Evolution of PCR/DBS in the PMTCT program in Rwanda (2007-2011)

KARANGWA Chaste

Closing the Gap, Washington 20th July 2012

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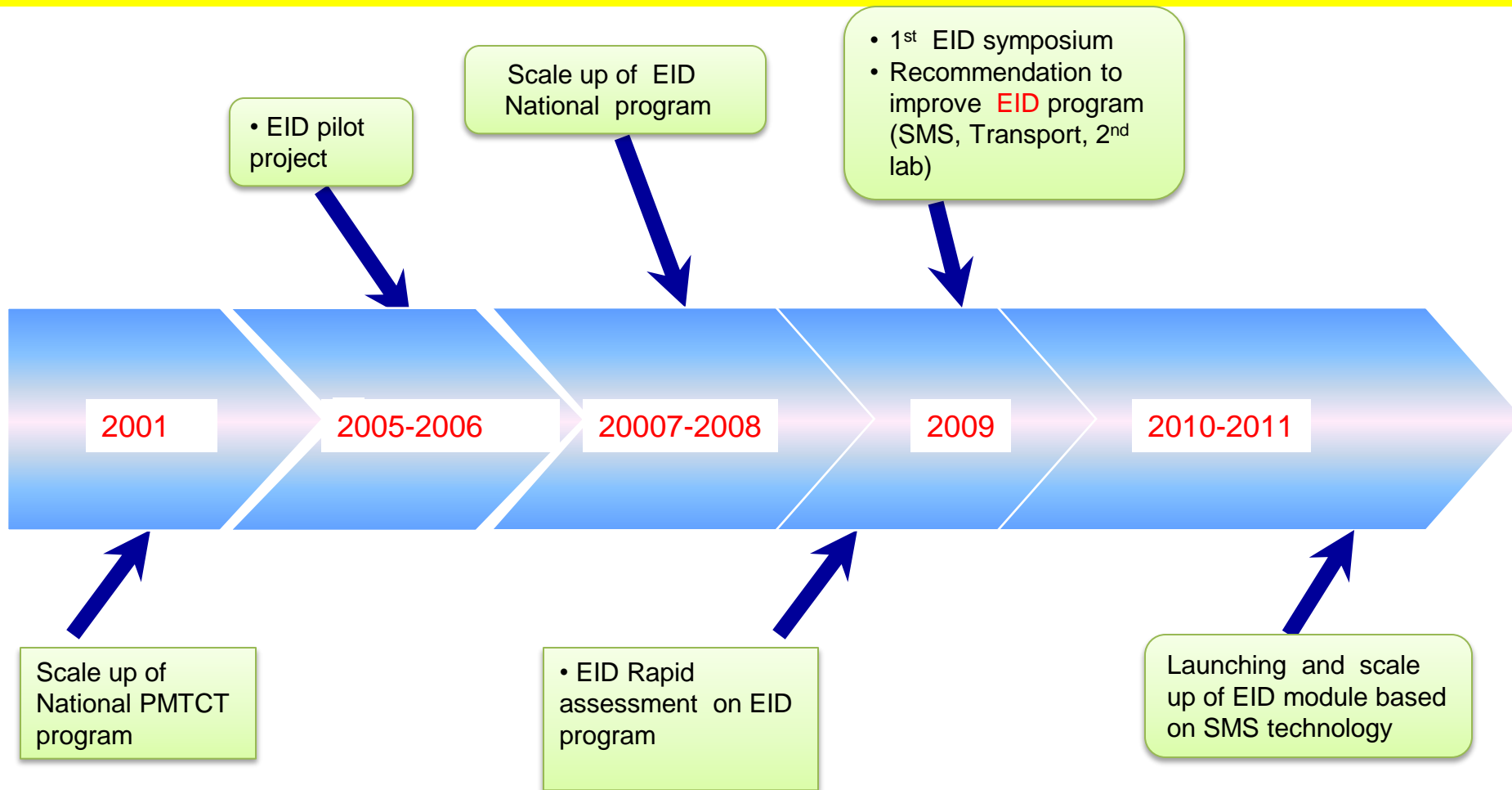Mohamed ENDRIS, Emmanuel MANZI

