="list-style-type: none"> HIV VL, ebola, others 	<ul style="list-style-type: none"> Lab-on-Chip, real-time detection 	<ul style="list-style-type: none"> Beyond 2016
		<ul style="list-style-type: none"> EID, <i>E. coli</i>. Others 	<ul style="list-style-type: none"> NAAT 	<ul style="list-style-type: none"> Beyond 2016
		<ul style="list-style-type: none"> HIV & HCV VL 	<ul style="list-style-type: none"> Electrochemical amplification 	<ul style="list-style-type: none"> Beyond 2016

Beyond 2016 - device-free

Developer	Technology	Applications
 DIAGNOSTICS FOR ALL	<ul style="list-style-type: none"> • Paper-based microfluidics • Isothermal NAAT • Lateral flow detection 	<ul style="list-style-type: none"> • EID, Malaria, Ebola, other
 RICE <small>Unconventional Wisdom</small>	<ul style="list-style-type: none"> • Isothermal NAAT 	<ul style="list-style-type: none"> • EID, HIV VL, cryptosporidium
	<ul style="list-style-type: none"> • Isothermal NAAT • Lateral flow detection • Power-free heater unit 	<ul style="list-style-type: none"> • EID
	<ul style="list-style-type: none"> • Paper-based microfluidics • Isothermal NAAT 	<ul style="list-style-type: none"> • EID
	<ul style="list-style-type: none"> • Plastic microfluidics • Isothermal digital NAAT • Smartphone App 	<ul style="list-style-type: none"> • HIV, HCV, VL, <i>C.diff</i>, other

Barriers to new technologies

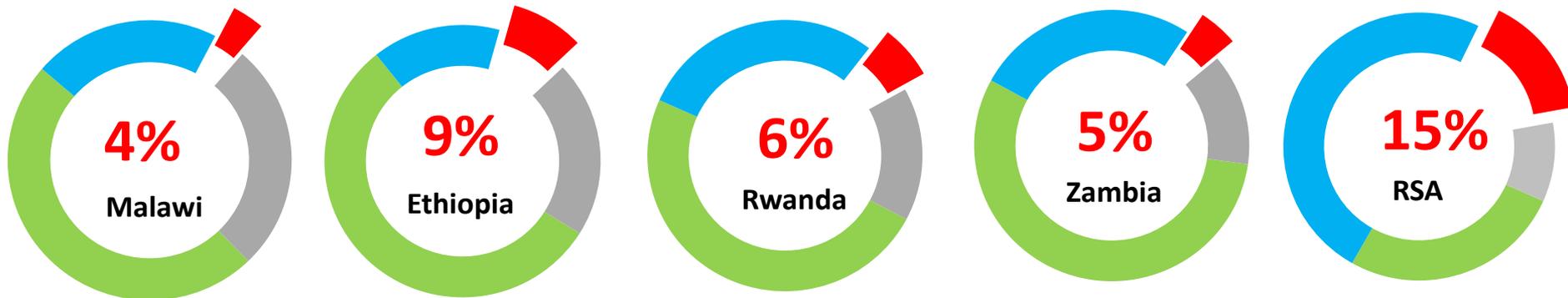
Pre-market barriers

- Small and uncertain market
- Insecure investment to complete development and commercialization
- Uncertain prioritization
- Difficult regulatory approval pathways

Post-market barriers

- Slow country evaluations of new technologies
- Unpredictable procurement practices
- Competition with existing platforms
- Low volumes and difficult quality management

The share of Lab portfolio varies by country



- ARVs
- Personnel
- Lab
- Other

Source: ASLM

Multiple actors in paediatric treatment

Advocacy / Political

- The Global Plan
- The Double Dividend
- UNITAID/MPP/DNDI paediatric initiatives
- IATT
- ...

Normative / Technical

- WHO guidelines
- UNICEF
- Implementers
- ...

Financing

- PEPFAR
- The Global Fund
- UNITAID
- Foundations
- Domestic
- ...

Partnering for success

