

# Controlling the HIV Epidemic;

*Perspectives on turning Aspiration to  
Reality*

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# Topics

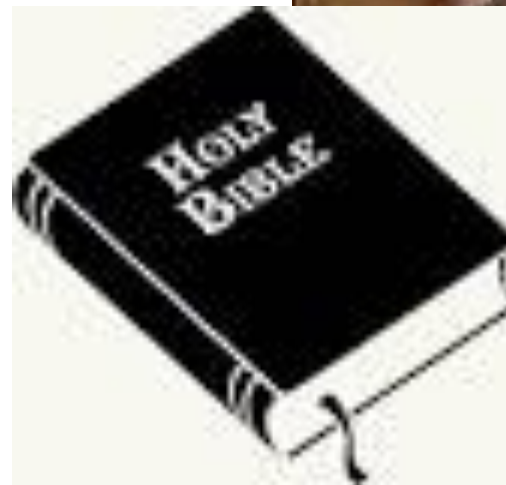
- Aspiration/ hope
- The tools to achieve our Aspiration
- The Reality



# Treatment 1982-2000.

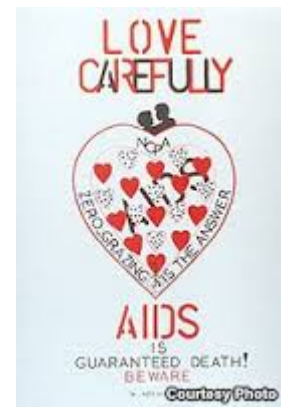
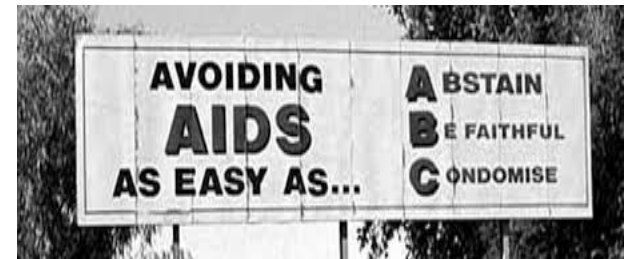
- Health centers full of patients sick with HIV
- Symptomatic treatment ( if available) and prayers
- Death was inevitable

Stigmatization



# Prevention 1982-1996

- Behavior Change
  - Reduce/ one sexual partner
  - Regular use of condoms
- Abstinence
- Symptomatic treatment of STI
- Testing and Counseling



# Aspiration

*-Our hopes*

*-Our dreams*

# AIDS ACTIVIST, 1981-

- The AIDS ACTIVIST WERE THE FIRST GROUPS TO ARTICULATE OUR HOPES (1981-
- End stigmatization and discrimination of HIV positive individuals HIV
- Uphold Human Rights
- Access to drugs
- Demand investment in HIV research and care



# UN declarations of HIV/AIDS

- June 2001 Declaration of commitment on HIV/AIDS  
***Global Crisis-Global Action***
- ‘*Reduction of HIV prevalence among young people (15-24) by 25% in hard countries by 2005*’
- June 2006 Political Declaration on HIV/AIDS
- June 2011 Intensifying our effort to eliminate HIV/AIDS



# UN Global efforts

- Provide a consensus on the Political commitment of leaders in the comprehensive response to HIV- **Political commitment**
- Create an organization which can better coordinate HIV response – **UNAIDS - 1994**
- Provide a funding mechanism support HIV Prevention and care effort- **Global Fund -2002**





# UNAIDS GOALS

Currently UNAIDS has **10 goals**

- Reduce sexual transmission by 50% by 2015
- Eliminate New HIV infections among children by 2015
- Eliminating Stigma and Discrimination against HIV +
- 15 million people with HIV put on ARV BY 2015



# VISION

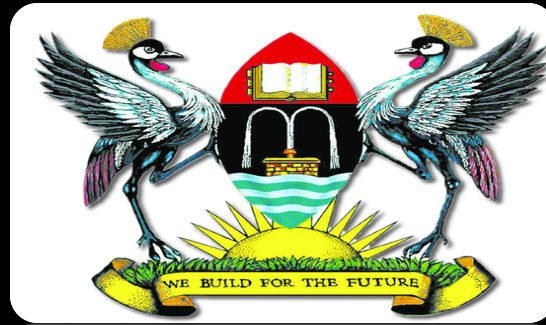
**ZERO NEW HIV INFECTIONS.**

**ZERO DISCRIMINATION.**

**ZERO AIDS-RELATED DEATHS.**

UNAIDS 2012





Tools available to Achieve  
our Aspiration

# Prevention

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# Clinical trial evidence for preventing sexual HIV transmission

(Abdool Karim SS, et al. Lancet. 2011.)

## Study

Treatment for prevention

(Africa, Asia, America's)

PrEP for discordant couples

(Partners PrEP)

PrEP for heterosexuals

(Botswana TDF2)

Medical male circumcision

(Orange Farm, Rakai, Kisumu)

PrEP for MSMs

(America's, Thailand, South Africa)

STD treatment

(Mwanza)

Microbicide

(CAPRISA 004 tenofovir gel)

HIV Vaccine

(Thai RV144)

