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# Modern Quality Improvement and HIV/AIDS Care in Africa

## Background and A Status Report from USAID Quality Assurance Project

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# Presentation Summary

## **1. Background: Adapting modern QI to LDCs**

1. Traditional quality assurance
2. Continuous quality improvement
3. Improvement collaboratives
4. Spread collaboratives

## **2. Applications to HIV/AIDS in Africa**

1. Quality of care issues
2. QI interventions
3. Results
4. Observations and impressions

## **3. Discussion**

# A Systems View of Quality

- **Inputs/structure: The resources deemed necessary to provide health care**
  - Drugs, equipment
  - Competent provider
  - Guides, job aids, recording forms
- **Process: The activities of providing health care are carried out correctly**
  - Compliance with clinical standards
  - Interpersonal elements
  - Systems to support patient care efficiently
- **Outcomes: The results of the health care process meet expectations**
  - Mortality, morbidity
  - CD 4 counts

# JHU Uganda Performance According to Standards Survey (2001)

- **National sample, 30 health centers**
- **81 indicators grouped into indices; published MOH standards**
  - IMCI assessment: 47%
  - IMCI treatment: 35
  - Malaria treatment: 70
  - Antenatal care: 35
  - Family Planning: 44
  - STI 14
- **Moderate variation among districts**
- **Process quality as a system property**
- **Developments since the survey: rapid expansion of AIDS-related services; more complex malaria regimens; MDR-TB; growing issues of continuity of care for a chronic disease**

# Quality of care implications of reports from early HAART pilot programs in Africa

- **Several studies show survival rates comparable to those in the US**
- **Authors generally very cautious about pilots as a model for large scale programs**
- **Caveats:**
  - Substantial additional inputs, explicit and implicit
  - Focus on initial treatment of AIDS cases
  - Chronic care model challenges
  - Coverage, including rural areas
  - Cost efficiency issues
  - Integration with other services
  - Non-representative provider population
  - Morbidity, satisfaction and other outcomes

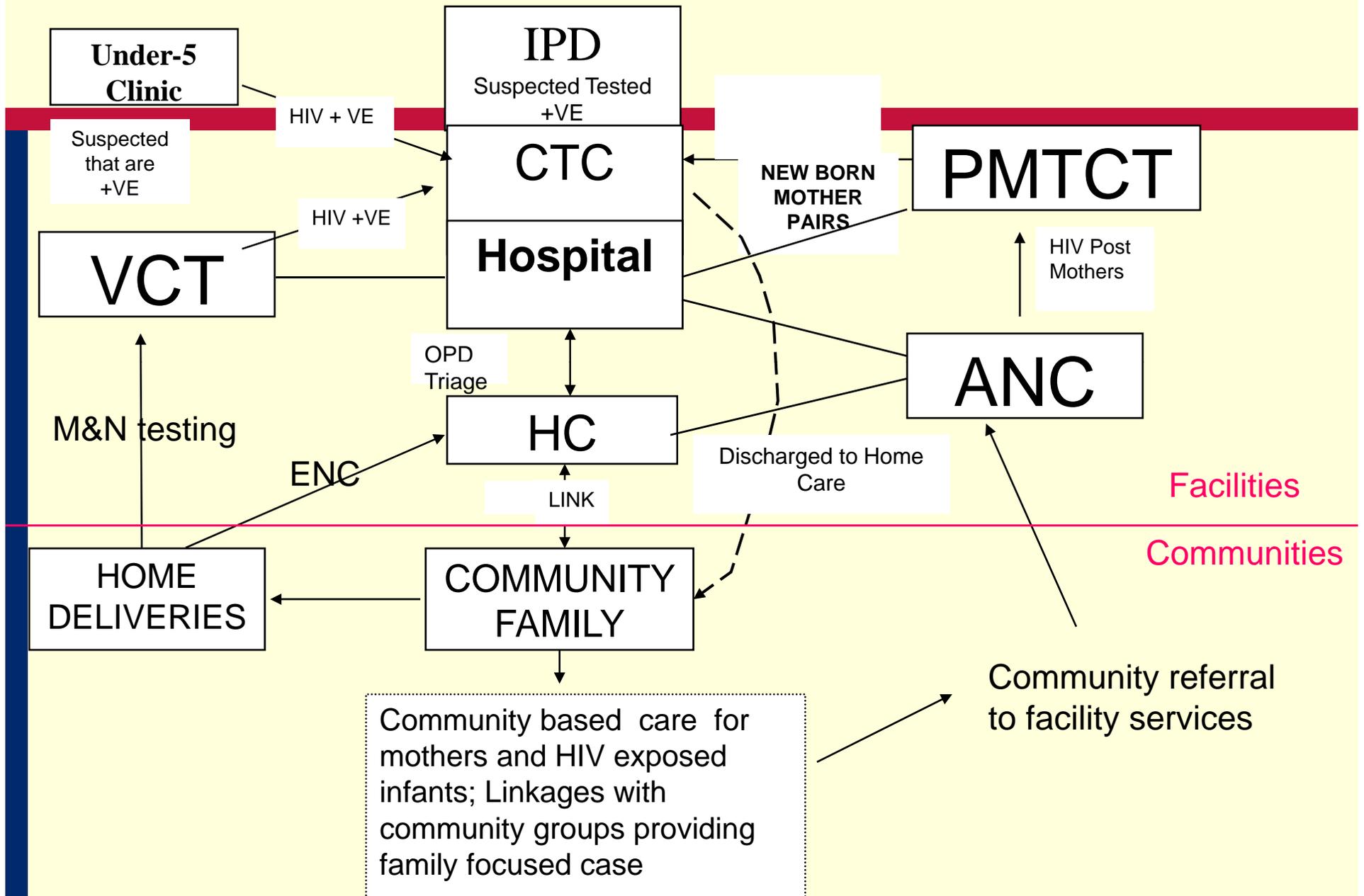
## **2006 Review of Pediatric AIDS in 3 Regions of Tanzania**

- **Conducted by experts from USAID, CDC, Basics, Glaser Foundation**
- **Methodology: site visits, clinical observations, and interviews with standardized instruments**
- **Similar findings across the 3 regions**
- **Qualitative findings and impressions using implicit standards**
- **44 recommendations**
- **Several observations related to quality of care**

# Some quality of care issues from the review

- **Mother's HIV status not entered consistently on MCH records; many providers do not understand the coding system**
- **Limited postpartum follow up of mothers and exposed infants**
- **Adult ART form omit HIV status of children (and providers do not ask)**
- **Children with Clinical stage 3 and 4 symptoms are not reliably offered HIV testing**
- **National VCT and Clinical guidelines are inconsistent regarding infant screening**
- **National AIDS treatment guidelines lack detail for children; guidelines for home-based care have no pediatric section**
- **There is no mechanism to track referrals from one unit to another, e.g., ANC to PMTCT**
- **HIV testing is not available in clinical services, which must refer to VCT sites**
- **Long waiting times at AIDS treatment centers**