Outline

- **Background**

- **Objectives**

- **Methods**

- **Results**

- **Discussion**

- **Challenges**

- **Way forward**

Rwanda Context

- Population: ~12 m. inhabitants
- Rural population: 81 % (DHS III, 2010)
- Administrative framework
  - 4 provinces and Kigali City Council
  - 30 districts
  - 415 sectors/cells/villages
- Generalized HIV epidemic
  - 3% **prevalence in general population**
  - **3.7prevalence among women**
- Rapid scale up of HIV services(n=485)
  - 470 **VCT sites** (97%)
  - 450 **PMTCT sites** (92%)
  - 390 **ART sites** (80%)

Uganda

Rwanda

Tanzania

DRC

Burundi

National EID Program Milestones (2005-2011)

Scale up of EID National program

• EID pilot project

• 1st EID symposium
• Recommendation to improve EID program (SMS, Transport, 2nd lab)

| 2001 | 2005-2006 | 20007-2008 | 2009 | 2010-2011 |

Scale up of National PMTCT program

• EID Rapid assessment on EID program

Launching and scale up of EID module based on SMS technology

Background

- Number of PCR/DBS test sites increased from 81 in 2007 (representing a coverage of 28%) to 450 in 2011 (covering 100% of PMTCT sites)

- HIV exposed infants receive the first PCR test at 6 weeks and two other PCR tests are done depending on HIV status

- At 9 and 18 months PCR is done for confirmation when HIV rapid test is positive before transfer to C&T or end up when negative

Background cont

- In March 2010, the National Reference Laboratory (NRL) started to transmit PCR results from NRL directly to the site using SMS which greatly reduced turnaround from 45 days to less than 10 days

- This had an important influence on early infant diagnosis and timely management of HIV exposed infants

Linking EID to timely treatment

- For Positive PCR results:
  - Mothers are contacted for results notification

  - Referral of HIV+ infants - on/off site for ART initiation

  - ART for All infants below 18 months (According to the national guidelines all children below 5 years should start treatment)

Objectives

- To describe Evolution of PCR/DBS sites over years

- To describe the load of PCR testing over the time

- To discuss the importance of early diagnosis and its impact on early treatment of HIV exposed infants

Methods

- Data used were from the TRACnet system

- Each health facility across the country has to submit monthly reports into the TRACnet system using a standardized form.

- Data was analyzed with SPSS

- The issue of missing value within the TRACnet data base is not possible unless data not submitted by a health facility

