



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA



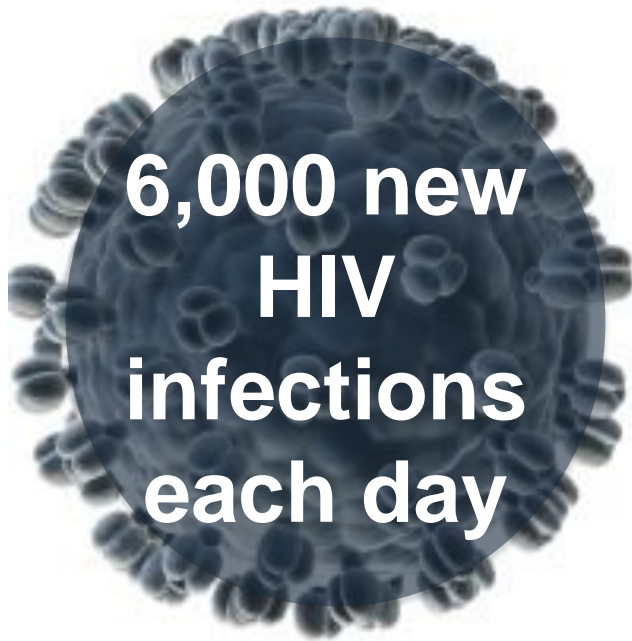
CAPRISA IS A UNAIDS
COLLABORATING CENTRE
FOR HIV PREVENTION RESEARCH

Sexual and reproductive health services for adolescent and young women

Hilton Humphries & Sarah Dlamini

**Project Director: CAPRISA Vulindlela Adolescent
Programme**

2013 Global HIV epidemic at a glance



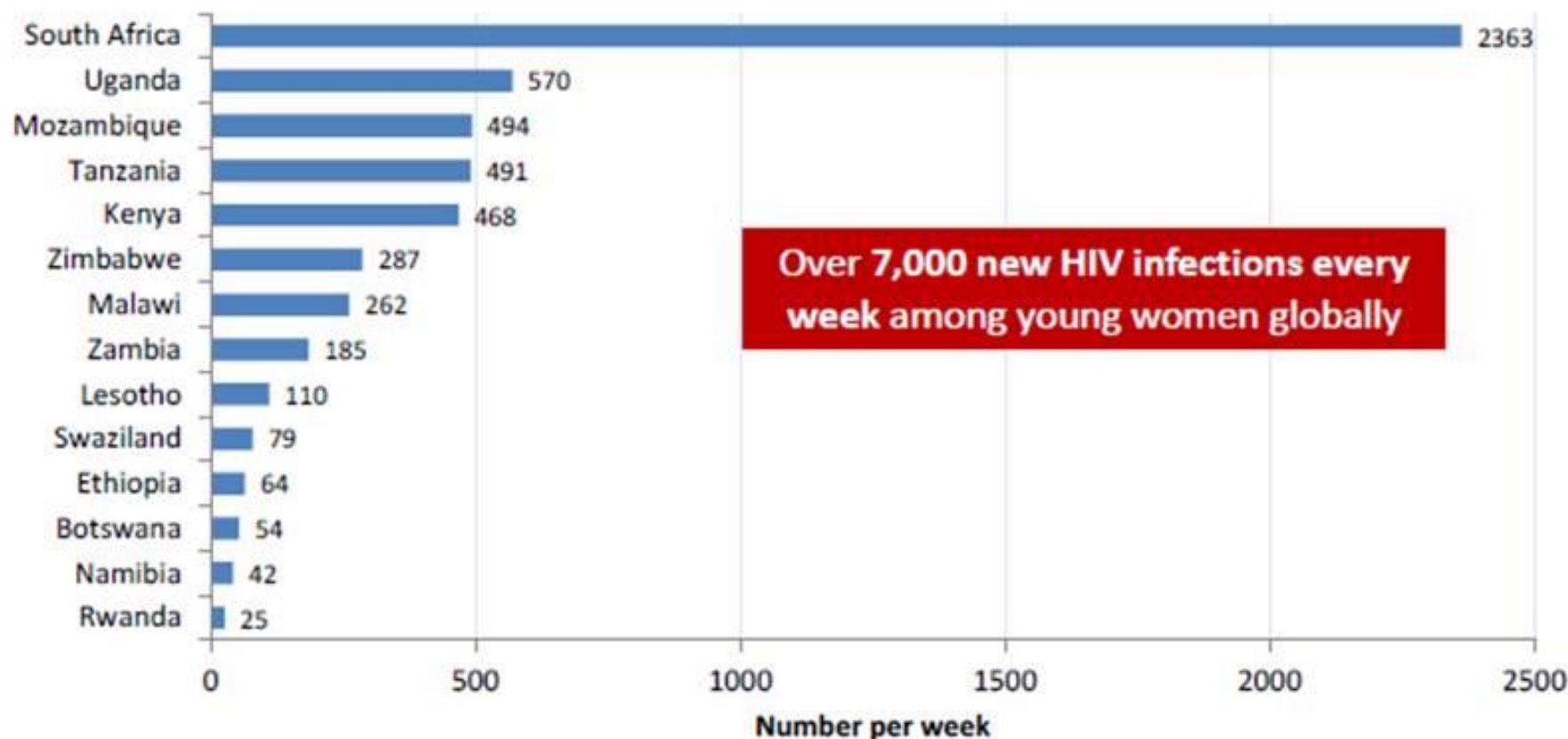