# PAEDIATRIC AIDS CARE NETWORKS



# Established Management Strategies for Quality Issues

## Major:

- **Provider training**
- **Supervision**

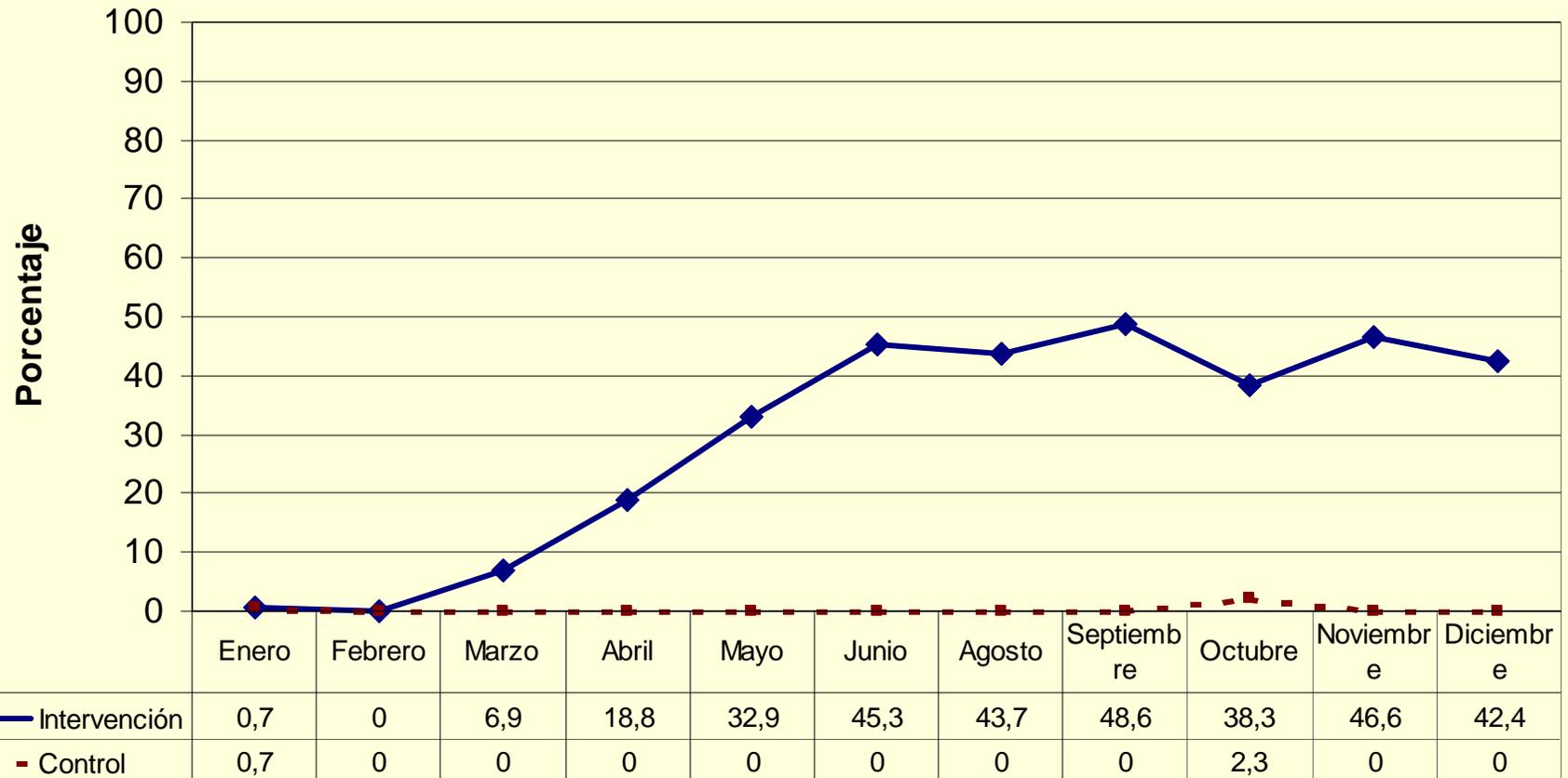
## Secondary:

- **Written guidelines and standards**
- **Monitoring and evaluation**
- **Human resources management**
- **Accreditation, certification, licensing**
- **Provider incentives**

# The Basic Principles of Continuous Quality Improvement (CQI)

- **The delivery of modern health services is complex and dynamic**
- **It is feasible to study the process of health care and find ways to improve it—direct change**
- **Our hypotheses about how to improve health care should be tested before we accept them—the scientific method**
- **Regular health workers can do most of this work (with support)—they are the system experts**
- **A few simple analytical tools, like flowcharts, apply to most health system issues**

**Indicador # 18. Atenciones de morbilidad, niños/as de 2 meses a 4 años de edad en los que se brinda Atención Integrada, de acuerdo a la norma AIEPI. Hospitales de Intervención y Control. Ene-Dic.2001**



|              |       |       |        |        |        |         |        |        |        |        |        |
|--------------|-------|-------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| N/D-INTERV.  | 2/274 | 0/159 | 20/289 | 51/271 | 85/258 | 107/236 | 52/119 | 70/144 | 88/230 | 81/174 | 53/125 |
| N/D- CONTROL | 1/143 | 0/116 | 0/225  | 0/173  | 0/166  | 0/173   | 0/101  | 0/119  | 3/128  | 0/129  | 0/103  |

## **Issues with traditional CQI: The performance of 25 teams in Zambia following cascade training**

- **Successes (and failures) not widely shared**
- **Limited motivation for extra work: teams became inactive**
- **Poor documentation of QI process**
- **Weaknesses in measurement**
- **Often not focused on important problems, esp. clinical care**
- **Spreading slowly**

**Conclusion: large scale QI programs in Africa may need more structure than traditional CQI provides**

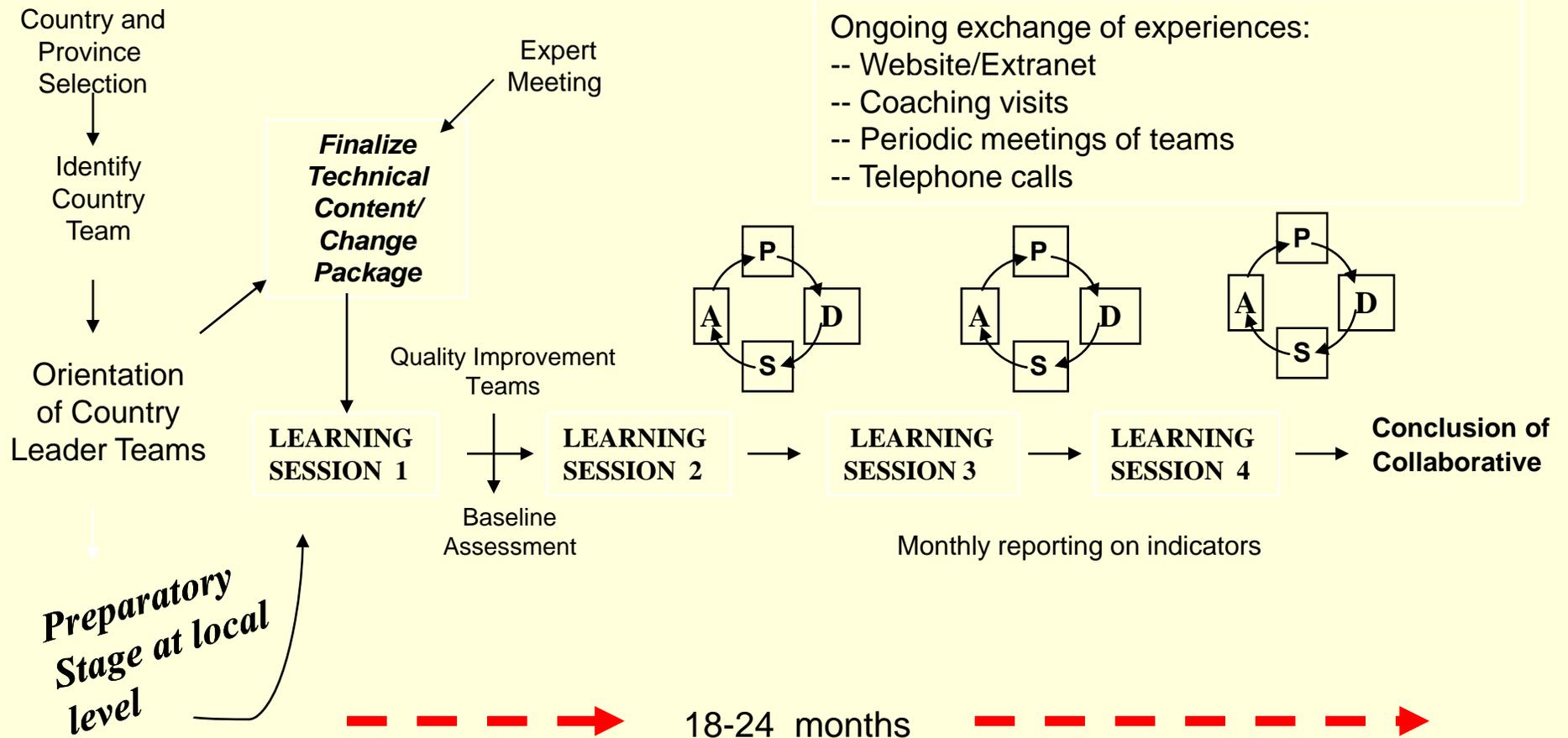
# **The IHI Improvement Collaborative Methodology: Adds structure, focus to CQI**

