

# PEPFAR Care, Treatment and PMTCT Programs: Results, Directions, Gaps & Opportunities



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**PEPFAR Scientific Advisory Board Meeting  
January 6, 2011**

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US President's Emergency Plan for AIDS Relief (PEPFAR)



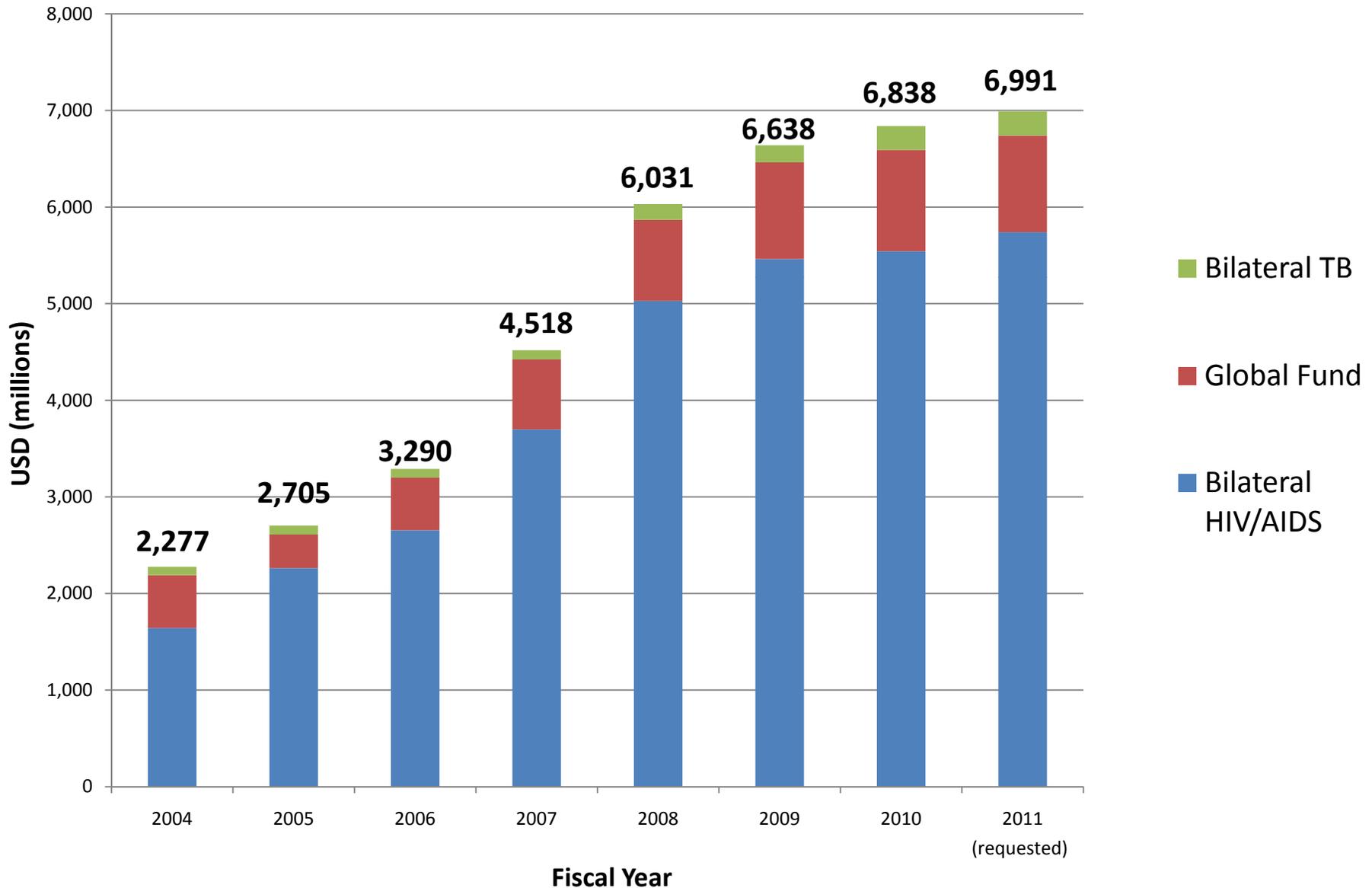
# Overview

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- Funding
- Results and programmatic developments
  - Care and Treatment
    - ART, Care and Support, OVC, TB/HIV
  - PMTCT
- Cross-cutting issues
  - Accelerating efficiency and impact
- Gaps and Opportunities



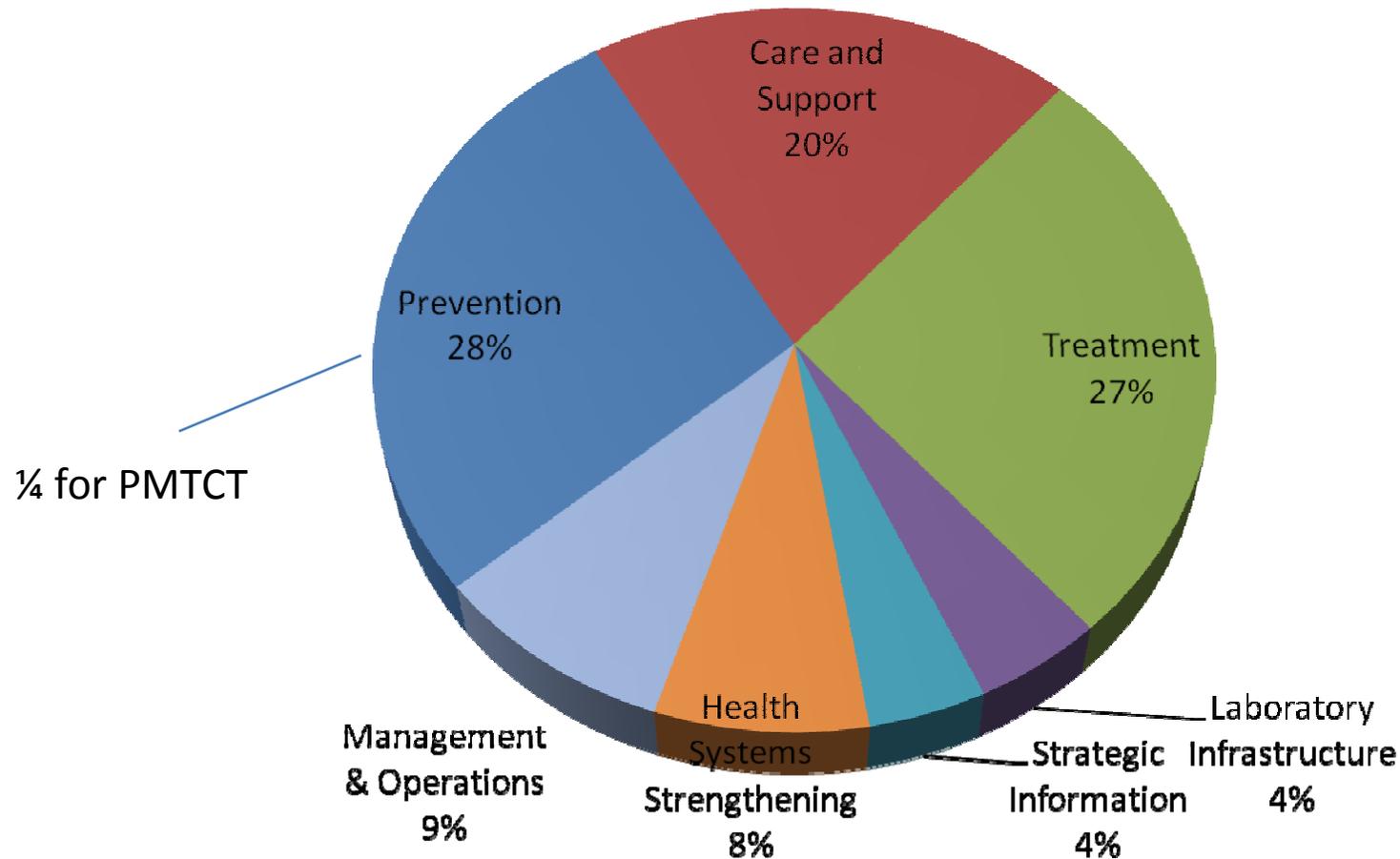
# PEPFAR Funding, Fiscal Years 2004-2011