## Effect size (CI)

**96% (73; 99)**

**73% (49; 85)**

**63% (21; 48)**

**54% (38; 66)**

**44% (15; 63)**

**42% (21; 58)**

**39% (6; 60)**

**31% (1; 51)**



# Impact of Modelling

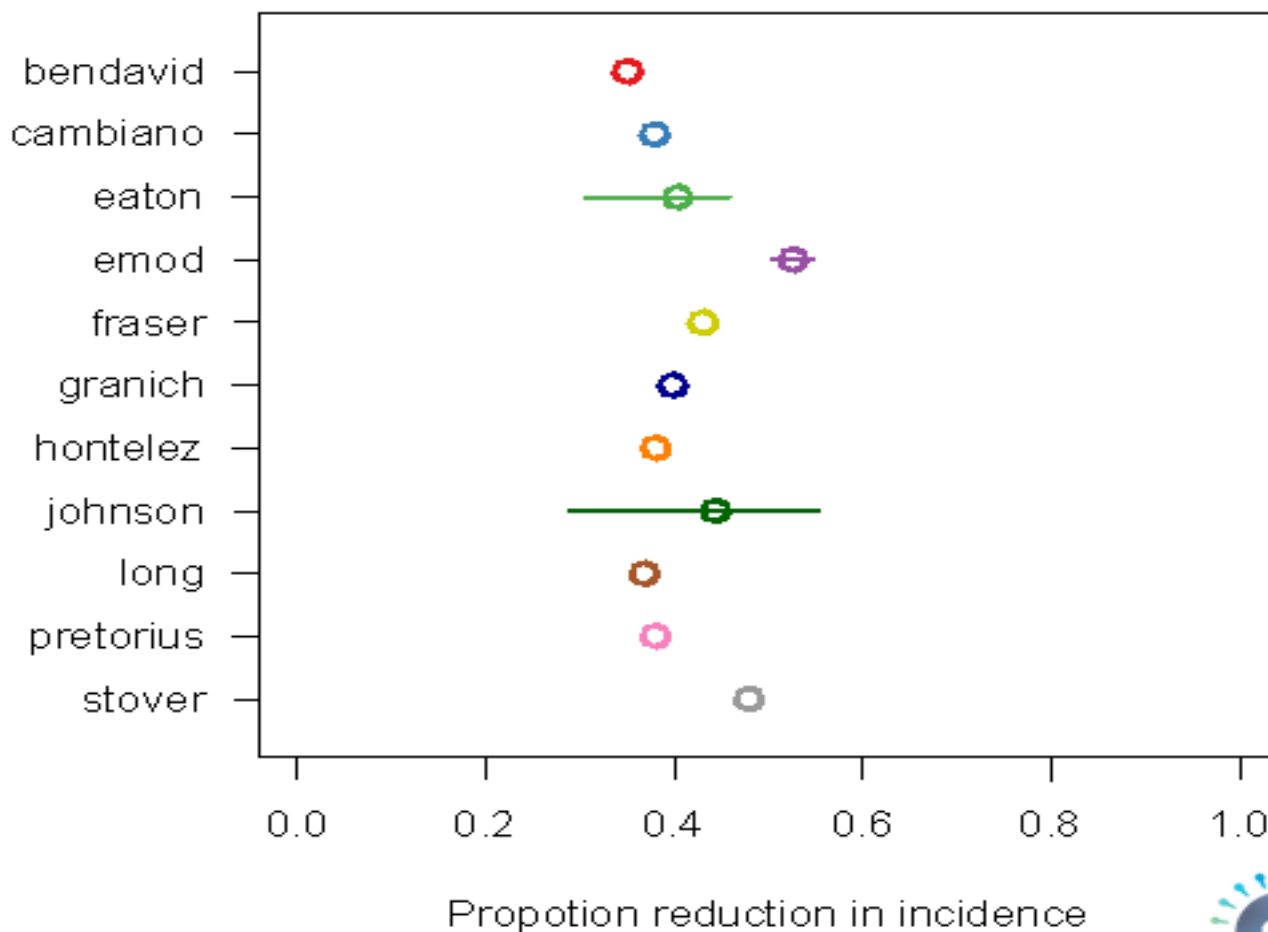
What ever your views on  
Mathematical  
modeling.....

The enthusiasm/ excitement  
generated by these models  
illustrating the possible  
impact , ART can have on  
the HIV epidemic, has been  
huge in generating interest  
in the possibilities.....



# Proportion reduction in incidence: Coverage:80%, retention:85%:CD4<350

**Proportion reduction in incidence in year 2020  
coverage: 80%, retention: 85%, eligibility: CD4 < 350**



# The Economist , June 4, 2011





# Care

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# Vancouver 1996

## “One World One Hope”

- Efficacy of triple therapy on treatment of AIDS
- Protease inhibitors
- Use of viral load in monitoring treatment
- Drugs were expensive  
- (\$24,000 per year)
- ***HOPE AND EXCITEMENT***



# DURBAN-2000

## Treatment for all Now!

- Global March for HIV/AIDS treatment
- Desperate demand to reduce drug prices
- Skepticism of whether ARV drugs could be correctly take and managed in resource limited settings
- How will cost be meet