- **Traditional QI teams and methods**
- **Organized around a specific topic**
- **Many teams**
- **Technical experts provide a model of care feasible for the system, with indicators**
- **High level sponsors**
- **Frequent communications among teams**
- **IHI model is a time limited, relatively intense effort**
- **Wide experience in developed countries**
- **Features address the problems seen in the Zambia CQI evaluation**
- **LDC health systems require adaptation of the model**

## **Value Added of Multiple Teams Working on a Single Problem:**

- **More rapid progress**
- **Each team learns from work of the others: don't re-invent the wheel**
- **Peer group provides motivation for QI work**
- **facilitates spread of improvements--more efficient**
- **Pressure for better, quantitative records**
- **Can focus on priority issues**
- **Framework for scaling up**

# IHI Collaborative Improvement Model as Adapted by QAP



# **Selected interventions and results from improvement collaboratives in Africa addressing HIV/AIDS**

# Rwanda PMTCT Collaborative

- **Partners: MOH, Treatment and Research AIDS Center (TRAC), Directorate of Health Care QA Unit**
- **Key objectives:**
  - All pregnant women in prenatal care
  - All ANC clients and partners tested and counseled
  - All HIV+ women given NVP to take at delivery and the babies given NVP syrup within 72 hours of birth
  - All children born to HIV+ monitored and tested at 15-18 months
- **Two phases: initial phase with 16 teams began in March 2003; expansion phase to add 21 sites began in September 2005**

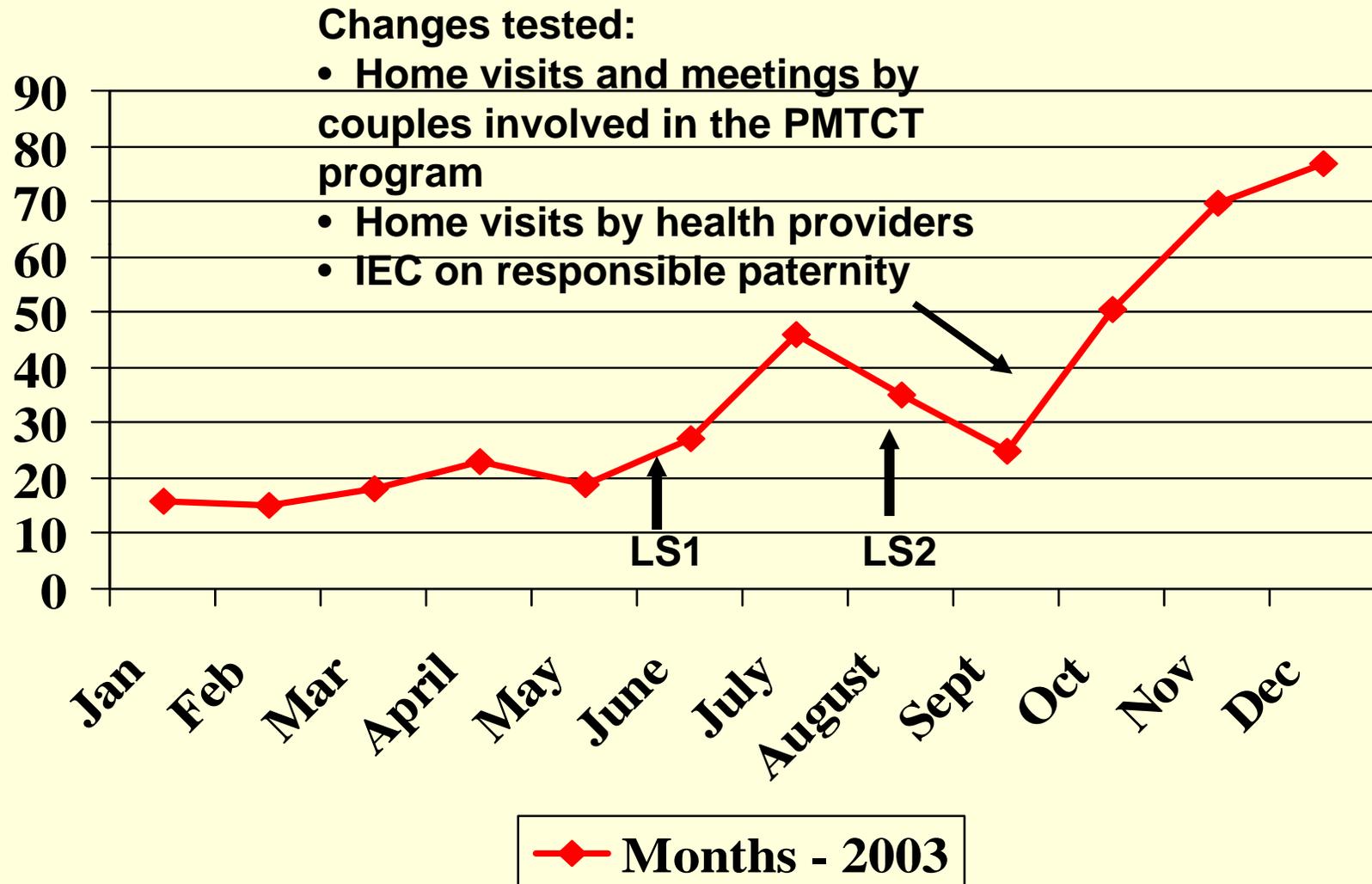
# Changes Introduced in the PMTCT Collaborative

- Community mobilization to encourage ANC attendance **(access)**
- Better counseling and sensitization of women in prenatal care **(access)**
- Home visits, outreach with community leaders, and notes to encourage spouse testing **(access)**
- Reorganize process of care to perform tests more quickly and provide test results same day **(quality)**
- Provide NVP at first contact **(quality)**
- Improved system for managing drugs/supplies to reduce stock-outs **(efficiency)**
- Improved registration/tracking of HIV+ women and their children **(outcomes)**