# FY 2011 Planned Funding by Program Area

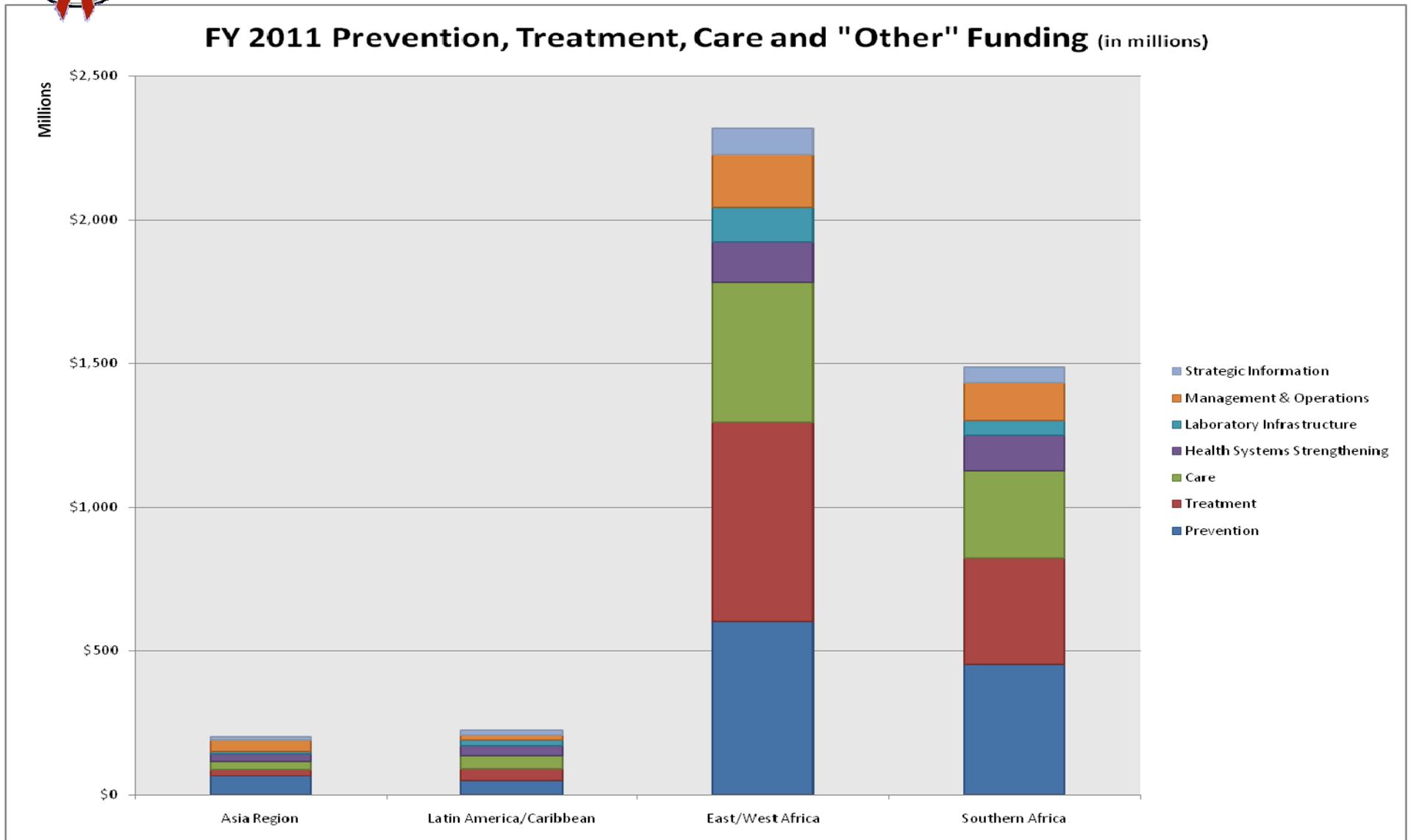
## FY 2011 PEPFAR Operational Plan (COP/ROP) Planned Funding by Program Area



\* FY 2011 funding amounts reflect PEPFAR planned funding in Country and Regional Operational Plans. Funding amounts are draft and subject to change based on final approval decisions.



# FY 2011 Operational Plan Funding by Region



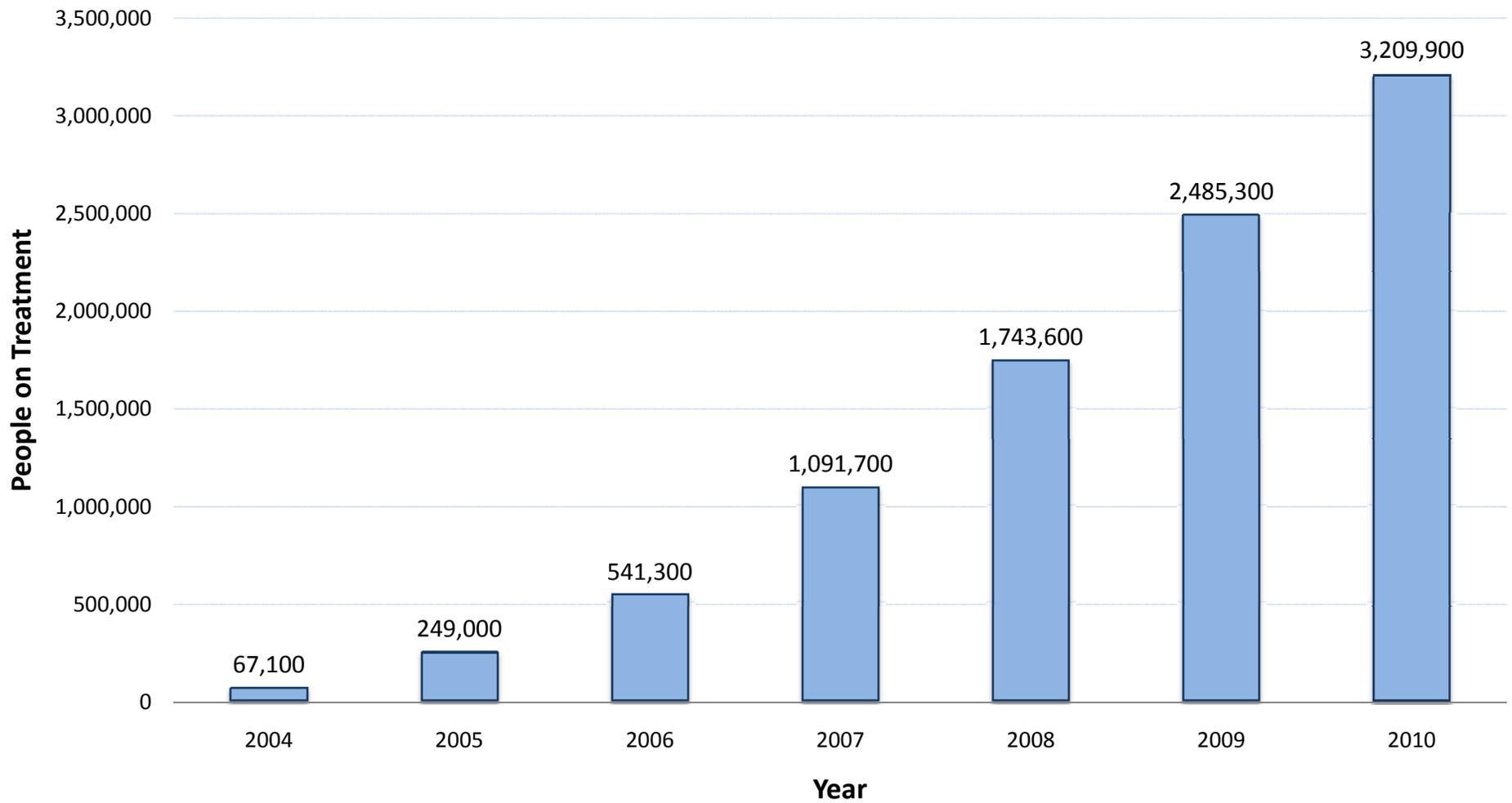
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# Care and Treatment