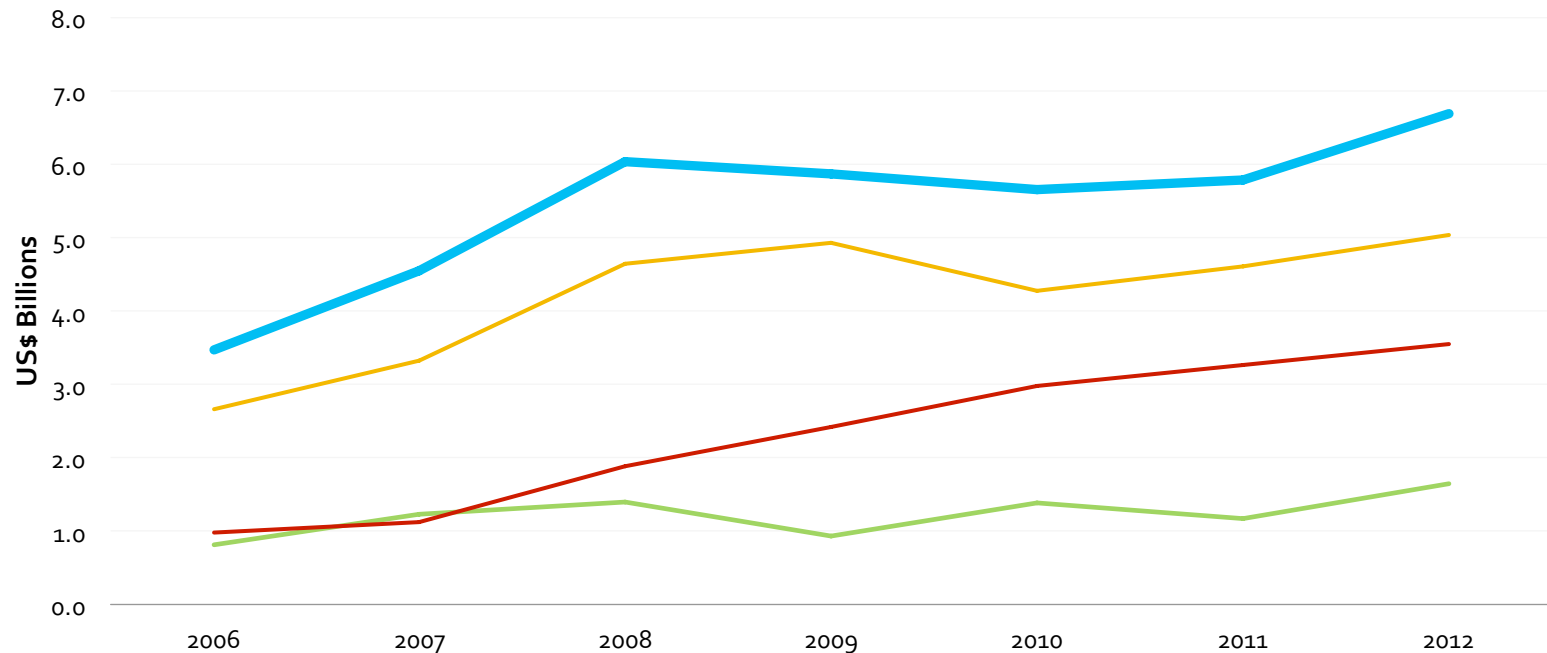


# PEPFAR 2003-

- **Real Game changer**
- 2003-2008 – \$15 Billion
  - 1.2million put on ARV
  - 1.1 million death averted
- 2009- GHI \$51 Billion over 6 years



# International disbursements and Domestic Investments Sub Saharan Africa



— Total bilateral — Total multilateral — Total International — Total Domestic Investments

Source: OECD CRS May 2014, UNAIDS estimates 2014



# Reality.....

- HIV epidemic is not simple*
- Scaling up*
- funding*
- Politician, politics.....*

# Emerging and remerging key populations.

Concentrated HIV sub-epidemics in generalized epidemic settings

- MSM
  - IV drugs users
  - Fisher folks
  - Commercial sex workers
- 
- Overlapping sexual networks
  - **Lack of access to prevention and care services**



# Sources of Infection in Rakai are Diverse

Grabowski et al, PLoS Med, 2014.

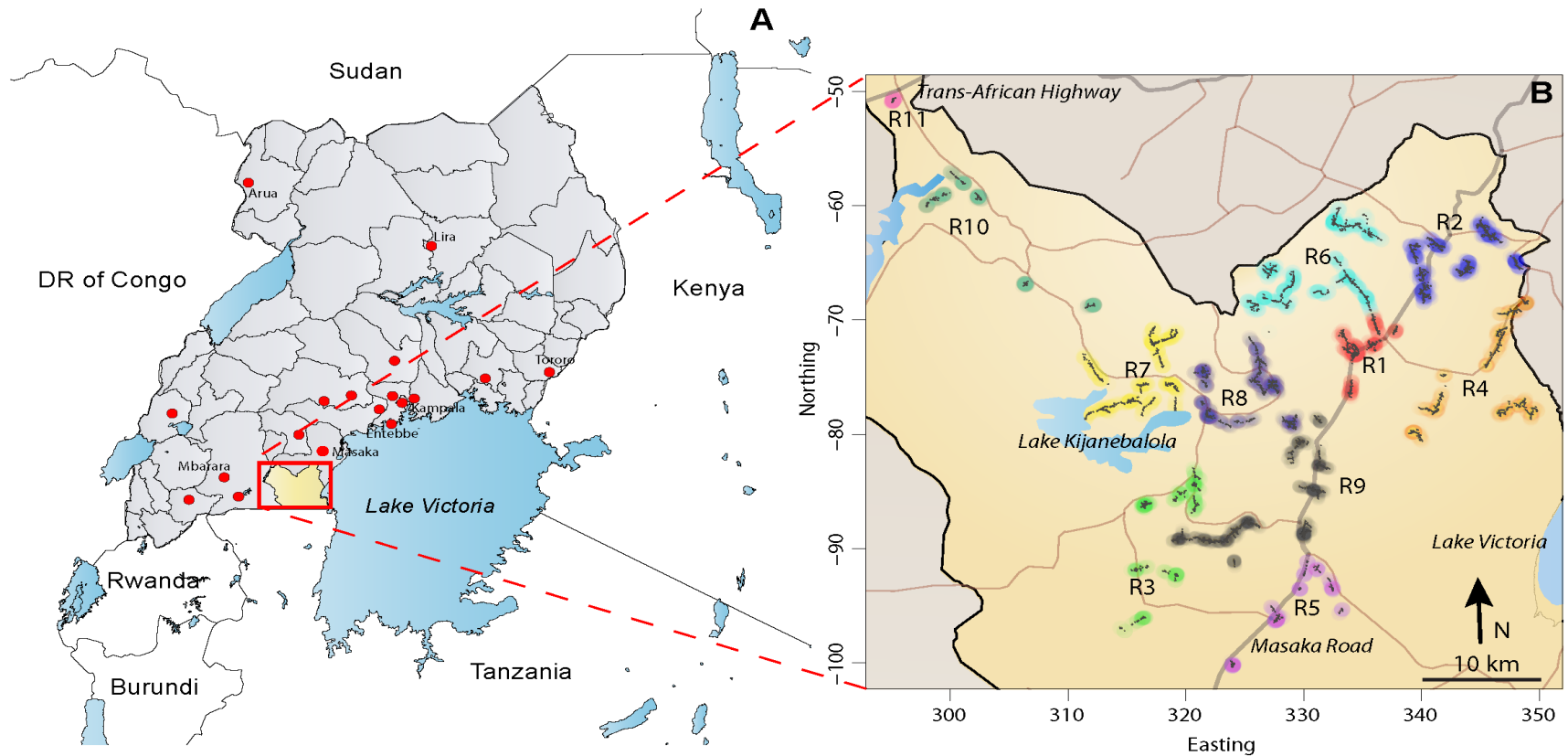
- **39%** of transmissions occurred within **household**
- **40%** of transmissions were from **extra-household** partners.
  - 62% (95% CI:55-70%) were partners from outside the community.
- **21%** of transmission were from **unknown contacts/** sources.
- No transmission if partner was on ART.
- CHP has to cover extended populations: How far??





# Spatial dynamics of HIV in Rakai

Grabowski et al, PLoS Med, 2014.