## Equipe de PMTCT de Kicukiro

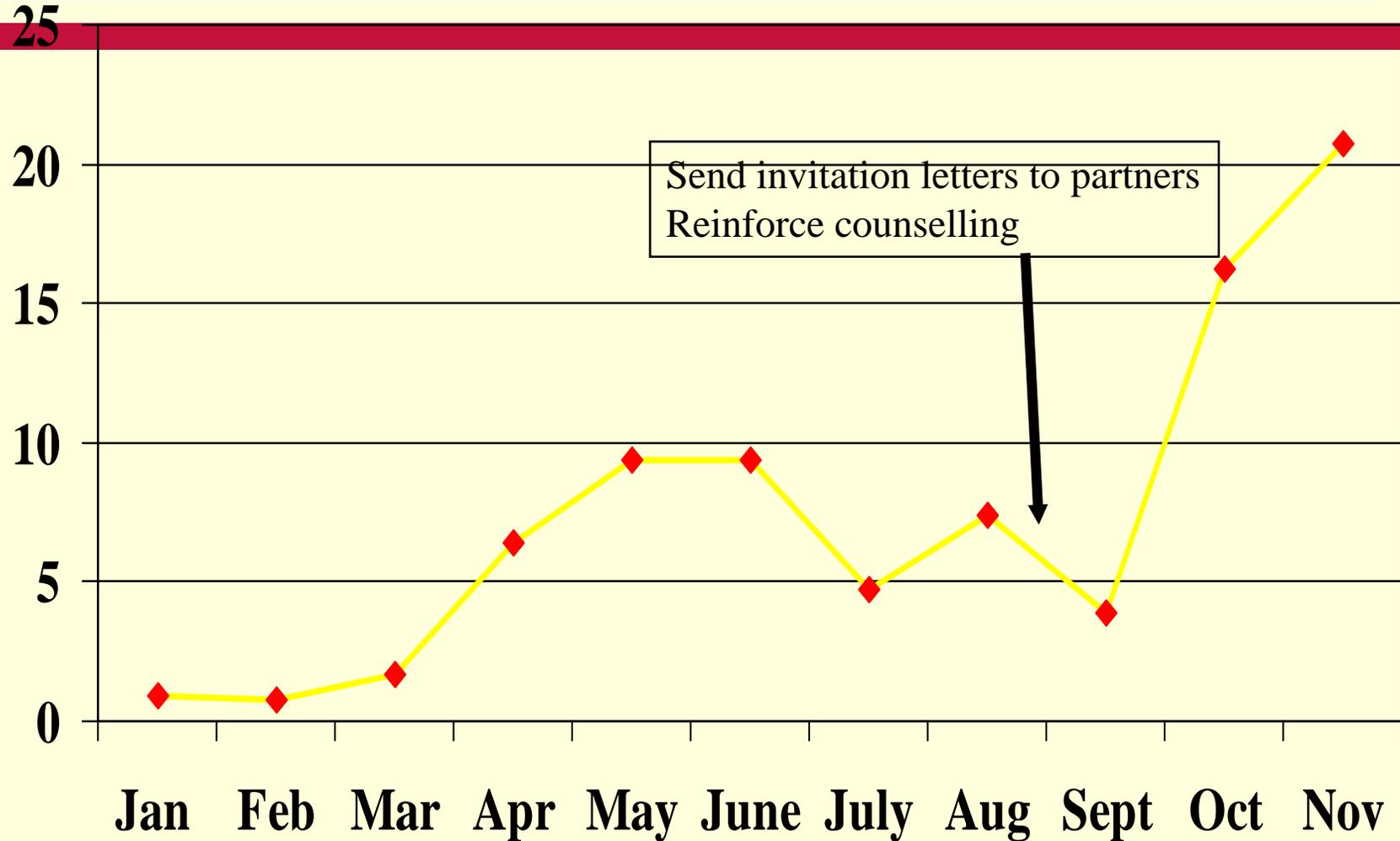


# Kicukiro Health Facility: Percentage of Partners Tested



# Gihundwe Health Facility:

## % of partners tested

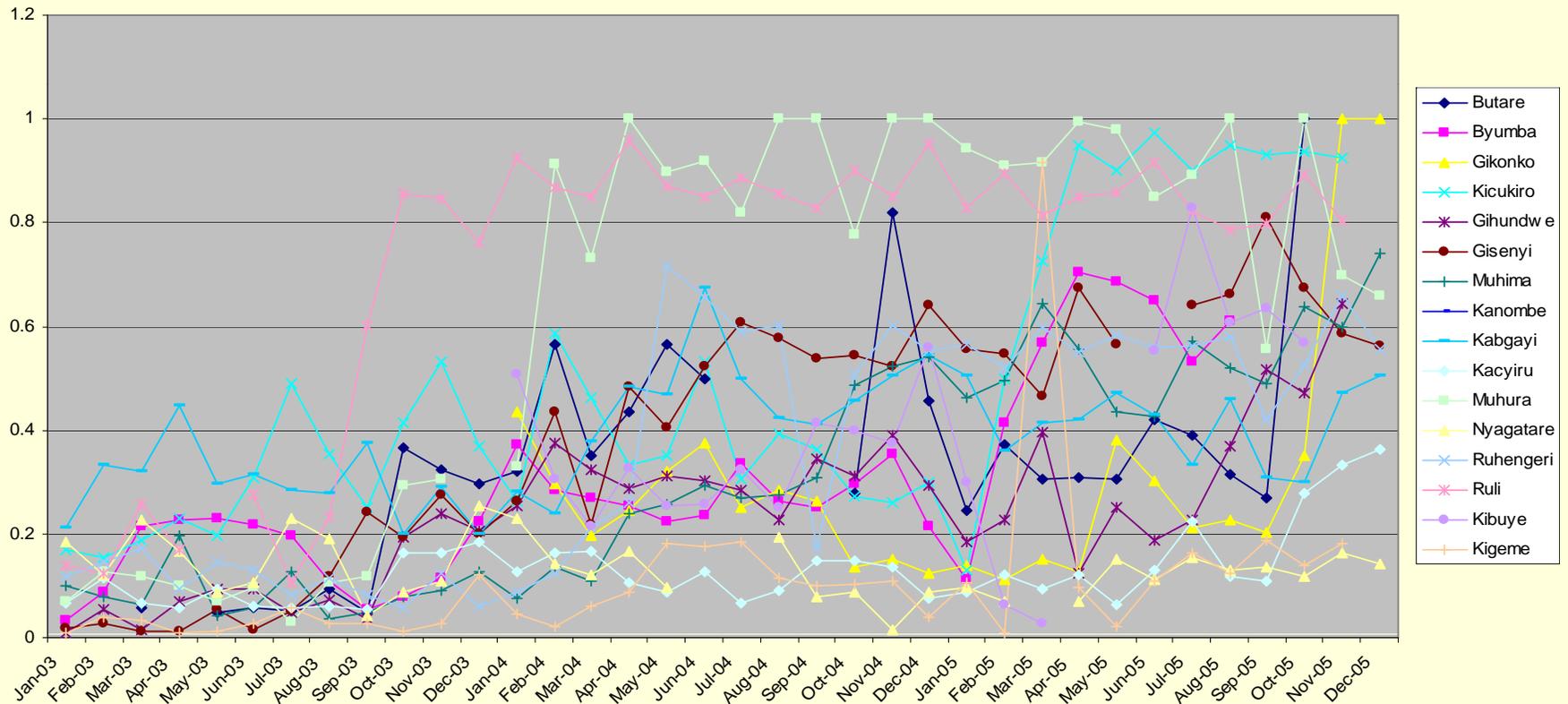


◆ Months - 2003

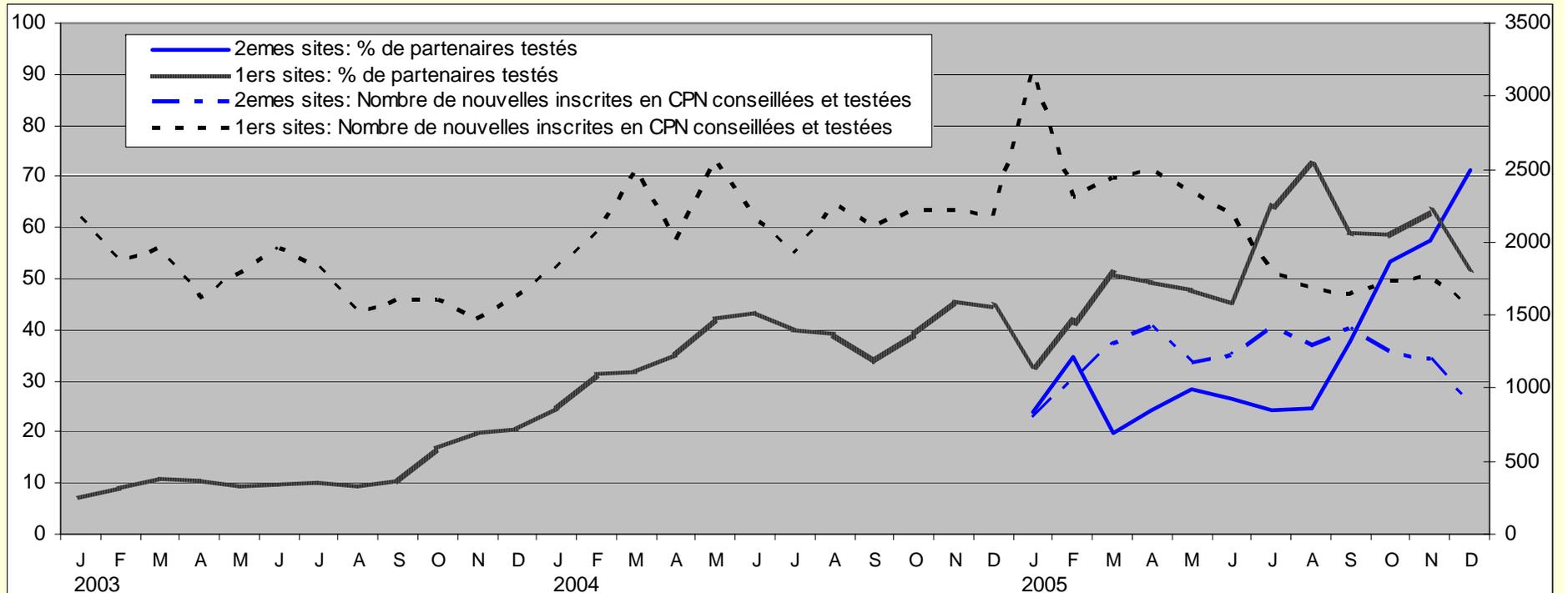
# SO4 Results: Rwanda PMTCT—Data Exported from Extranet

Percentage of partners of prenatal care women who were tested for HIV