Results

Geographic Coverage of HIV Services in Rwanda

HIV Services, Rwanda 2012
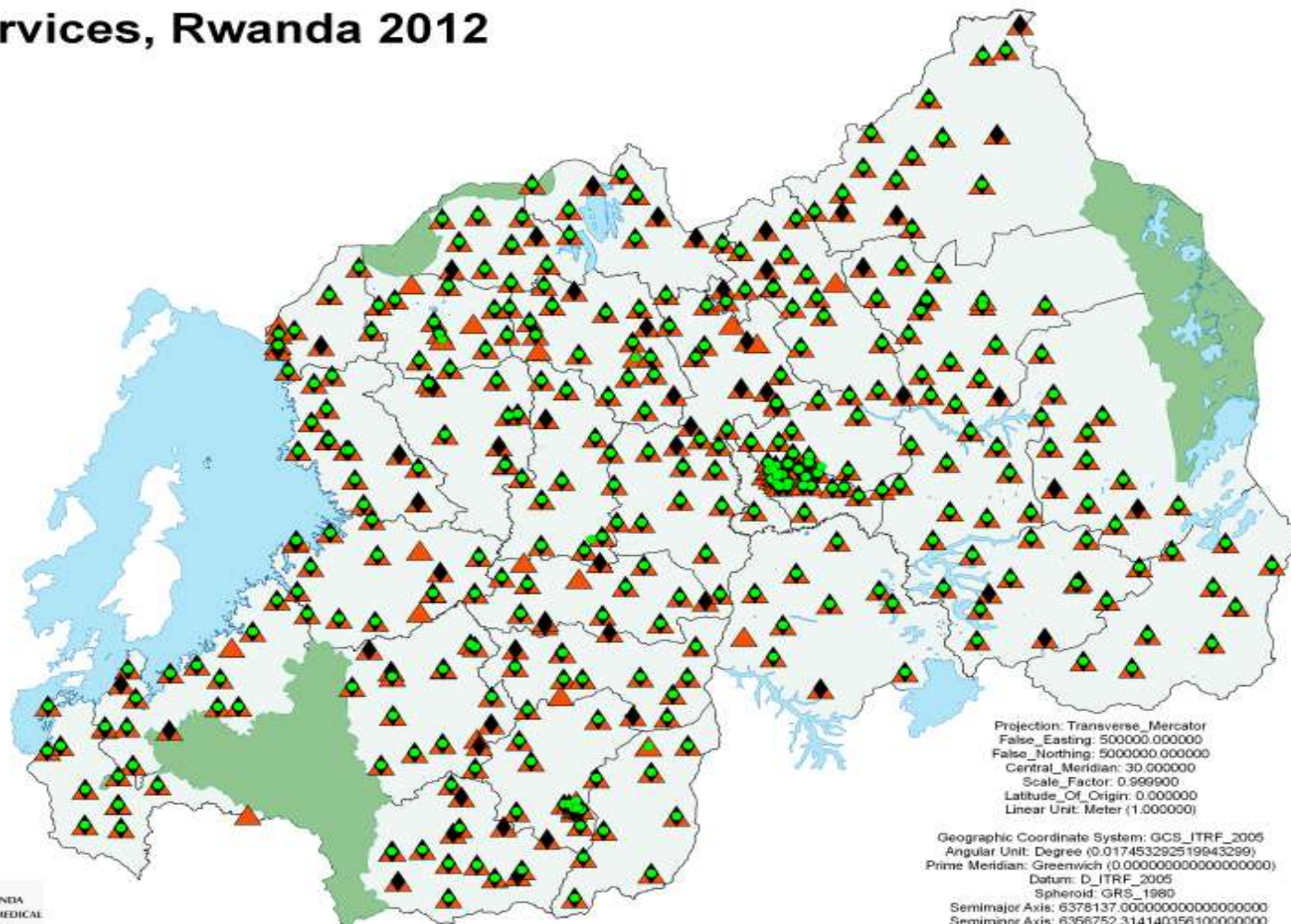
Projection: Transverse_Mercator
False_Easting: 500000.000000