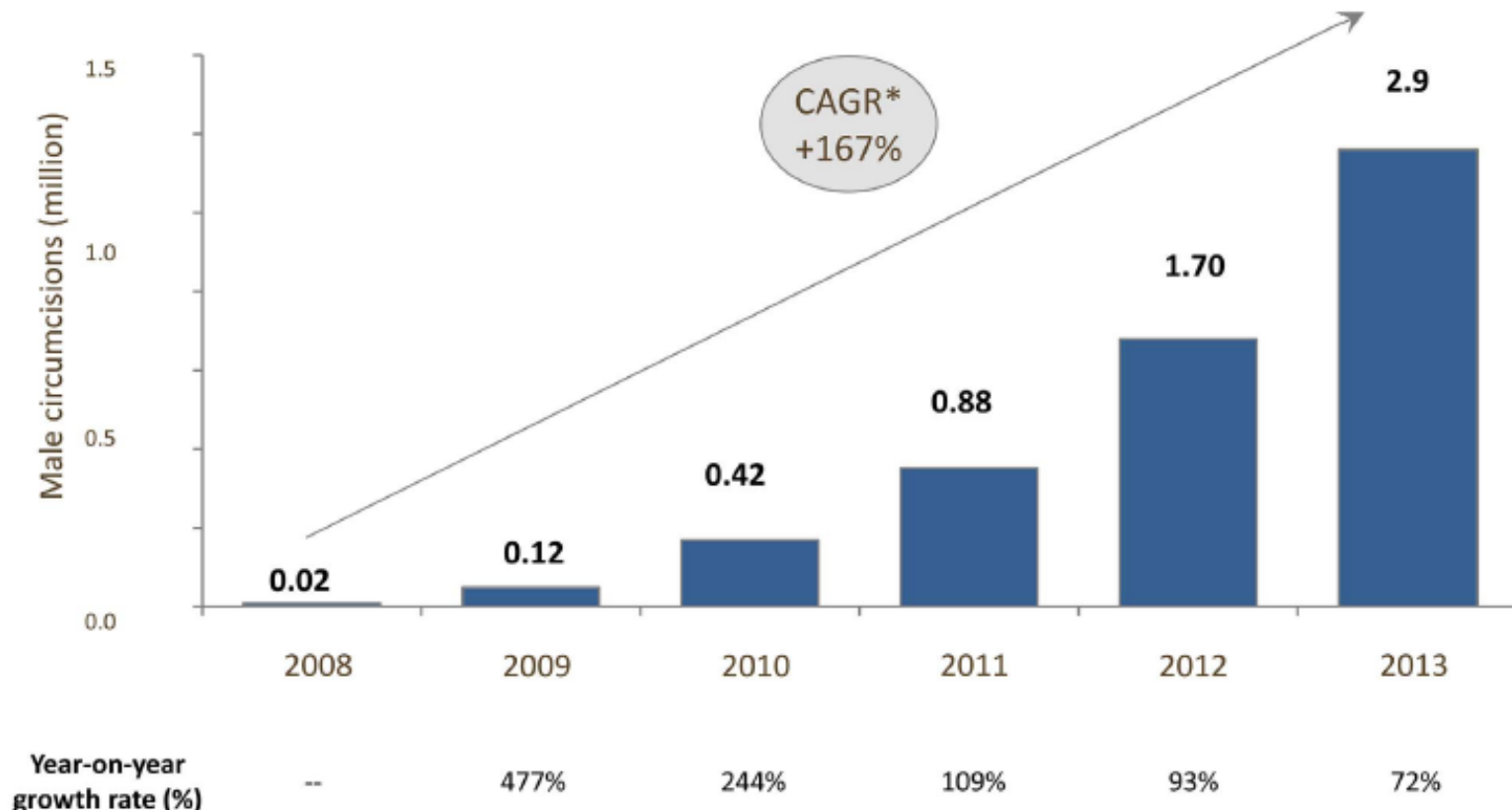
46 communities in Rakai Community Cohort Study  
Adults report partners from throughout Rakai and Uganda  
CHP in one area may not control the epidemic



# Coverage; Africa

*Prevention and treatment*

# Number of MMC conducted per year in priority countries (Sgaier et al PLoS Med 2014)



**Figure 2. Scale-up of voluntary medical male circumcision program and coverage in 14 priority countries, aggregate, 2008–2013.** Number of circumcisions completed each year in millions. Source of 2008–2012 data is the WHO 2012 VMMC report [38]. 2013 numbers have been estimated using data from PEPFAR and the Bill & Melinda Gates Foundation. \*CAGR, compound annual growth rate, calculated based on the average proportional growth each year.  $CAGR(t_0, t_n) = (V(t_n)/V(t_0))^{1/(t_n - t_0)} - 1$ , where  $V(t_0)$  is the start value and  $V(t_n)$  is the finish value and  $t_n - t_0$  is the number of years.