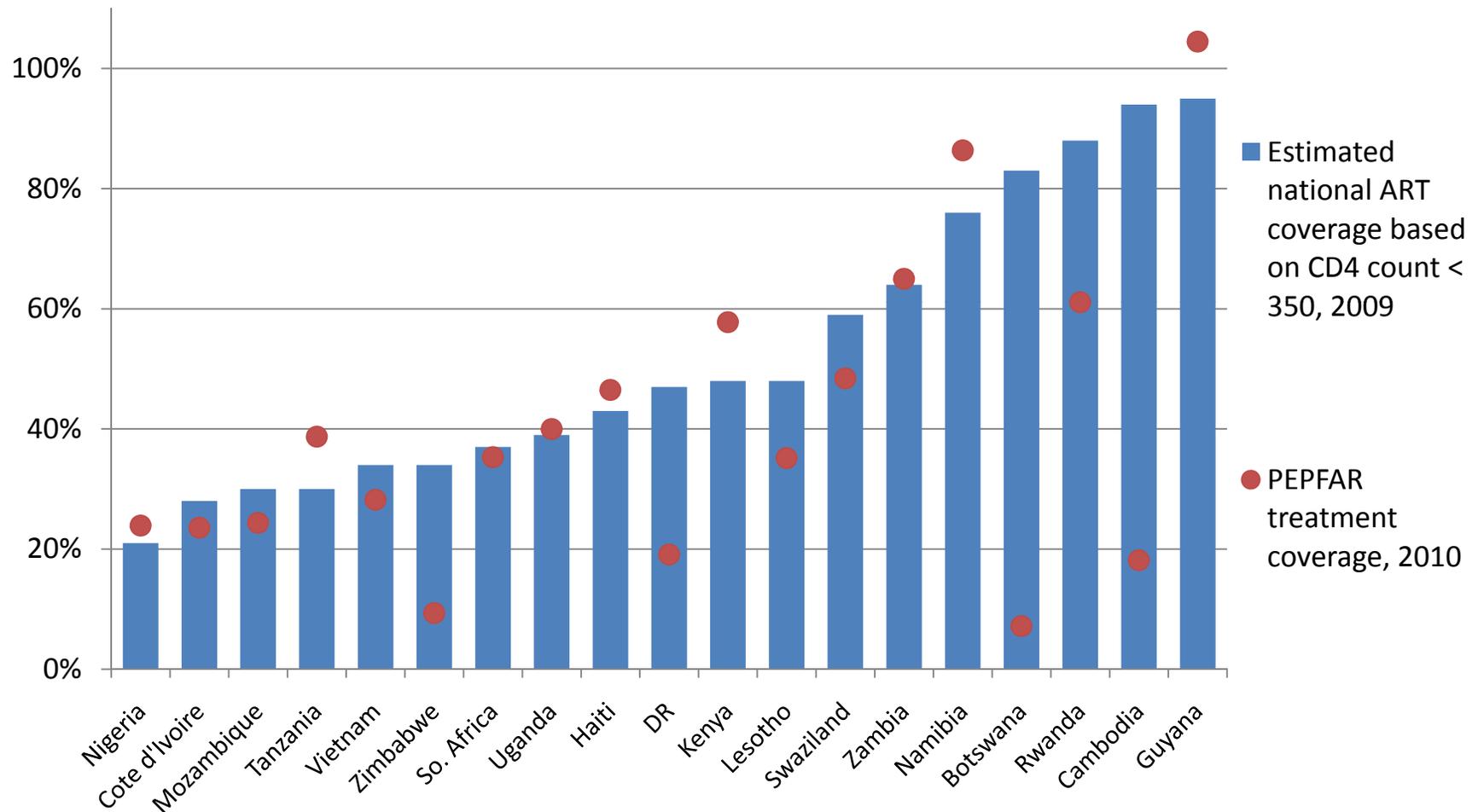
## Number of People Directly Supported on Treatment by PEPFAR







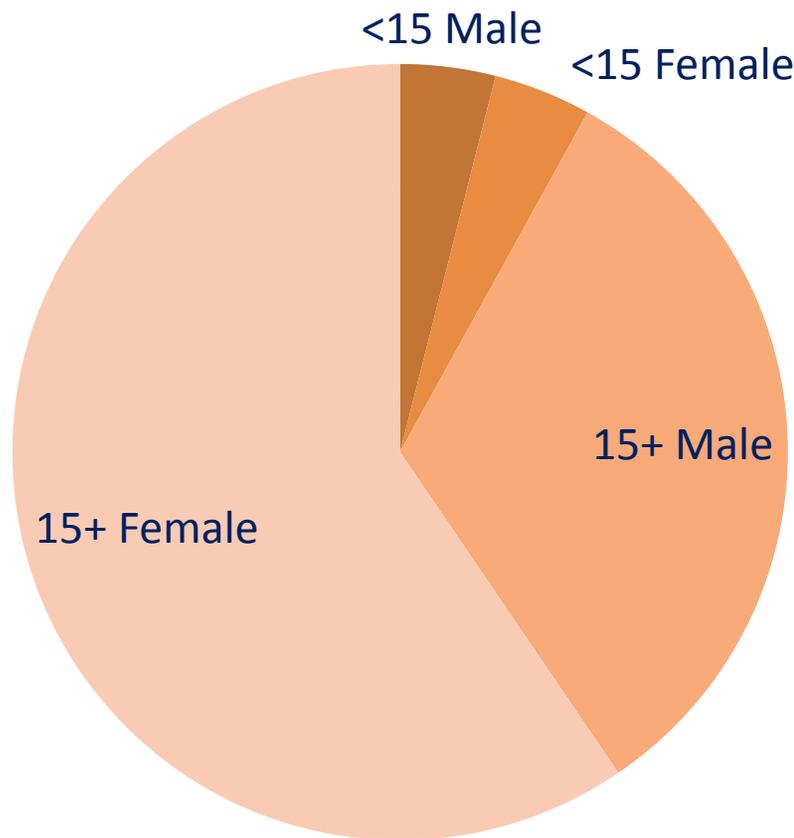
## Estimated National (2008-09) and PEPFAR (2010) ART Coverage



Note: The national estimate of coverage is from the *UNAIDS Report on the Global AIDS Epidemic, 2010*. The PEPFAR coverage estimate is constructed by using as a numerator the FY2010 APR result and a denominator of the estimate of need from the *UNAIDS Report on the Global AIDS Epidemic, 2010*. While PEPFAR coverage may appear to exceed national estimates, the range of plausible values that accompany the UNAIDS point estimates may in fact surround the PEPFAR estimate.



## Adults and Children with Advanced HIV Infection Receiving ART



Subgroup	Number	Percent
15+ Female	1,910,000	59.51%
<15 Female	130,648	4.07%
15+ Male	1,041,600	32.46%
<15 Male	127,046	3.96%
<1	23,820	0.74%