False_Northing: 5000000.000000
Central_Meridian: 30.000000
Scale_Factor: 0.999900
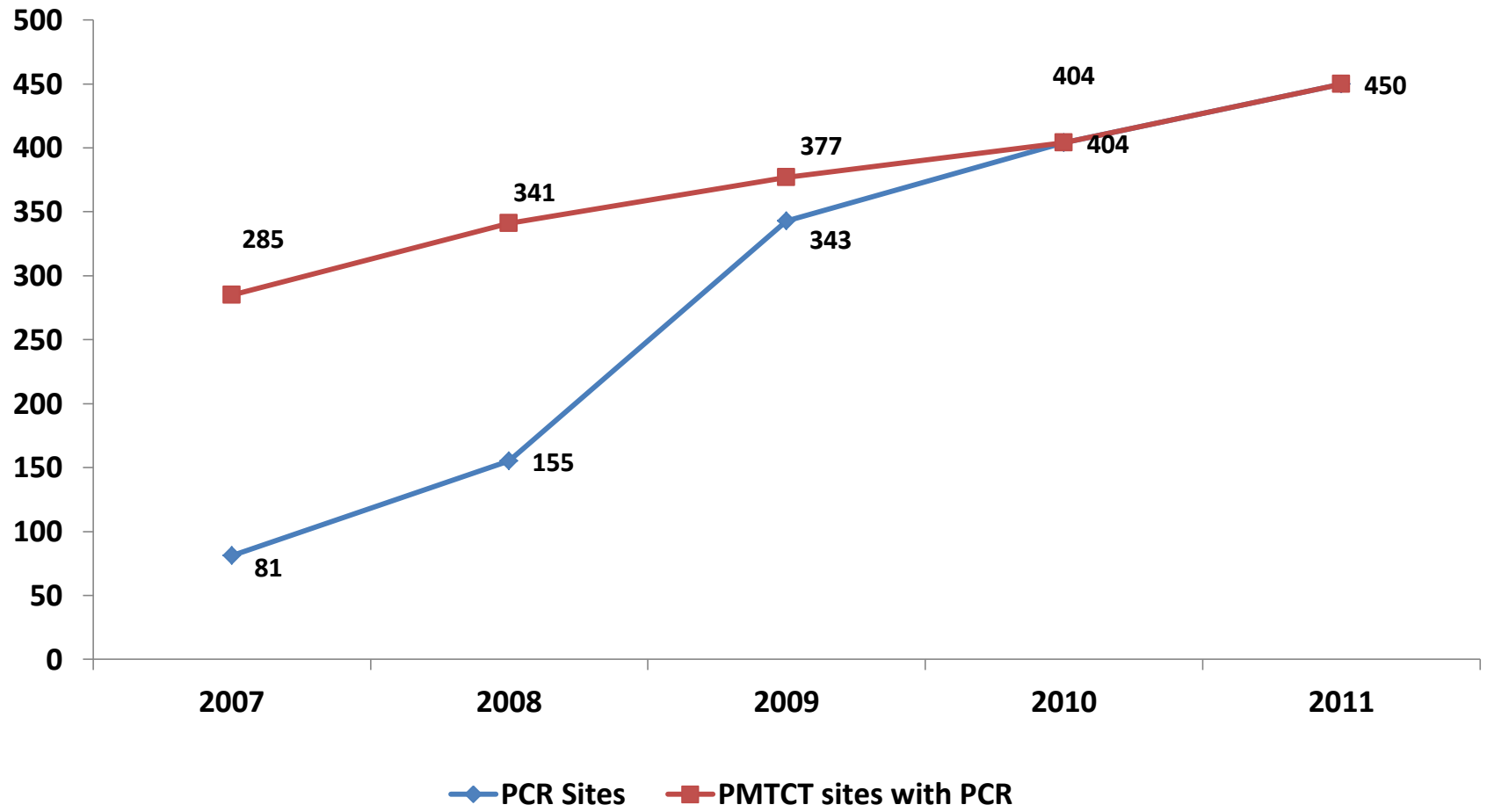Latitude_Of_Origin: 0.000000
Linear Unit: Meter (1.000000)