doi:10.1371/journal.pmed.1001641.g002

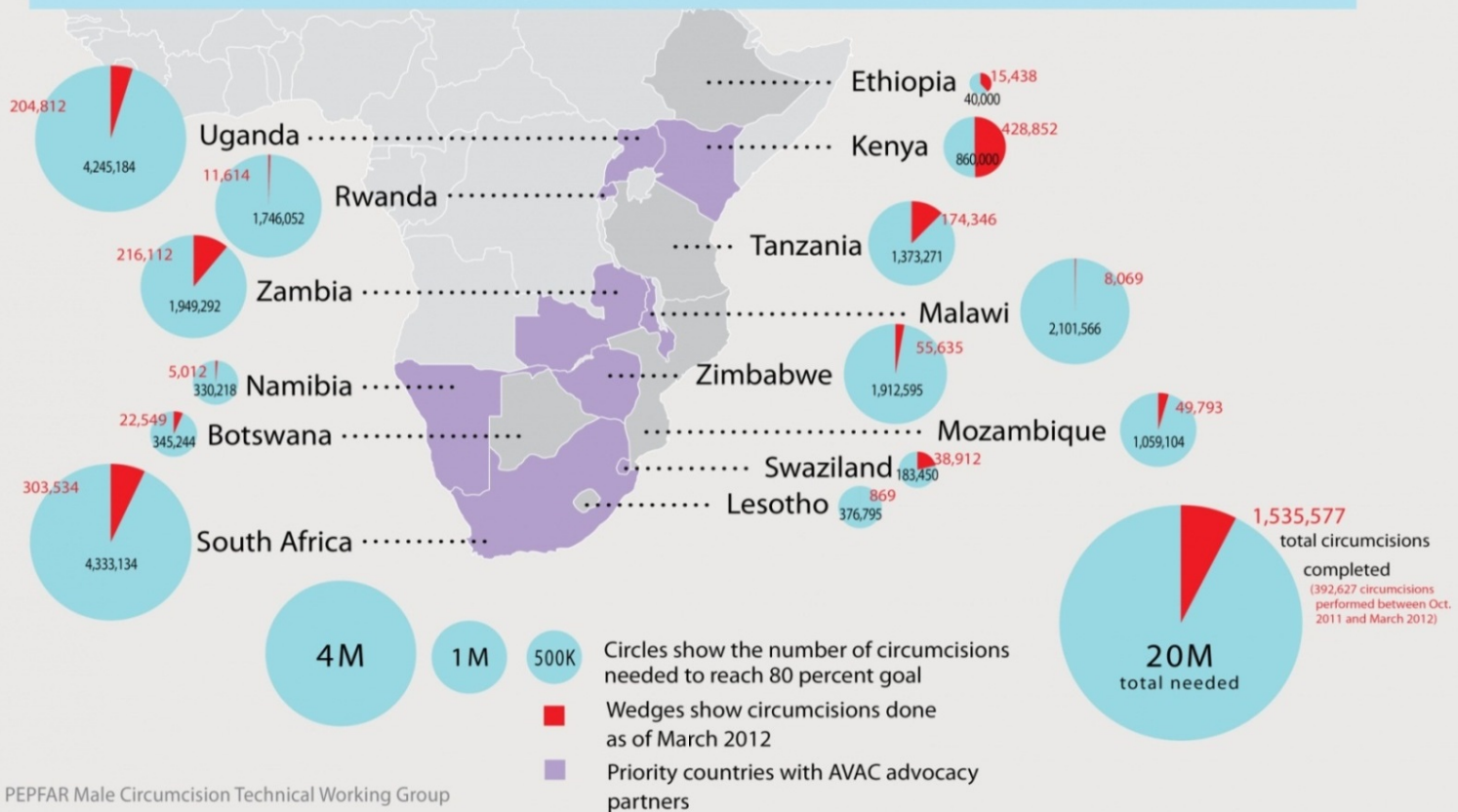


# Male Circumcision: Progress and Targets in Africa as of March 2012

## Progress in VMMC Scale-up in Priority Countries

As of March 2012

Experts hope to circumcise more than 20 million men in 14 African countries by 2015, to reduce their risk of HIV infection



Source: PEPFAR Male Circumcision Technical Working Group

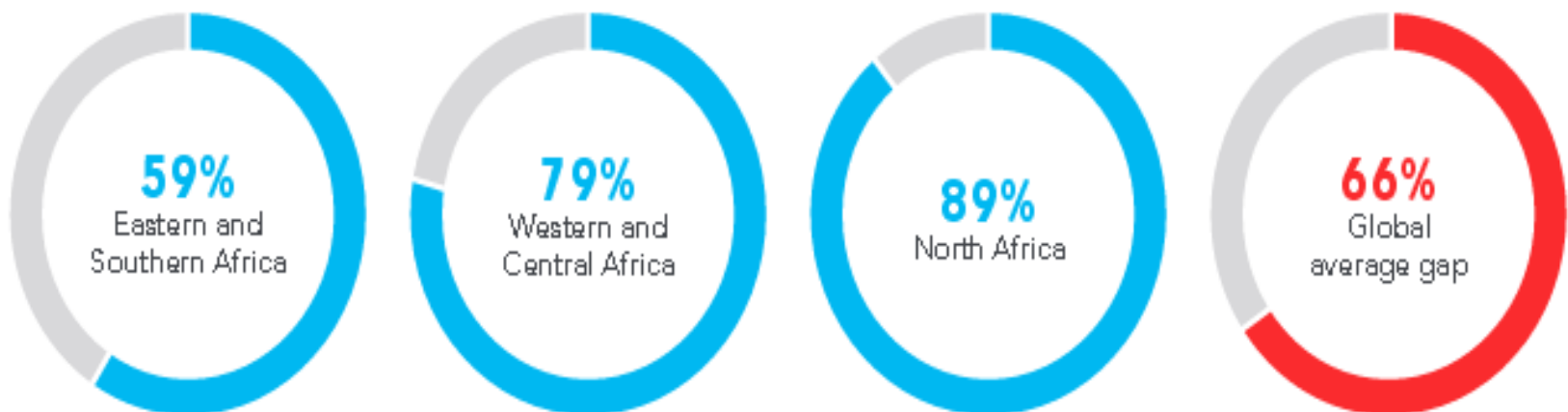
# ART coverage in Sub-Saharan Africa

## UNAIDS Status Report on Progress to 2015 Targets

- 21.2 million eligible for ART at CD4 <500 in 2013
- 7.6 million Africans receiving ART (36%), Dec 2012

FIG. 4

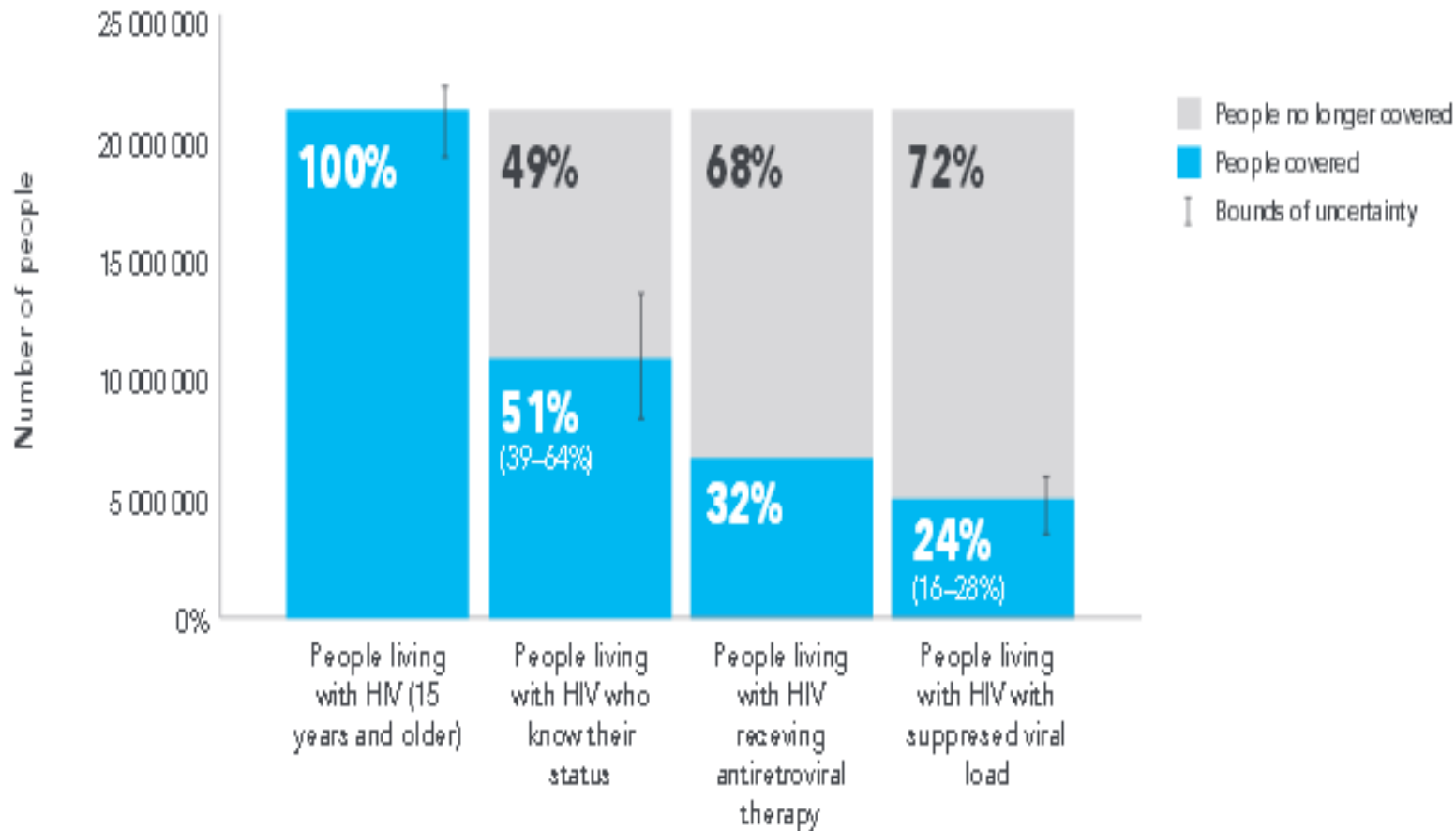
Regional gaps in access to antiretroviral therapy, Africa, 2012 - 2013