% of Partners Tested (16 initial sites)



# Increase in Partner Testing, Initial Teams vs. Expansion Sites

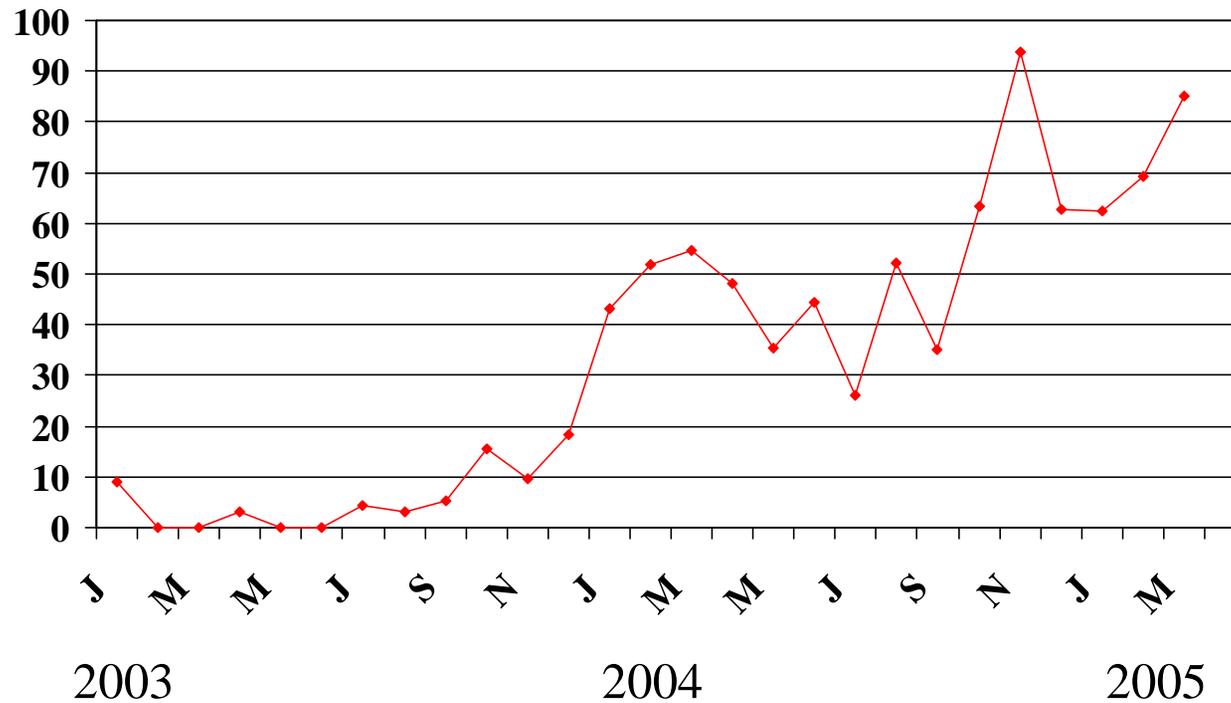


**Black lines = first group of teams**

**Blue lines = second group of teams**

# Increased Follow-up Testing of Infants at 15-18 Months

Rwanda. Percentage of Infants Born to HIV+ Mothers Who are Tested at 15-18 Months (9 sites)