## Advancing Treatment Coverage and Regimen Quality

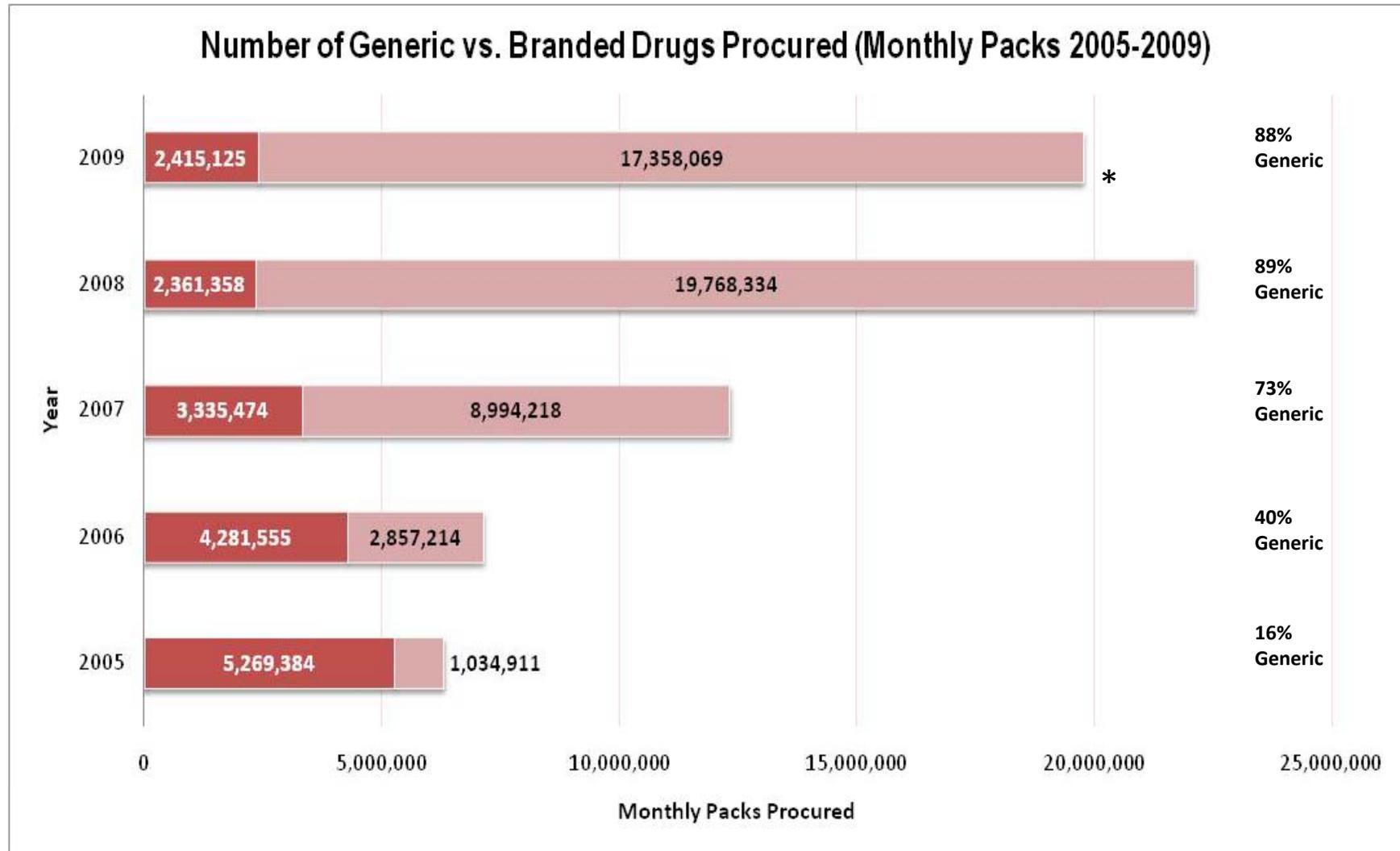
### 2011 PEPFAR Technical Considerations

“As part of PEPFAR’s support of high-quality ART programs, PEPFAR country teams should support national stakeholders in transitioning to the ART regimens recommended in the 2010 WHO Treatment Guidelines, as follows:

- Countries should take steps to progressively **reduce the use of stavudine (d4T)** ...
- First line regimens should consist of a non-nucleoside reverse transcriptase inhibitor (NNRTI) + 2 nucleoside/nucleotide (NRTI) reverse transcriptase inhibitors, one of which should be **zidovudine (AZT) or tenofovir (TDF)**.
- Second-line ART should consist of a ritonavir-boosted protease inhibitor (PI) plus two NRTIs, one of which should be AZT or TDF, based on what was used in first-line therapy. **Ritonavir-boosted atazanavir (ATV/r) or lopinavir/ritonavir (LPV/r)** are the preferred PIs.”



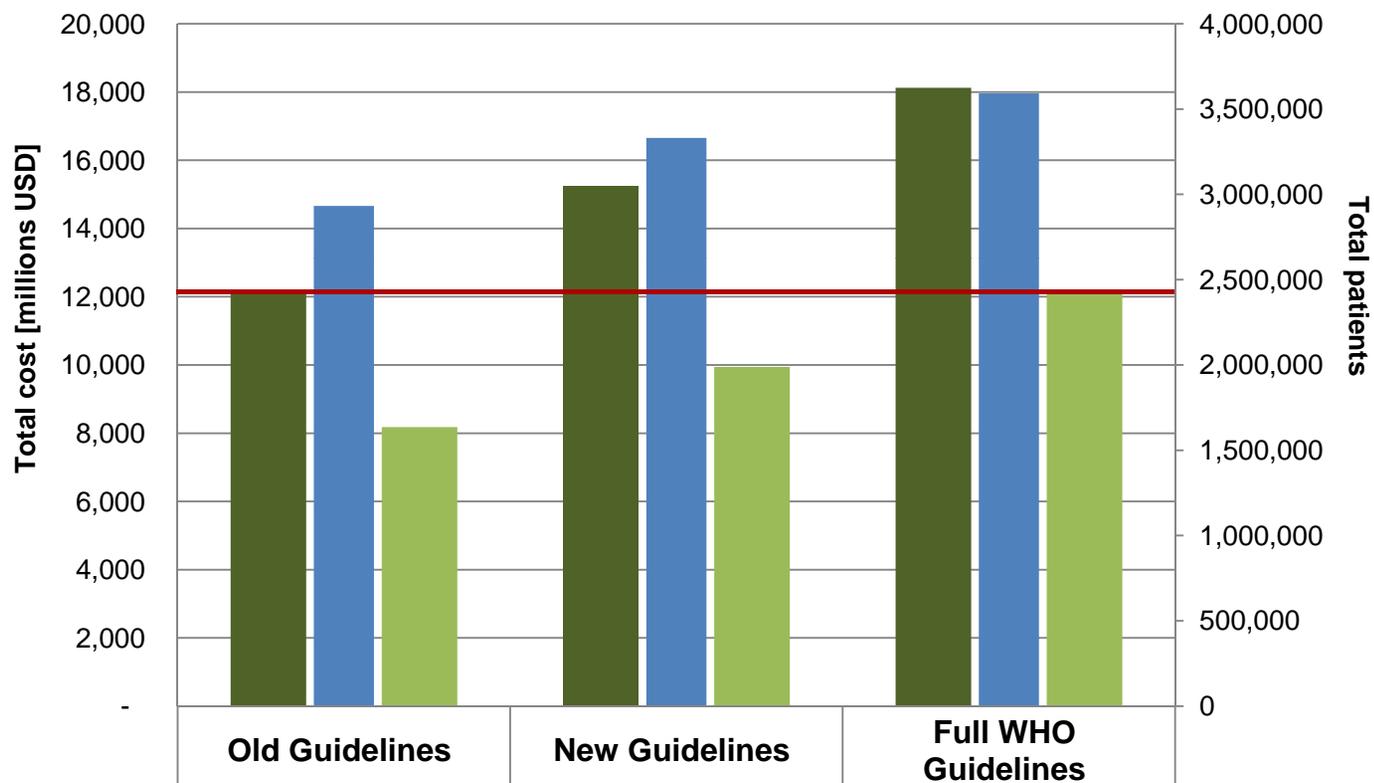
# PEPFAR's uptake of generic drugs



\* pack volume decreased in 2009 due in part to increased purchasing of fixed dose combinations



# Effects of Reduced Drug Prices and Task-shifting on Costs/Number on ART in South Africa (2016)



	Old Guidelines	New Guidelines	Full WHO Guidelines
■ Total cost (Full cost)	12,200	15,251	18,125
■ Total cost (Reduced cost)	8,180	9,946	12,077
■ Total patients initiated on ART	2,932,000	3,331,000	3,592,000



## HIV Drug Resistance Surveillance/Monitoring

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- PEPFAR has relied largely on and supported the WHO ResNet Program, including 3 elements:
  - The highest priority is the monitoring of HIVDR Early Warning Indicators in ART clinics.
  - Survey to monitor the emergence of HIVDR and factors potentially associated with HIVDR in a patient cohort during the first 12 months of ART.
  - Threshold survey evaluates transmitted HIVDR; this method is the lowest priority.