Source: UNAIDS 2012 estimates

Note: Based on numbers receiving treatment as of December 2012 and estimated numbers of people eligible as of December 2013 under the 2013 WHO HIV treatment guidelines

# Estimated HIV treatment cascade, sub-Saharan Africa, 2012

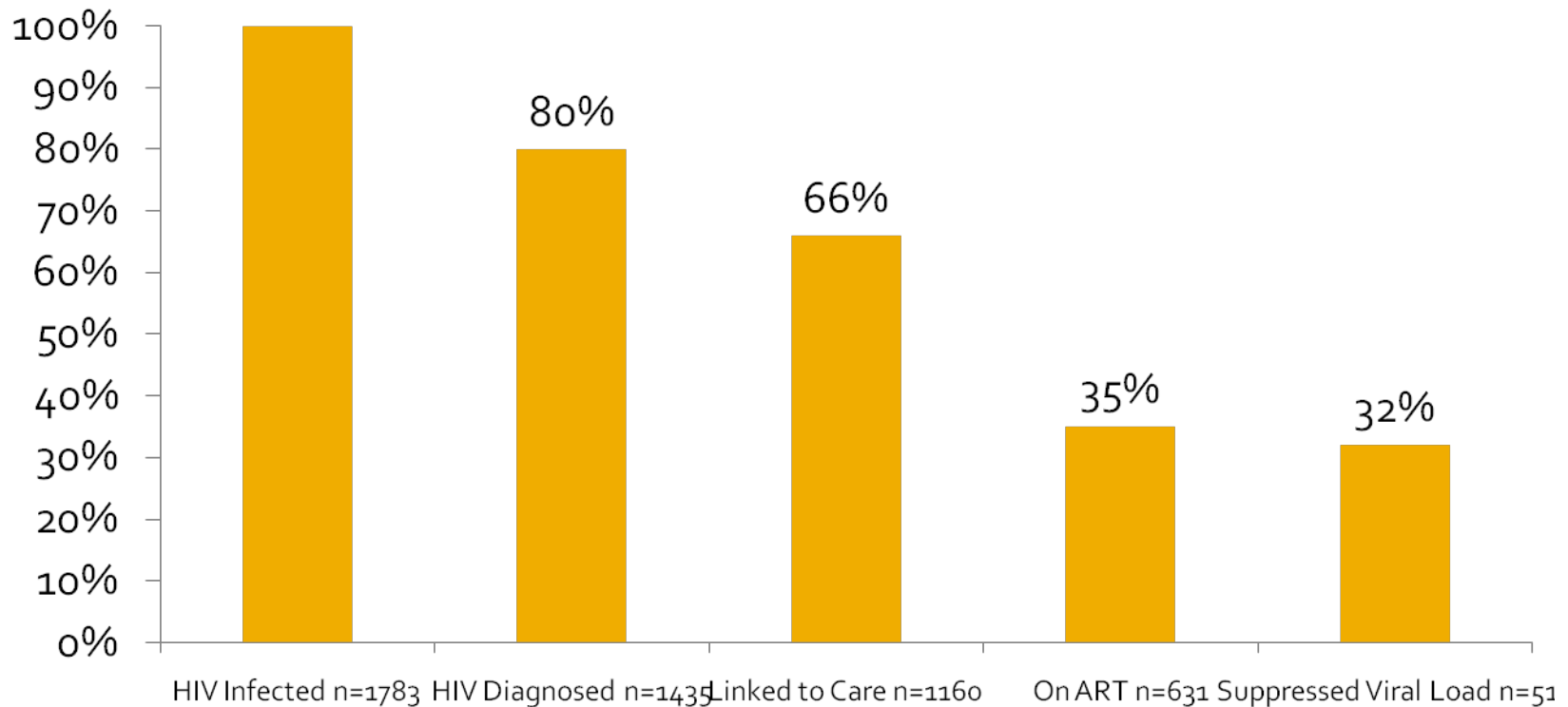


Sources:

1. UNAIDS 2012 estimates.



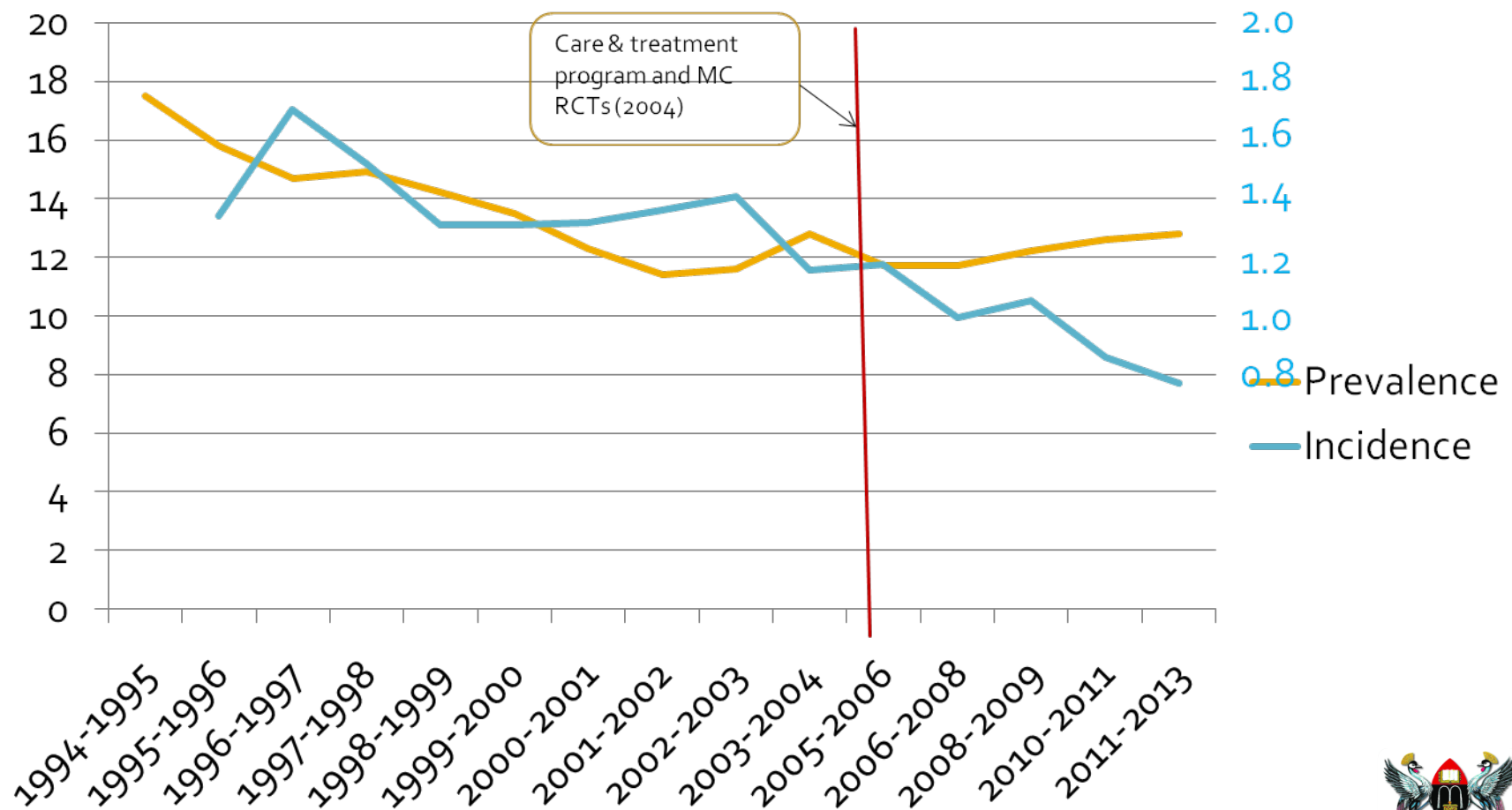
# Treatment Cascade in Rakai 2012



As of 2014: on ART now ~40%



# HIV prevalence (%) and incidence /100 py, RCCS Communities, Survey rounds; 1-15, 1994-2013





# Despite availability of free services, not all ART eligible individuals go for services

- Stigma
- *Perceived good health (individual still feels healthy)*
- Long distance to the HIV clinics/high transport costs
- Fear of life-long medication and side effects
- Belief in spiritual healing
- Lack of time to go to the clinic—busy work schedules
- Long lines at clinics and quality of services
- *Access of services by early adaptors*



# Stylish Man/Stylish Living Demand generation strategy (RHSP, CCP)



## Community mobilization and multimedia campaign

- Goals:
- ***Demedicalize*** CHP and reposition it as stylish and desirable for the modern man and woman
- Stimulate open discussion within couples and communities

### ***Approach***

- \* Radio, posters
- \* Stylish Events
  - Village organizing committees
  - Stylish Van visits each community
  - On site services next to Van
  - Community games and infotainment linked to CHP



# Inadequate Health Systems

- **Health workers**
  - Few health worker in rural health centres
  - No. Of HIV positive clients needing care increasing every years
- **Laboratory and Theatre Procumbent and logistics**
  - stocks out are a problem
- Lack of availability of reliable data for M&E



# Bilateral funds for CHP

CHP targets and numbers of clients on ART increasing  
Funding flatlined

	2010	2013
Bilateral HIV/AIDS:	\$6,867	\$6,527 million

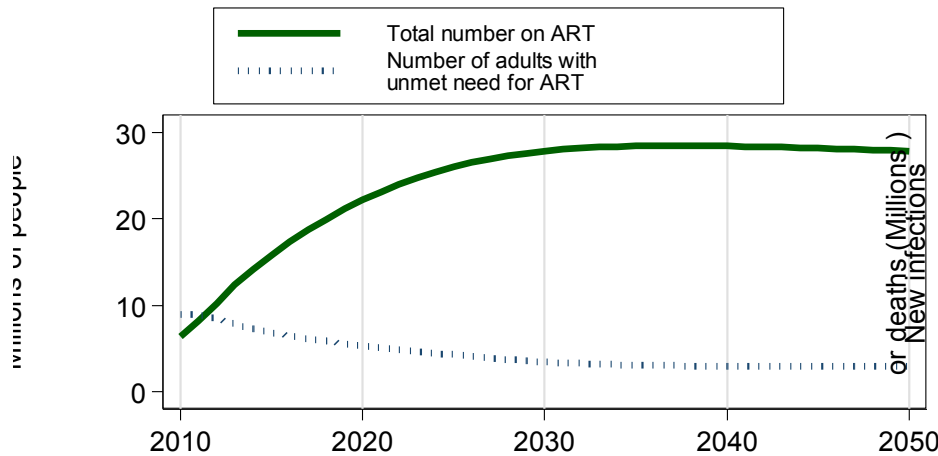
FY 2004 - FY 2015 PEPFAR Funding (\$ in millions)