Geographic Coordinate System: GCS_ITRF_2005
Angular Unit: Degree (0.017453292519943299)
Prime Meridian: Greenwich (0.000000000000000000)
Datum: D_ITRF_2005
Spheroid: GRS_1980
Semimajor Axis: 6378137.000000000000000000
Semiminor Axis: 6356752.314140356100000000
Inverse Flattening: 298.257222101000020000

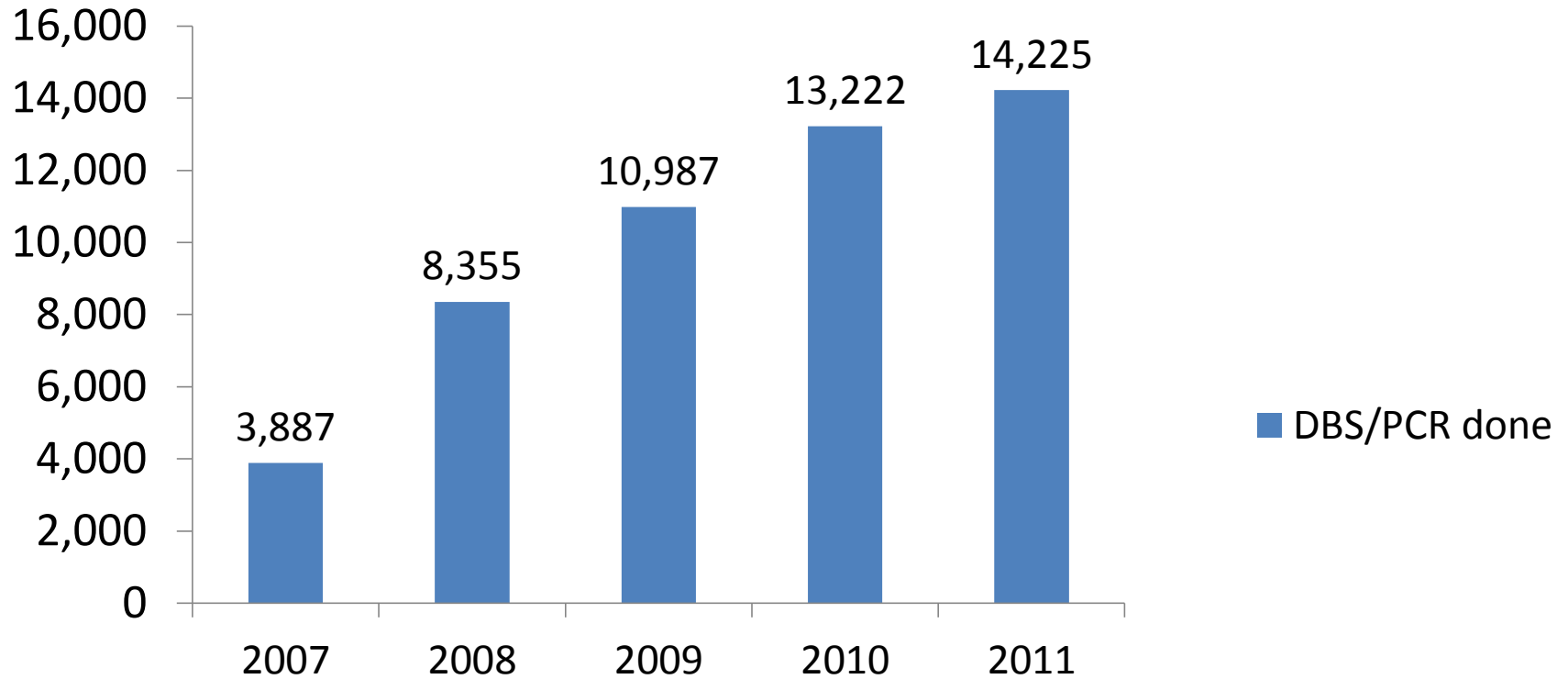Source: Administrative boundaries: Rwanda Ministry of Health
HIV Data: TRACnet System