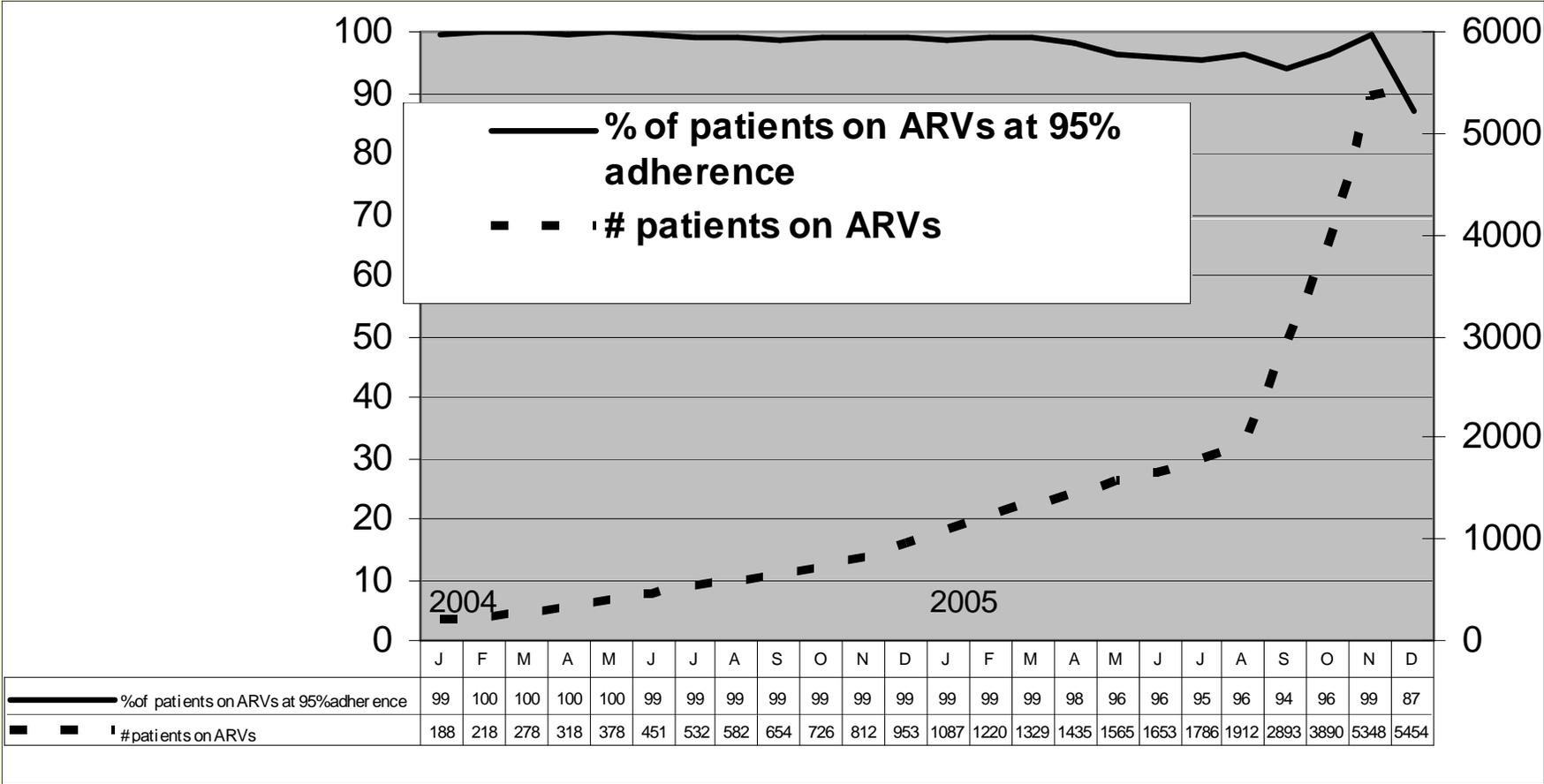
# Rwanda ART Collaborative

- **Partners: MOH, Treatment and Research AIDS Center (TRAC), Directorate of Health Care QA Unit**
- **Objectives:**
  - All eligible HIV+ patients on ARV
  - All patients on ARV for 12 months have increase in CD4 count
  - All patients on ARV for 9 months have at least 2 CD4 counts performed
  - Fewer than 2% of patients on ARV lost to follow-up
  - All patients on ARV for 12 months show weight gain
- **Began with 20 sites in August 2004; 5 sites that were private clinics dropped out because they had better conditions than public facilities**

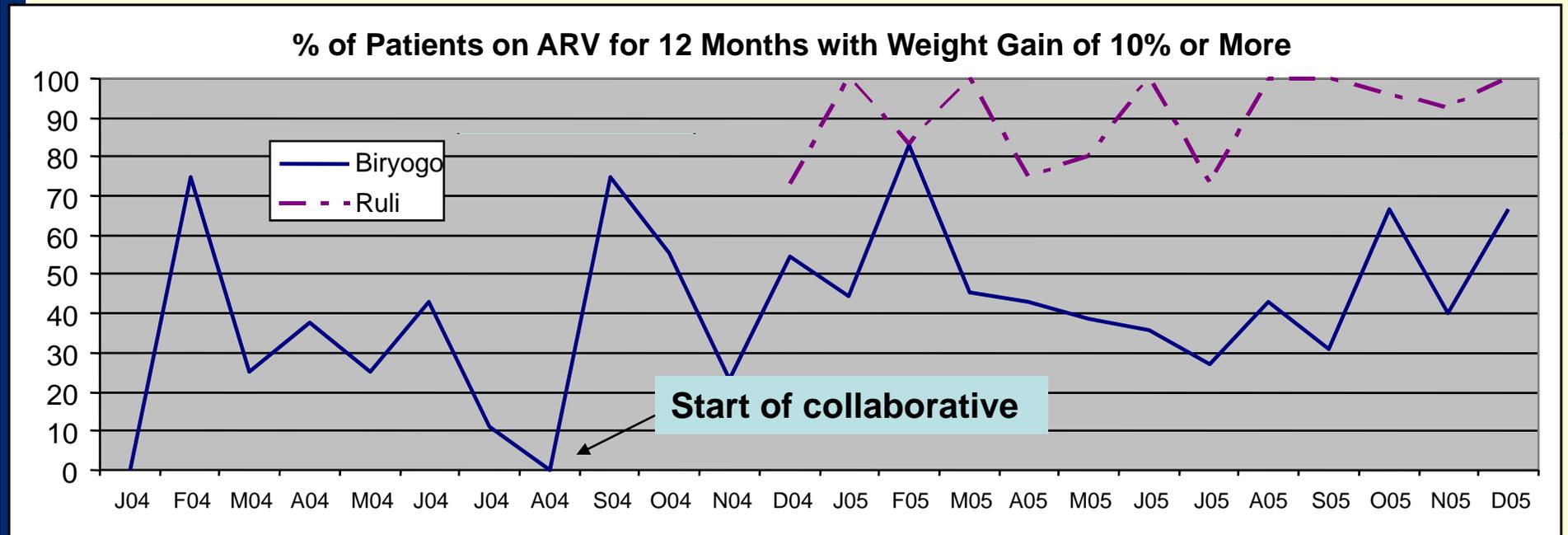
# Changes Introduced in the ART Collaborative

- More clearly defined content for counseling and behavior change communication (**quality**)
- Scheduled medical follow-up and ARV appointments to reduce patient travel burden (**efficiency and continuity**)
- Monitoring of whether ARV patients keep appointments and follow-up home visits (**continuity**)
- Improved record-keeping in patient medical history (**continuity**)
- Home visits to each patient at least once a year (**continuity**)
- Community-based adherence supporters meet once per month with patient (**continuity**)

# Number and Percent of Patients on ARV at 95% Adherence



# Percent of Patients on ART for 12 months with 10% or More Weight Increase



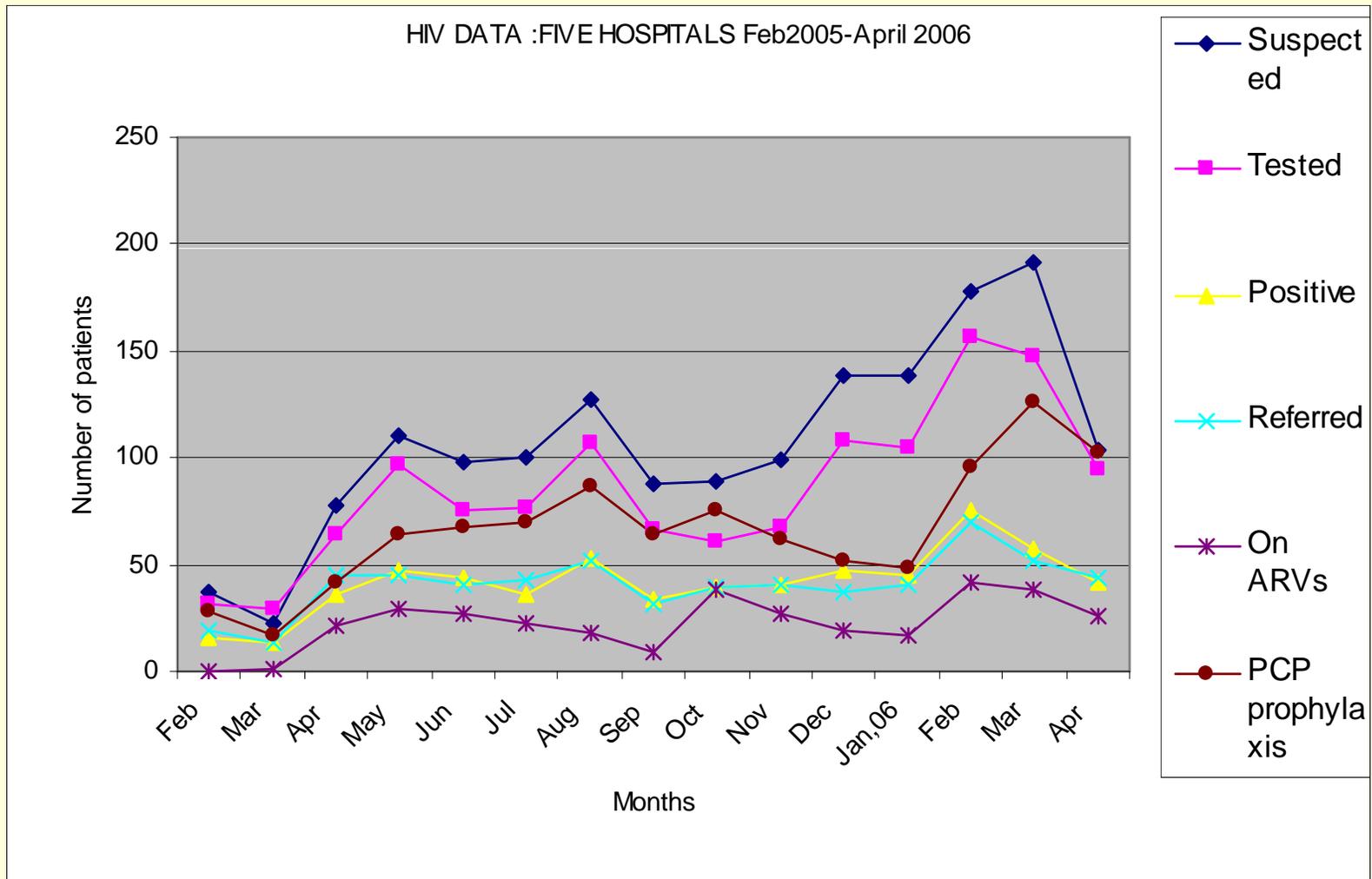
# Tanzania Pediatric Hospital Improvement/Pediatric AIDS Collaborative