Country	Early Warning Indicators Survey	WHO Monitoring Survey	Threshold Survey
Botswana	16 sites collected indicators in 2008		
Burundi		2 sites in 2009, ANRS has not sent data to country	
Barbados	Implementing		
Cambodia			2008-09 not analyzed due to # of non-amplified specimens
Cameroon	Piloted in 10 sites in 2008, small sample size, going to 40 sites in 2010		
Ethiopia	14 sites in 2008, planned 63 sites in 2010		completed in 2007, also in 2009
Ghana	10 site pilot in 2007		completed in 2009
India			VCT site in 2006-07, in ANC in 2007-08
Indonesia	4 sites in 2009		IDUs in 2007-08
Malawi	103 sites in 2007	retrospective in 2 sites 2007, prospective in 4 sites 2009-10	2006 conducted
Mozambique	17 sites in 2008, 27 in 2009	Pediatric monitoring in 2009	
Namibia	Piloted in 2008, 9 sites in 2009		2006, 2008, planning for 2010
Swaziland	4 sites in 2009	2 sites in 2009	Completed in 2006



# Need for More Actionable HIV DR Information

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- In patients who fail treatment in RLS, estimating proportions of specific resistance mutations and comparing regimens
  - Possibility of comparing first line regimens
  - Predicting success of second line therapy
  - Salvage therapy and recycling drugs
- Differences in resistance pathways in subtype C and other virus
- Understanding the extent to which individual, site level and program level variables are associated with treatment failure and HIVDR -> targeted interventions to increase therapeutic success.

# Pediatric Care and Treatment

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- ~ 2.5 million children (<15y) HIV+; 90% live in Africa
- ~1.3 million need treatment, but less than 1/3 in need are receiving it
- Without treatment, 33% of HIV+ infants die by 1 year of age and 50% by 2 years of age
- Children account for 6% of prevalent HIV infections, but 16% of new infections and 14% of AIDS deaths; thus burden is out of proportion to absolute numbers





## Expanded Access to Pediatric Treatment

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- PEPFAR has also continued to expand access to treatment for children
- PEPFAR supported **201,500** children (0-14) on treatment in 2009, compared with only 4,800 in 2004.
- The share of those receiving PEPFAR-supported treatment who are children rose from 3 percent in 2004 to 8 percent in 2009.



# Gaps in Pediatric Care and Treatment

1. Low treatment access in children
  - Coverage among adults is higher globally and also in most high-burden countries
  - Majority of children on treatment are older, missing the youngest and most vulnerable.
2. High rates of loss to follow-up among HIV-exposed and infected children
3. Growing #'s of Adolescents Living with HIV
4. Inadequate access to optimal antiretroviral regimens for children
  - Fragmentation of the pediatric market
  - New challenges regarding the need to use protease inhibitors as first-line agents.





## Countries with 2-fold or Greater Adult vs. Pediatric ART Coverage

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Country	Adult ART coverage	Paediatric ART coverage
Cameroon	27%	11%
<b>Cote D'Ivoire</b>	29%	15%
<b>Mozambique</b>	32%	14%
<b>Uganda</b>	43%	18%
<b>Tanzania</b>	35%	17%
<b>Nigeria</b>	23%	10%
Ghana	25%	12%
Lesotho	50%	23%



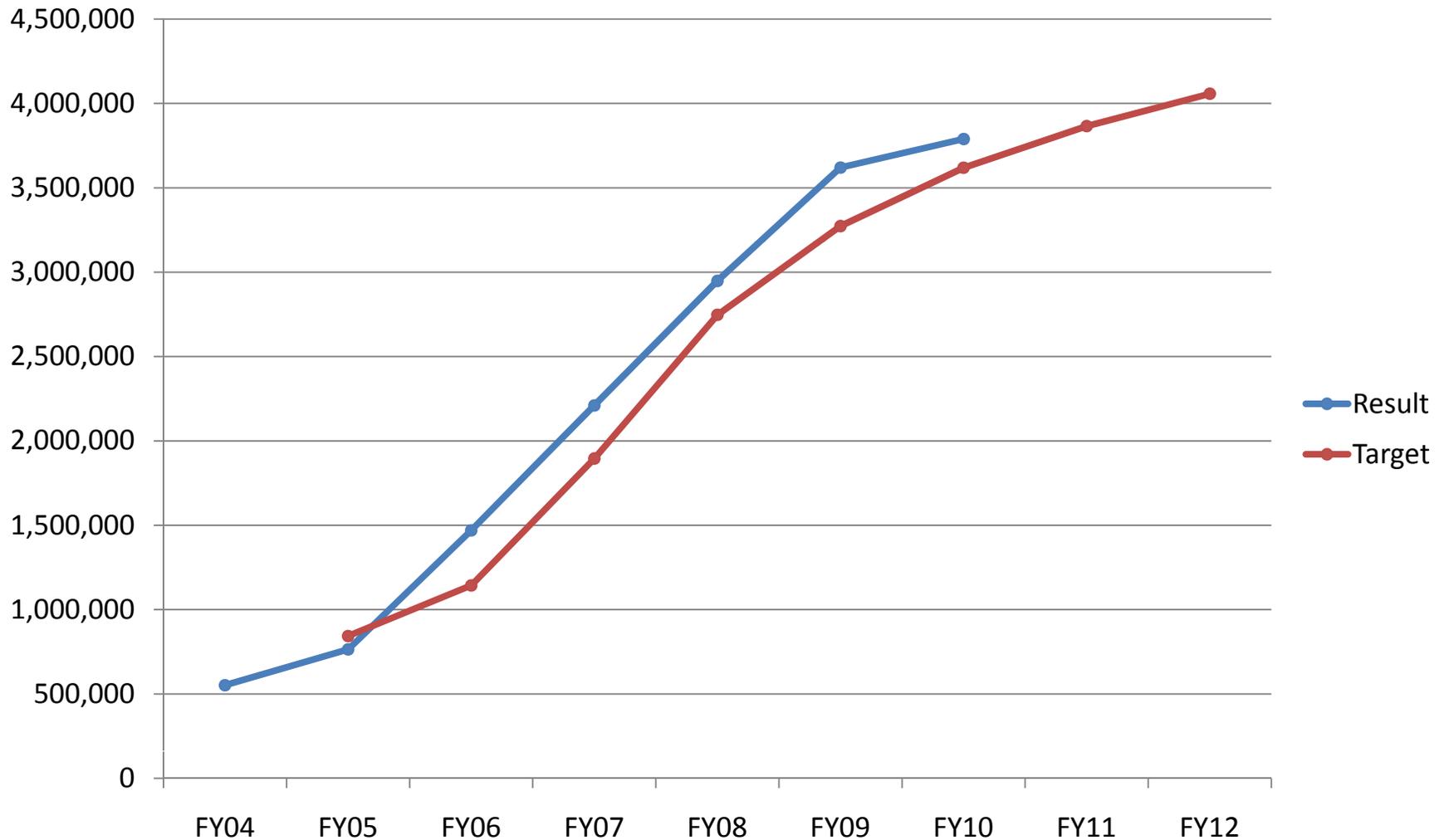
# Reasons for Low Coverage in Children

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- Low access to pediatric testing:
  - Early Infant Diagnosis of HIV via PCR
  - Other strategies for such as routine testing of sick children & testing children of adults in care and tx
- HR constraints: HCW not comfortable with initiating /managing young children on ART
- Pediatric services remain highly centralized
- Lack of integration of HIV services with routine MNCH platforms in facilities and communities



# PEPFAR: Number of Orphans and Vulnerable Children Served





# Key Issues for Orphans and Vulnerable Children Programs

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- **Improved sustainability and growing country ownership due to increased focus on:**
  - **Social Services Systems Strengthening** – PEPFAR recently hosted conference on human capacity development in child and family social services for 18 country teams, with senior ministerial staff and UNICEF.
  - **Community Safety Nets** – Building capacity within indigenous organizations to provide frontline social support to vulnerable children and families
  - **Family Stability** – Programs emphasize household economic and food security as a foundation for enabling affected families to care for OVC needs in the long term