Legend

- ART Facility
- PMTCT Facility
- VCT Facility
- Full Package
- Lakes
- National Parks
- District boundary
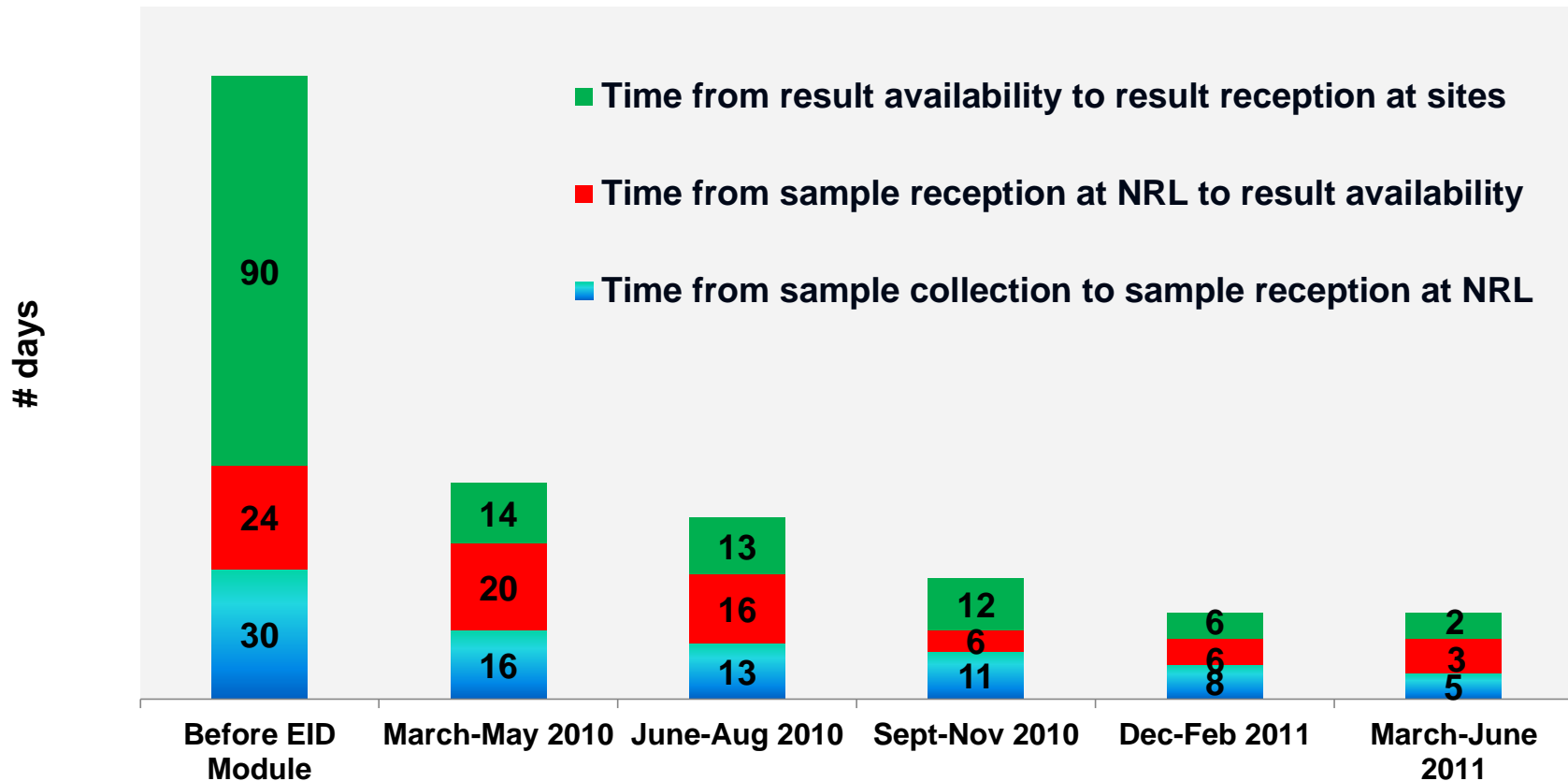
0 15,000 30,000 60,000 Meters

RWANDA BIOMEDICAL CENTER
A Healthy People, A Wealthy Nation
HIV AIDS STIs and Blood Borne Infections Division

Integration of EID in PMTCT programs 2007-2011

Trend of PCR done every year 2007- 2011

Trends in Turnaround Time of DBS Results

 # days

- ■ Time from result availability to result reception at sites
- ■ Time from sample reception at NRL to result availability
- ■ Time from sample collection to sample reception at NRL

Before EID Module	March-May 2010	June-Aug 2010	Sept-Nov 2010	Dec-Feb 2011	March-June 2011
90	14	13	12	6	2
24	20	16	6	6	3
30	16	13	11	8	5

Overall time from sample collection to caregiver notification has decreased from <u>144 days to 10 days</u>