- **Partner: Reproductive and Child Health Services of MOH**
- **Objectives:**
  - Improve competence of providers to manage emergency conditions (ETAT)
  - Improve compliance with case management of HIV, Malaria Pneumonia and other IMCI common conditions
  - Develop systems to ensure coordination of care of pediatric patients with a focus on HIV/AIDS
- **Began with 6 sites in 4 regions in October 2004**
- **In 2006, MOH has facilitated expansion to 12 more hospitals in 2 new regions**

# Changes Introduced in the Pediatric AIDS Collaborative

- WHO algorithm for screening children suspected of HIV infection introduced, including referral for testing and treatment **(quality)**
- Initiation of cotrimoxazole prophylaxis **(outcomes)**
- Introduced case management guidelines based on WHO Referral Care Manual **(quality)**
- Introduced tools for monitoring compliance with the guidelines **(monitoring capacity)**
- Changed patient flow to separate pediatric from adult care **(efficiency)**
- Introduced Emergency Triage, Assessment and Treatment **(quality)**

# Increase in Children on PCP Prophylaxis

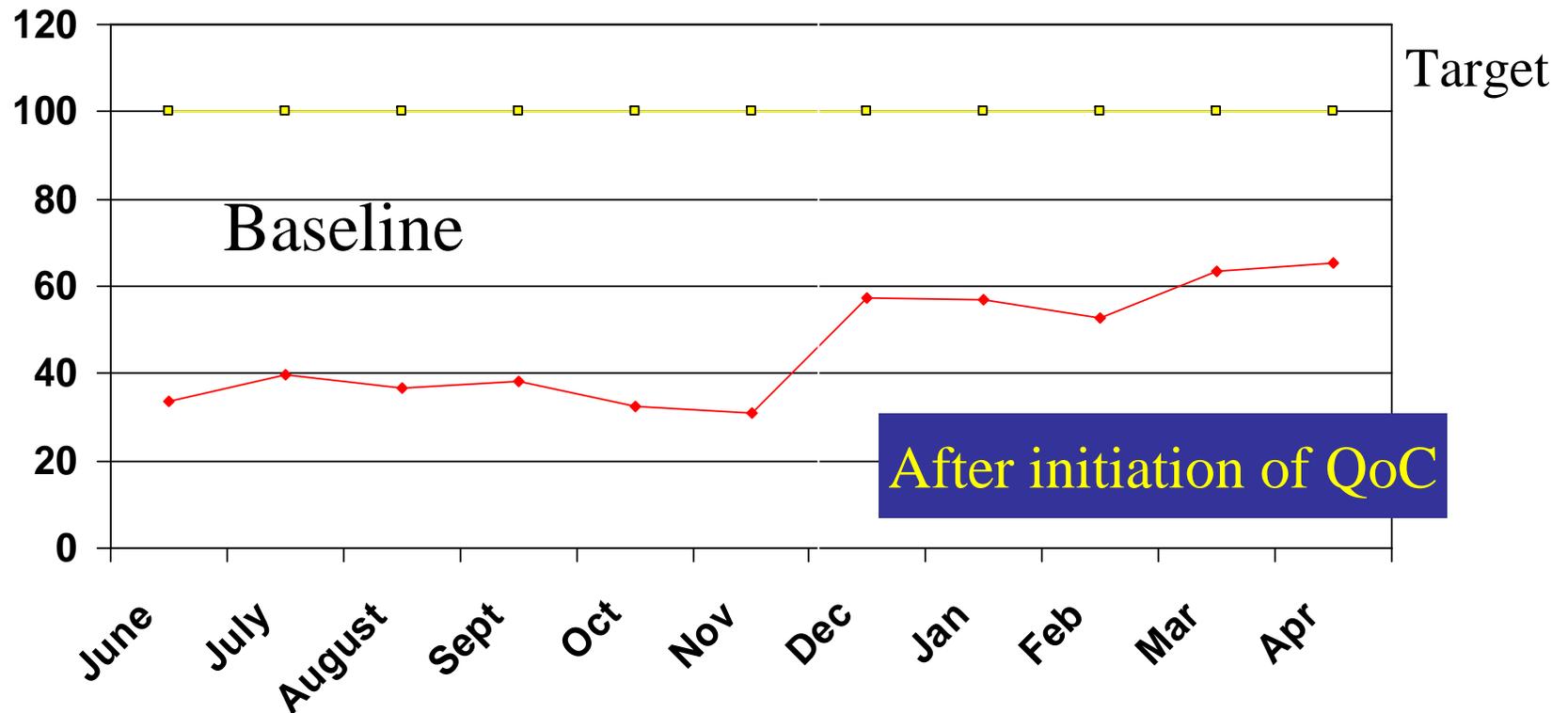


## **The Uganda ART Collaborative: MOH-mandated Focus on Rapid Scale-up (involving multiple partners)**

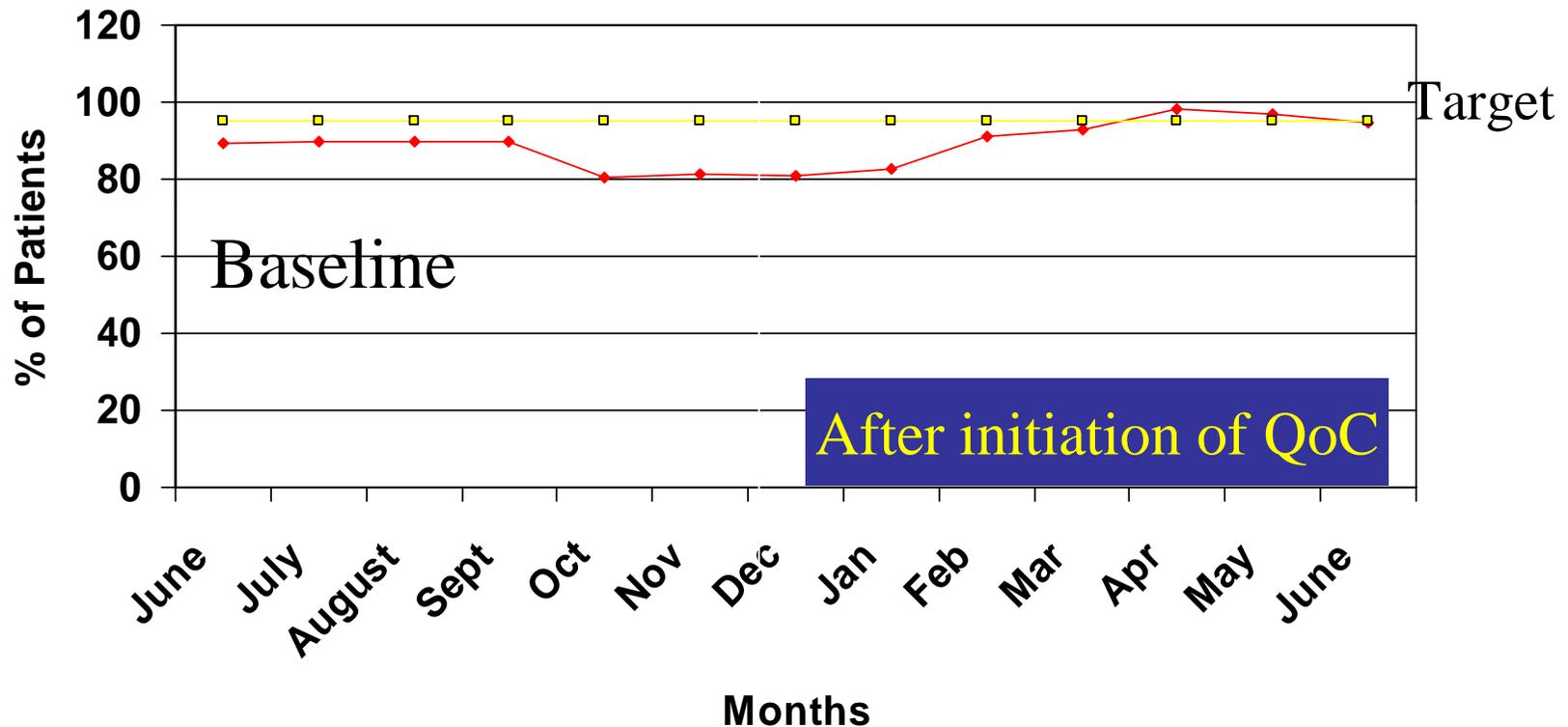
- **Spread achieved: started with 57 sites, expanded to 93 sites by January 2007, eventually to cover all 200 sites providing ART**
- **Systems improvements introduced:**
  - Patient flow
  - Use patient records for quality monitoring
  - Screening for pediatric AIDS and follow-up of HIV-exposed infants (5→25 facilities)
  - TB testing for all HIV encounters