# Developments in Care and Support

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- **Increasing decentralization of Care services** – integration into primary care and community settings
- **Increasingly comprehensive programs:** PEPFAR programs supporting key elements of Care and Support, including provision of cotrimoxazole, water/sanitation, malaria (ITNs), nutritional assessment, pain management, prevention with positives
- **Linkage and Retention in Care:** 10 Southern African countries were convened, shared data and innovative approaches to improve initial referral into care and improve retention, especially pre-ART; significant research discussed and underway



# TB/HIV

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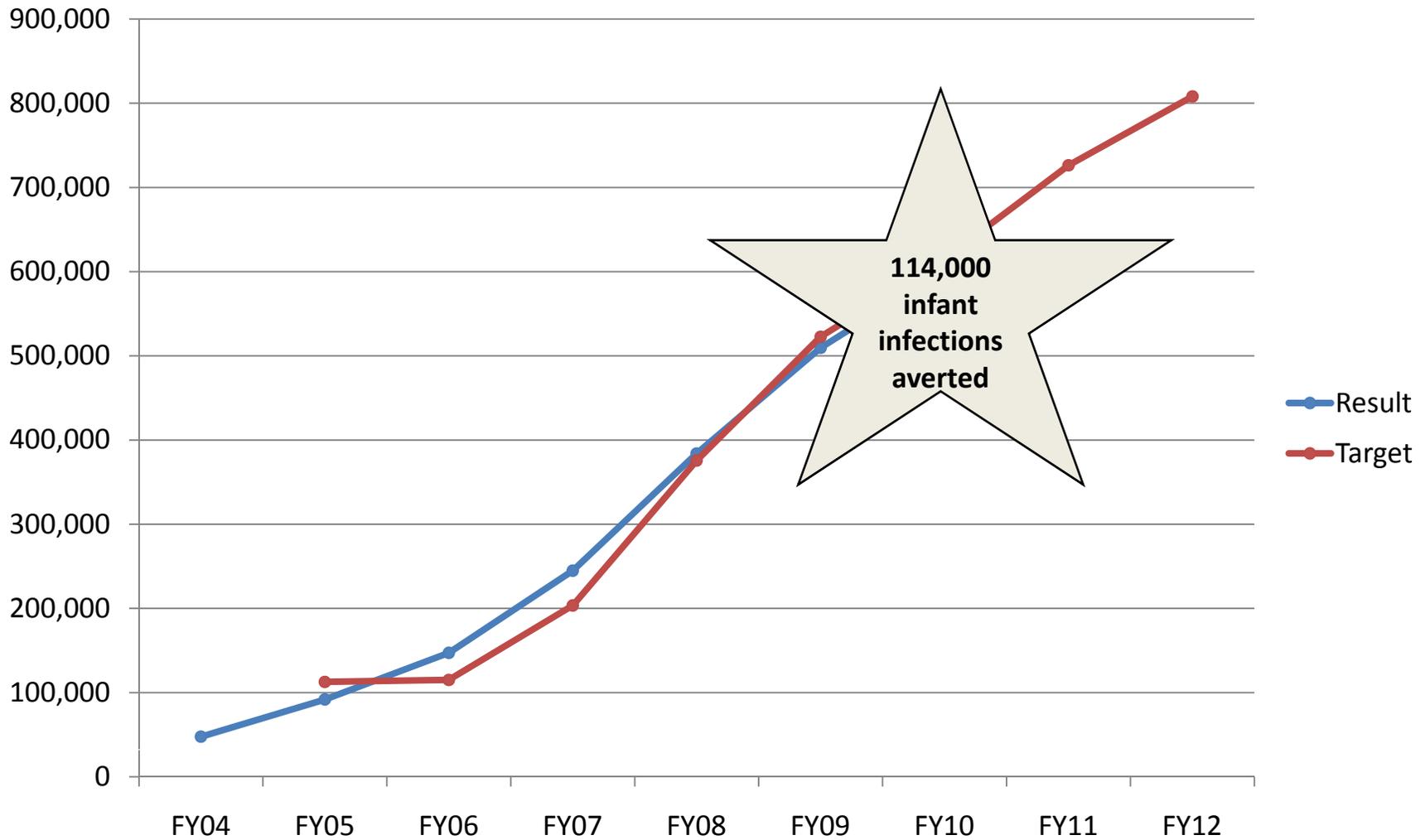
- Funding to meet \$160M earmark: Country-specific discussions underway to ensure earmark is met
- New guidelines (ICF/IPT/IC + ART eligibility for TB pts in last year) add to evidence and bolster recommendations in USG guidance; budgetary and programmatic implications
- New technologies offer hope to increase rapid diagnosis and treatment of TB & drug resistance
  - USG identifying best way to facilitate evaluation and implementation across PEPFAR-supported platforms
  - Resource implications to meet additive demand for appropriate management of TB and MDR-TB

# PMTCT

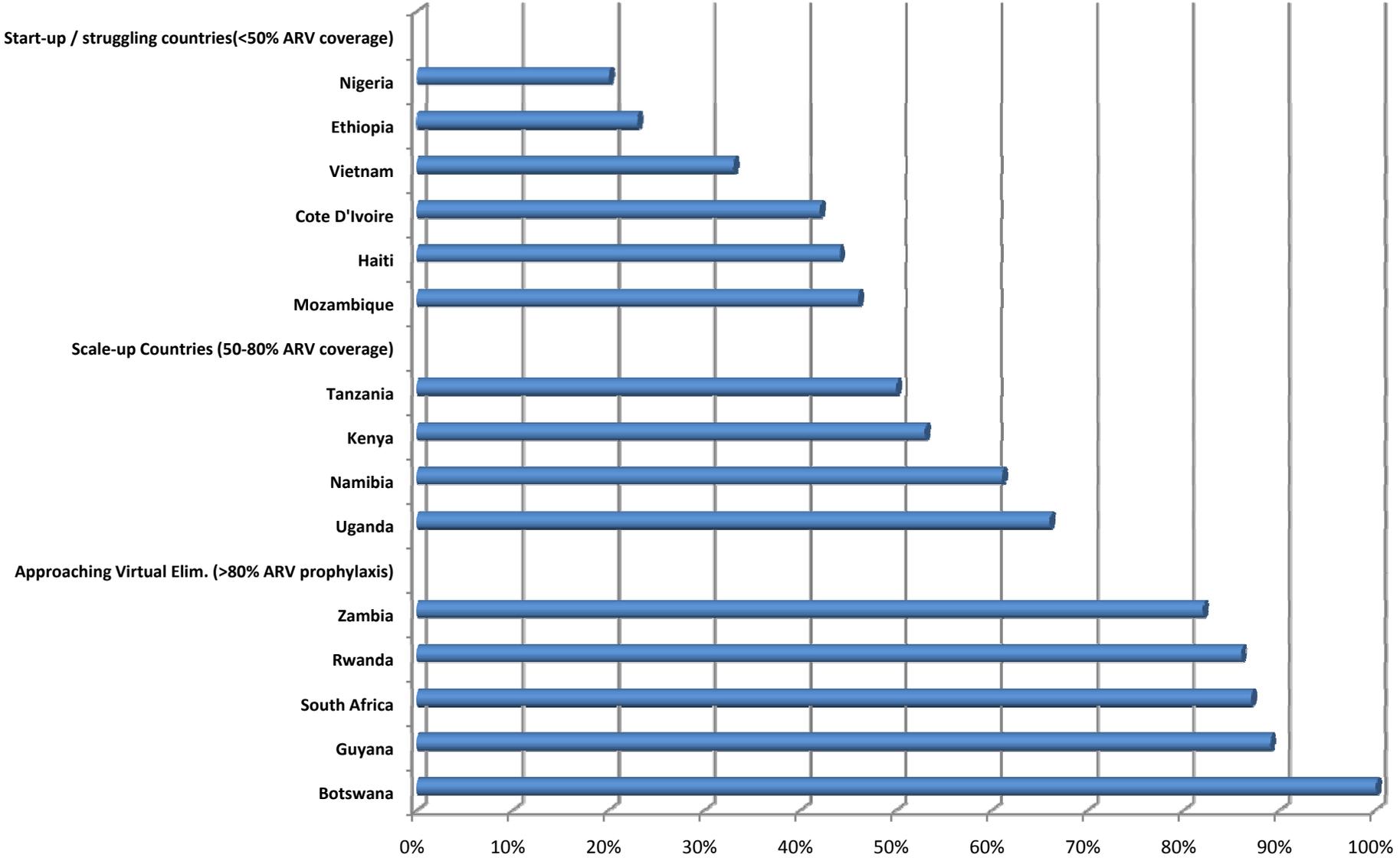




## PEPFAR: Number of HIV-positive pregnant women who received ARTs for PMTCT



# Countries at different stages of PMTCT ARV Coverage....





# Acceleration of PMTCT Coverage and Quality

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## PEPFAR Commitment:

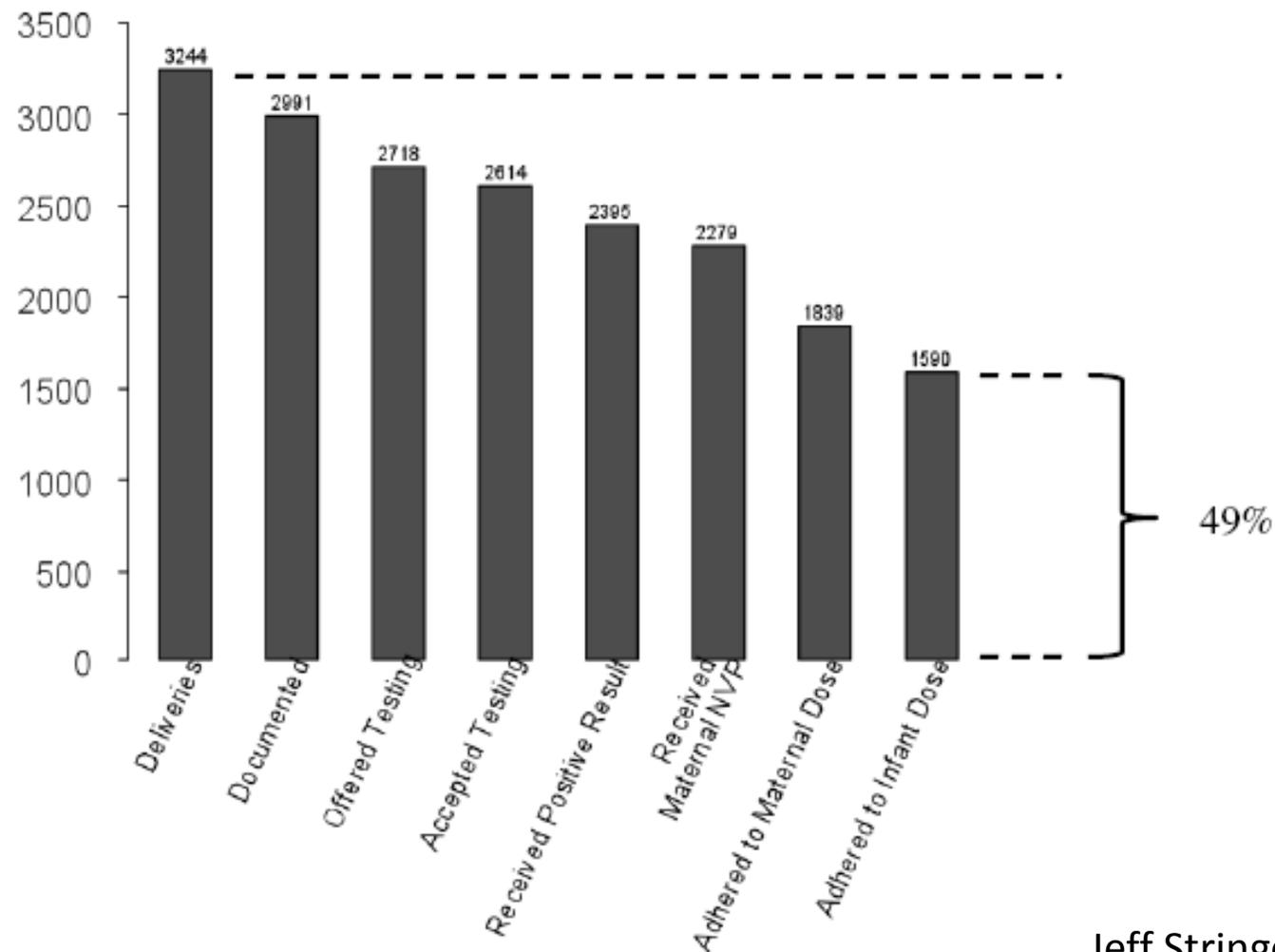
- **80% coverage** of testing at the national level, and **85% coverage** of prophylaxis/treatment for infected pregnant women, by 2014
- **additional \$100 million both** in 2010 & 2011 to support 6 countries in accelerating expansion of HIV testing and ARV prophylaxis
- Each of these 6 countries have developed a plan to breakthrough bottlenecks, achieve greater coverage and move to better PMTCT regimens.

**PEPFAR's programmatic commitment will make a central contribution toward UNAIDS/WHO strategy for the virtual elimination of pediatric HIV by 2015.**

# The challenge of follow-up and completing the cascade: the Pearl Study

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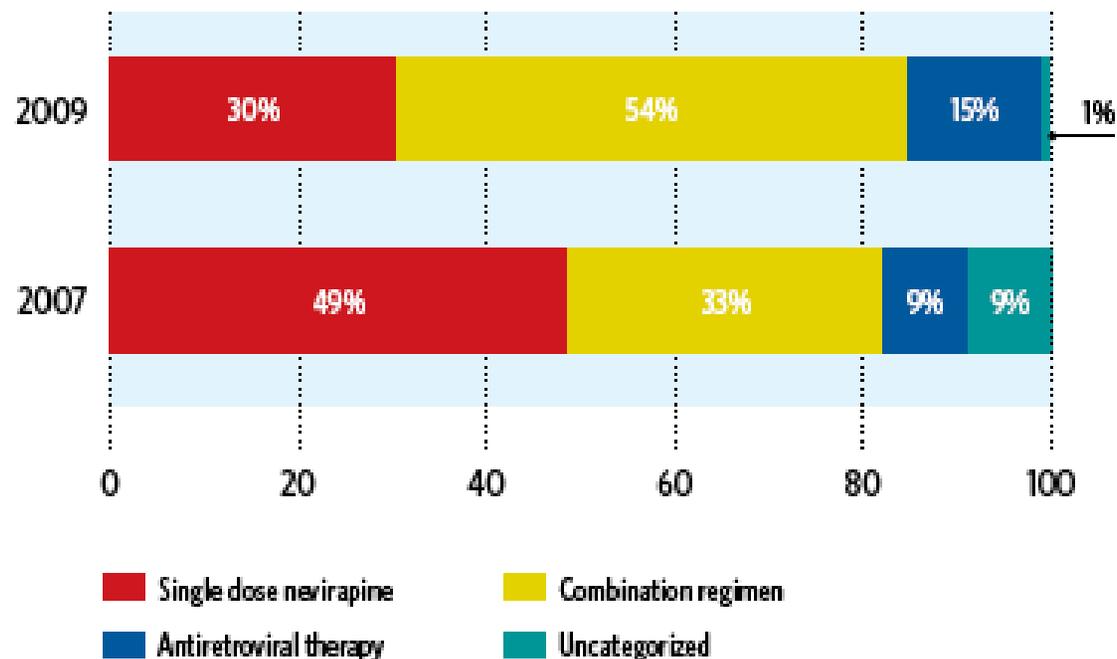
PMTCT Coverage – all Countries