Programs	FY 2004 Enacted	FY 2005 Enacted	FY 2006 Enacted	FY 2007 Enacted	FY 2008 Enacted	FY 2009 Enacted	FY 2010 Enacted	FY 2011 <sub>2</sub> Enacted	FY 2012 <sub>3</sub> Enacted	FY 2013 <sub>4</sub> Enacted	Total <sub>5</sub> Enacted	FY 2014 <sub>6</sub> Estimate	FY 2015 <sub>7</sub> Requested
Bilateral HIV/AIDS Programs <sup>1</sup>	1,643	2,263	2,654	3,699	5,028	5,503	5,574	5,440	5,083	4,726	41,613	*	4,855
Global Fund	547	347	545	724	840	1,000	1,050	1,046	1,300	1,569	8,968	*	1,350
Bilateral TB Programs	87	94	91	95	163	177	243	239	256	233	1,678	*	191
<b>TOTAL PEPFAR (w/o Malaria)</b>	<b>2,277</b>	<b>2,704</b>	<b>3,290</b>	<b>4,518</b>	<b>6,031</b>	<b>6,680</b>	<b>6,867</b>	<b>6,725</b>	<b>6,639</b>	<b>6,527</b>	<b>52,258</b>	<b>*</b>	<b>6,396</b>

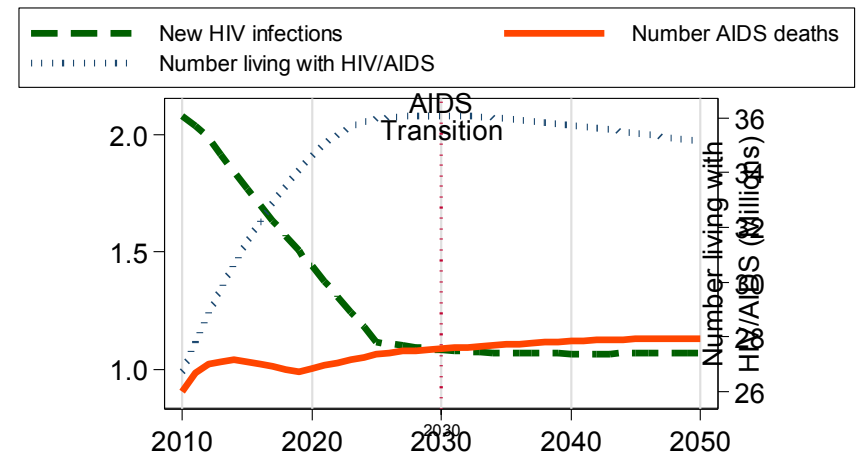
# Future of HIV/AIDS in Africa

## Institute of Medicine report 2011

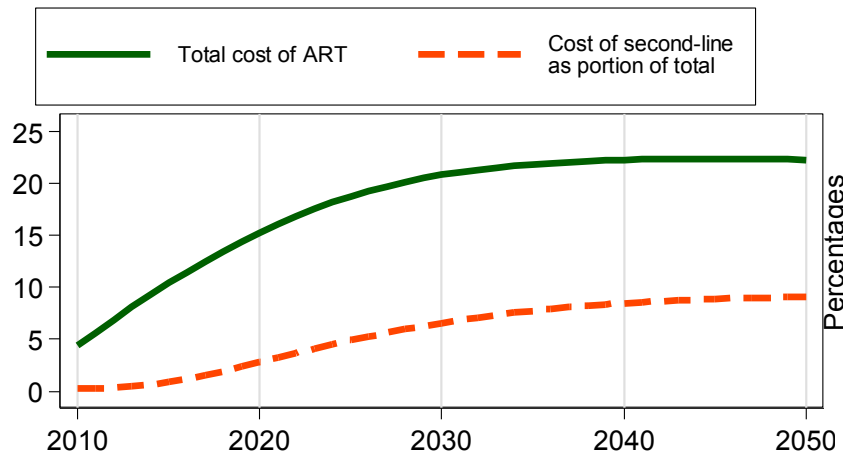
Panel a. Numbers of people



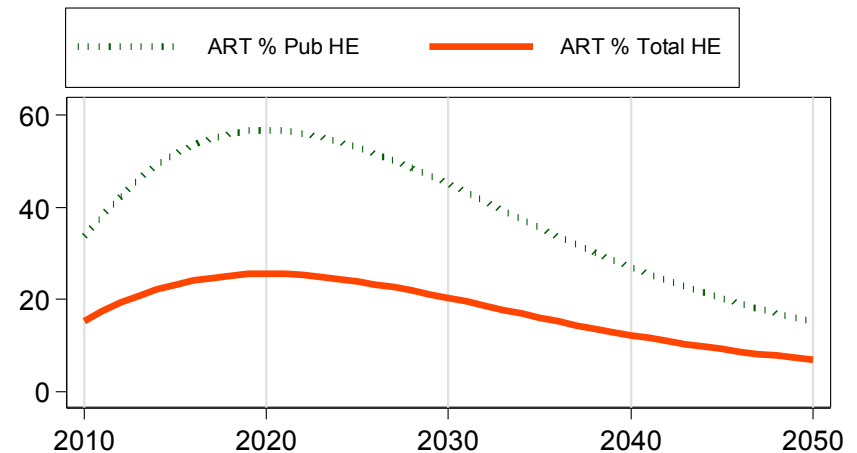
Panel b. Infections and deaths



Panel c. Expenditures



Panel d. Affordability



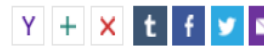
# Another challenge...

Uganda's president signs anti-gay bill

t



By RODNEY MUHUMUZA  
February 24, 2014 8:35 AM



# Possible solutions Africa's Economy

*The Economist Dec 3-9 2011*

- Cost of these intervention are huge
- Africa's GDP is however projected to keep growing 5-6% for some years to come
- Shared responsibility with good leadership and Governance is our hope
- Africa need/should own, scale up and sustain the HIV RESPONSE



# In summary ; The road ahead....

- A long sustained increase in resources will be needed to control the HIV epidemic and realize our aspiration
- Local resources need to be mobilized to realize this
- Health system improvement will be critical
- Investigate in HIV prevention research
- Leadership will always be important





# Thank You

- Acknowledgements
- All the study participants
  - Williams. B- *WHO*
    - Montaner .J – British Columbia Ceter
    - Eaton Jeffery – *Imperial College London*
    - Cate Hankins – *formerly UNAIDS*
    - *Rakai Helth Science Program*
    - *Institute of Medicine, Washington*