  - Patient counseling for FP and ARV adherence (36 sites)
- **Monitoring compliance with standards of care and sharing of lessons learned have begun but need strengthening**

# % HIV+ Patients Eligible for ART Who Have Been Started on ART

June 2005 – April 2006; 9 sites



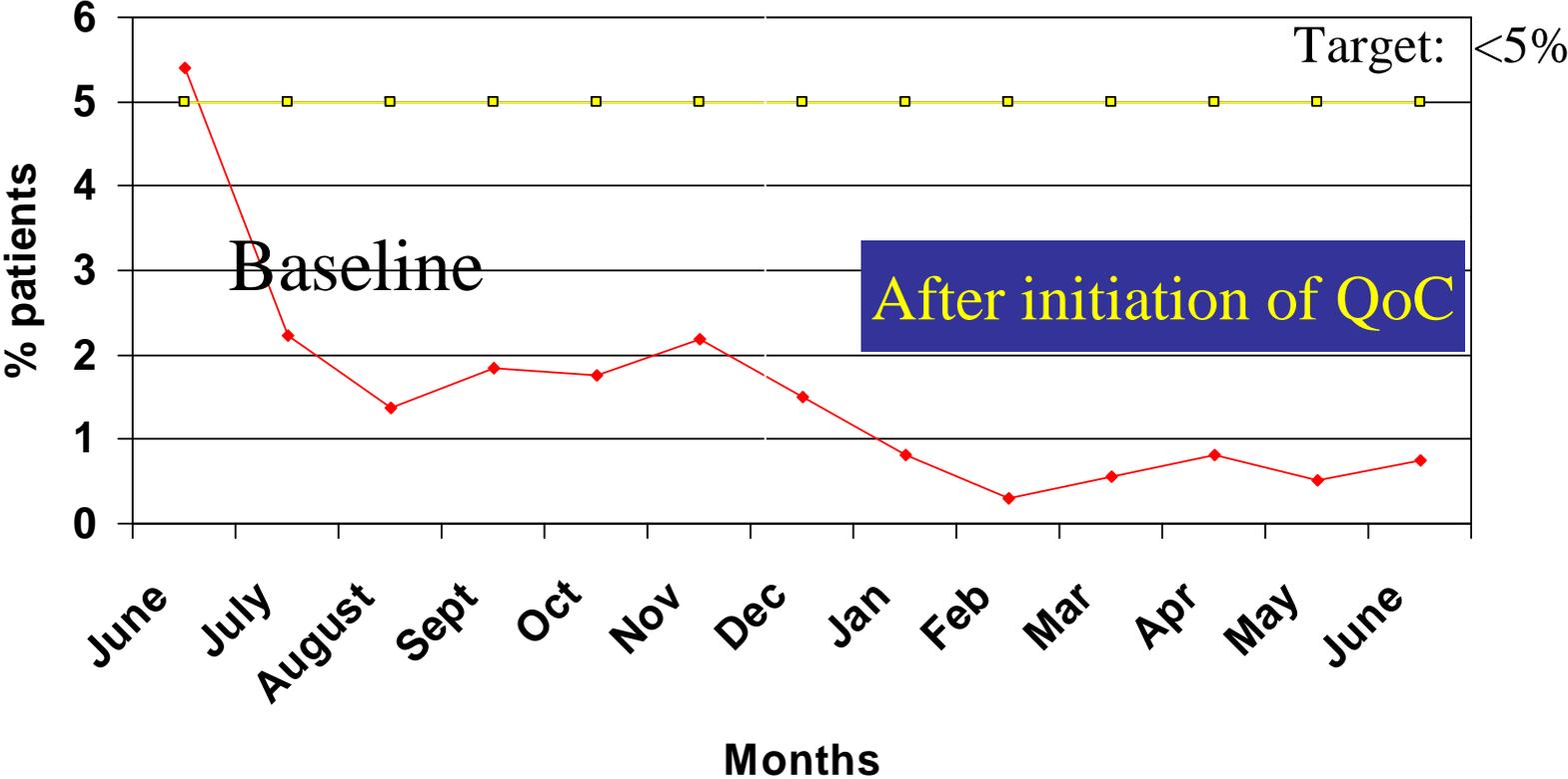
# % Patients on ART who are 95% Adherent June 2005 – June 2006; 19 sites



Based on self reporting, pill counts, ...some issues

Who is taking the pills? How many were dispensed?

# % Patients on ART who are Dead Within One Year; June 2005 – June 2006; 6 sites



# Some Challenges to Delivering Quality ART Services in Uganda

- Policies and Standards
  - Available but poorly understood at site level
  - Low compliance
- M/E
  - Poor documentation of patient records
  - Less than 50% of sites sending in monthly reports
  - Lack of data-driven management
- Logistics Management
  - Periodic stock-outs, including of ARVs, drugs for OI's, laboratory commodities
  - Poor laboratory equipment monitoring
- Human Resources and Capacity
  - Increasing workload
  - Poor staff management
  - Lack of staff
  - High attrition rates
  - Low motivation (including low pay)
- Coordination/collaboration
  - Lack of coordination between multiple partners operating at a site

## **Some Related Topics**

- **Research and evaluation**
- **HIV-TB QI in Southern Africa, Viet Nam, Russia**
- **Initiative in OVC quality standards & QI**
- **Pending \$150 million, 5 year project**
- **Global knowledge management in QI**
- **Applications in general and HR management**
- **QI in pre-service education**
- **Role of other donors**