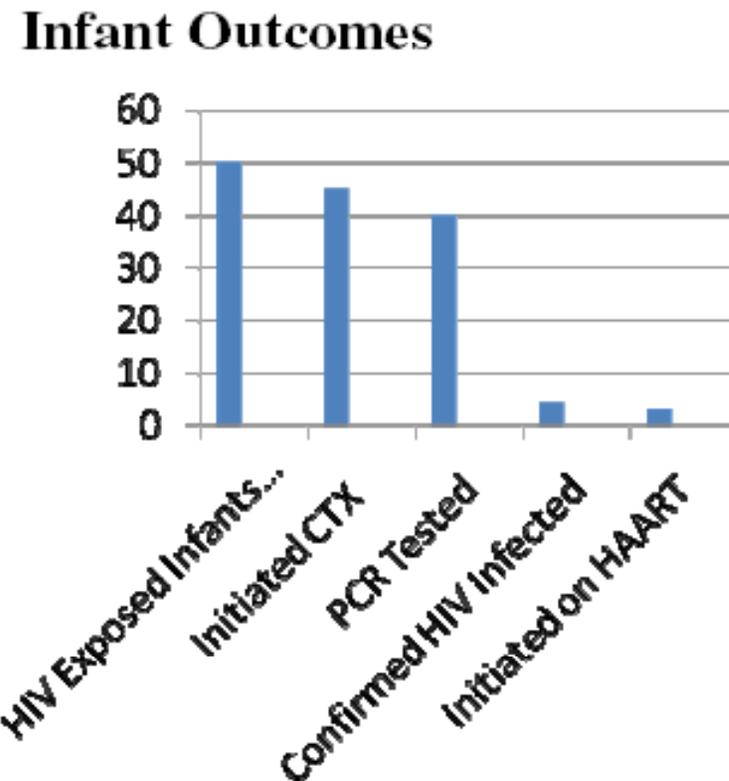
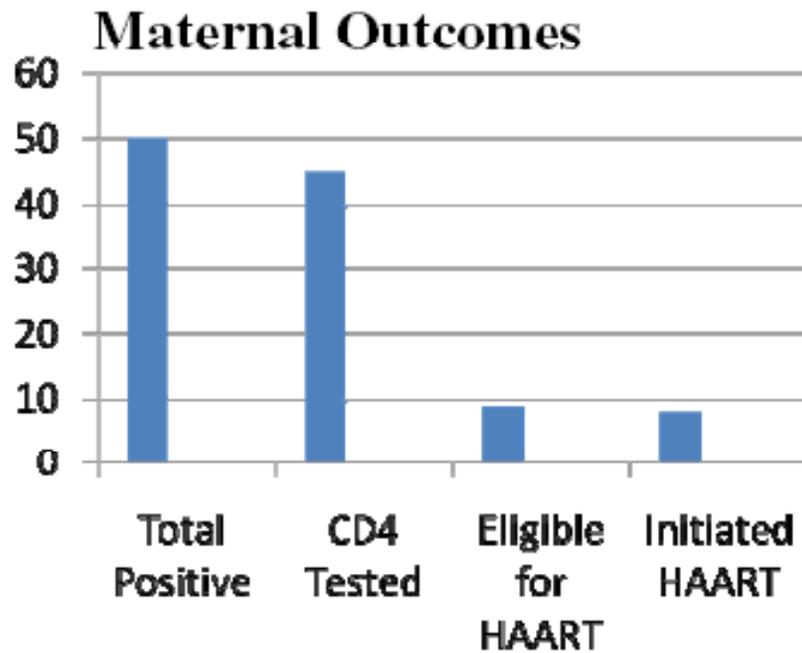


# Moving to Better PMTCT Regimens

**Fig. 5.5.** Percentage distribution of various antiretroviral regimens provided to pregnant women in low- and middle-income countries in 2007 (59 countries) and 2009 (86 countries)



# New Cascade: Examples



International Center for AIDS Care and Treatment Programs  
Columbia University Mailman School of Public Health



# Cross-Cutting Issues

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- Budget Constraints
- Accelerating efficiency and impact
- Moving toward country ownership
- Integration with other programs under GHI
  - TB/HIV, ART/PMTCT and MCH, etc
- Impact of our treatment and PMTCT programs on prevention goals (incidence reduction)



# Accelerating Efficiency Gains

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- PEPFAR working to gain efficiencies that will enable greater impact of investments:
  - Accelerating new service delivery models including nurse initiated ART, streamlining laboratory services, strategic service integration, and transition to local partners and governments
  - Rapidly increased generation and use of economic and financial data to provide PEPFAR program managers with actionable data to create and document efficiency gains
    - 17 costing studies ongoing or completed in 15 countries (including large multi-country PHE)
    - Rapid expansion of routinization of expenditure analyses



# Piloting Expenditure Analysis

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- Expenditure analysis exercise involves the collection of expenditure data covering a period of a year, by cost category and program area, and allows programmers to understand the **full PEPFAR costs of delivering a quality unit of service and the variability of these costs.**
- Addresses the limitations of facility-based costings, and extends the reach and timeliness of cost data for program management and planning



# PEPFAR has Piloted Expenditure Analysis Exercises in Four Countries

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Guyana- treatment

Mozambique- care, treatment, PMTCT, C&T

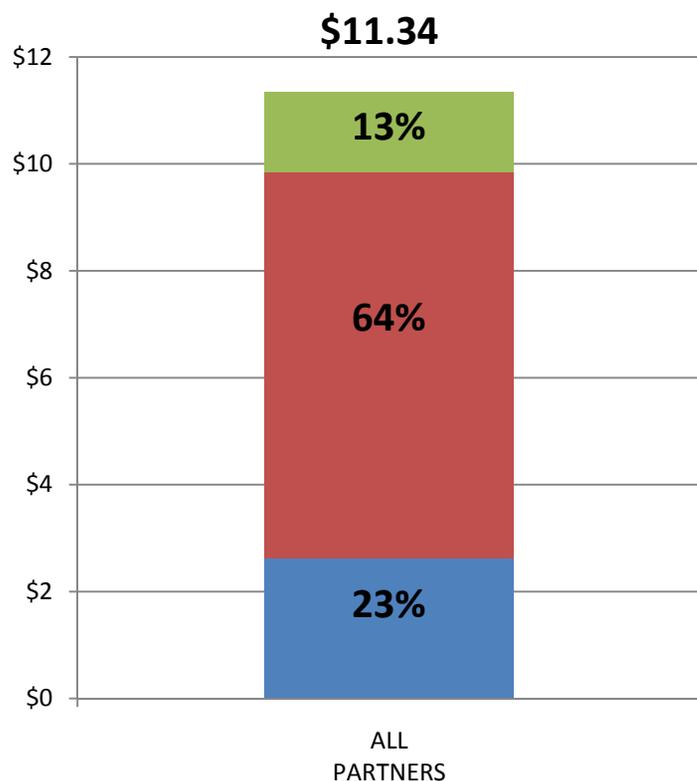
Uganda – all program areas (ongoing)

DRC – PMTCT



# Example Results: Counseling and Testing

■ Investment Costs ■ Operating Costs ■ Central Support Costs



## Cost Per Client by Cost Category (2009 USD)

Category	Mean	Range
Central Support	1.48	0.38-12.41
Operating	7.24	1.66-21.43
Investment	2.62	0.27-5.88
<b>Total</b>	<b>11.34</b>	<b>2.63-32.82</b>

## Distribution of Costs by Category

Category	ALL Partners	Range
Central Support	13 %	5 %-57 %
Operating	64 %	30 %-84 %
Investment	23 %	2 %-37 %



## Impact/Use of Results

### Mozambique Expenditure Analysis (2009)

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- Highlighted need to routinely collect standardized cost data on PEPFAR programs
  - PEPFAR team currently forming advisory groups consisting of technical specialists, USG agency representatives and implementing partners
  - Plan to incorporate cost data collection into implementing partner workplans for consistent expenditure reporting and analysis
  - Plan to complete additional expenditure analysis of clinical programs in sufficient time to support 2012 country operational plan (COP) development



# Selected Gaps/Opportunities

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- Scalable retention and adherence solutions- pre-ART, ART, PMTCT- infant and mother
- Scalable models of clinical service and systems integration
- Mobilizing communities to achieve health and welfare gains
- When to start and what to start ART for optimal clinical and public health outcomes
- HIV drug resistance: predictors, prevention of HIVDR, and studies targeted toward improving programmatic decisions
- Optimal positioning of new technologies (POC diagnostics- CD4, GeneXpert)
- Explicit inclusion of cost outcomes to allow comparisons of effectiveness and efficiency of competing program models.



# Acknowledgments

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