% of HIV + infant aged below 18M initiating ART Sept 2010-Dec 2011

(TRAC Net Sept 2010-Dec 2011)
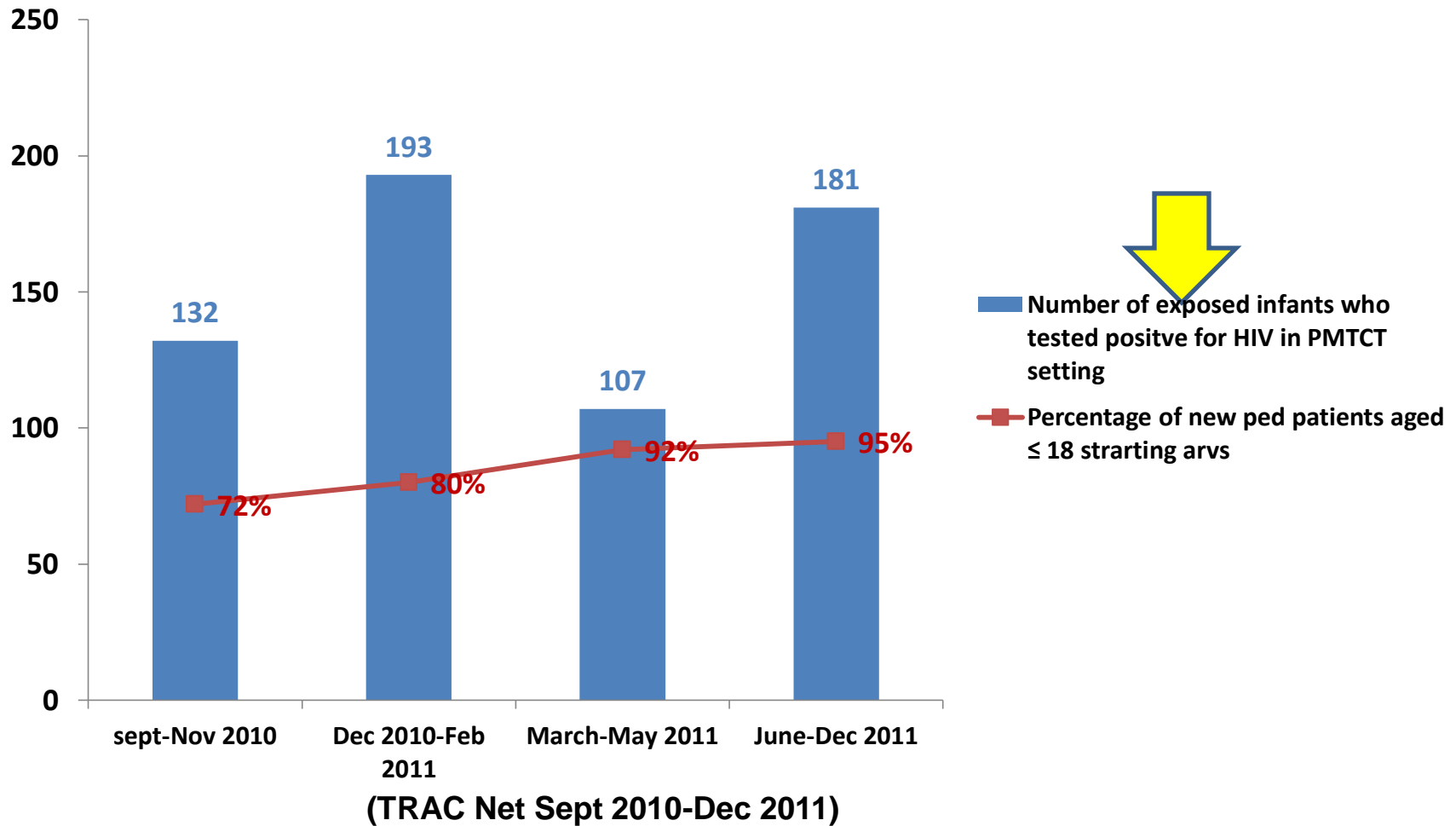
Discussion
&
Challenges

Discussion

- More than 90% of sites countrywide have PCR test capacity from 21% in 2007

- The load test of PCR has increased significantly over years since 2007 to 2011

- Turnaround of PCR results has decreased to less than 10 days which impacted positively on HIV exposed infants management

- PCR test contribute in early diagnosis and early treatment of HIV+ Exposed infants

Challenges

- Only one Lab performs PCR tests

- Linkage of early HIV diagnosis to enrollment into C&T

  - Referral and counter referral at PMTCT stand-alone sites

- Task shifting in HIV care is still limited to adult ART prescription

- Some sites encounters difficulties in sample transportation based on their geographical location

Way forward

- A second lab will start in January 2013
- Include a treatment indicator in EID TRACnet module
- Provide feedback SMS from Health facilities as to when the child started ART
- Upgrade PMTCT stand-alone sites to provide care and treatment services
- Task shifting for pediatric ART
- Capacity building and infrastructure rehabilitation