Source: UNAIDS Global Report 2014

HIV Incidence among Young Women

More than 1/3 New HIV Infections Globally Occur among Young Women in Africa

Estimated number of new HIV infections *per week* among young women aged 15-24 years in East and Southern Africa, 2012

Data source: UNAIDS 2013



Why is HIV so severe in South Africa?

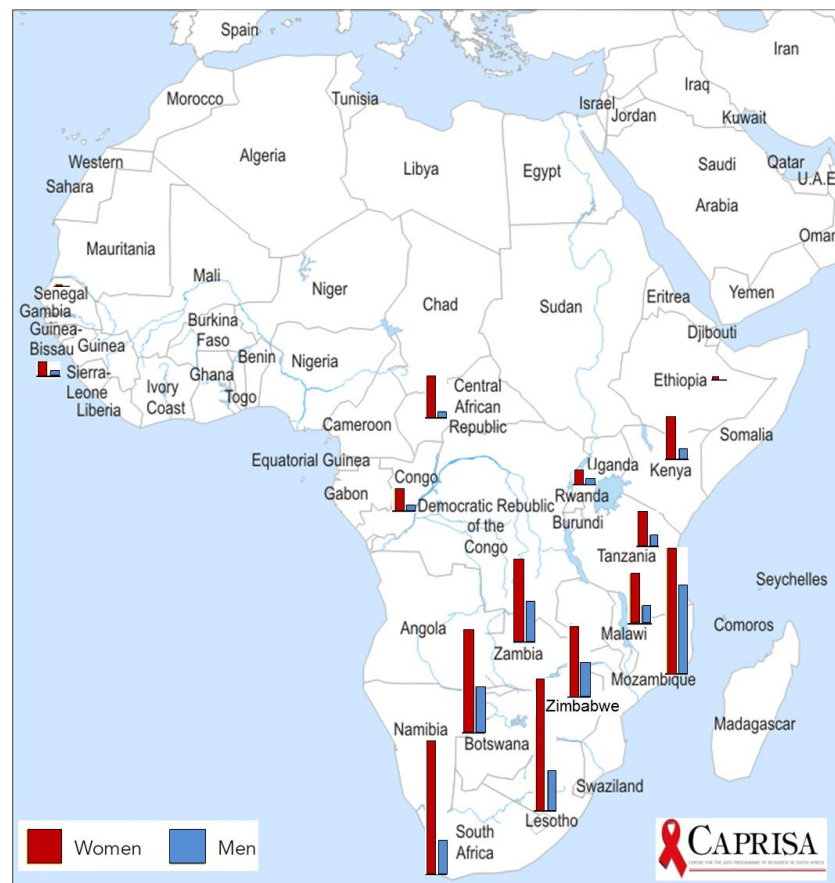
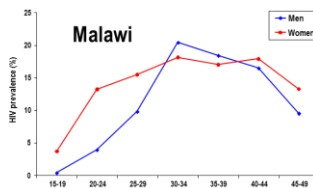
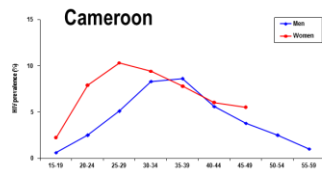
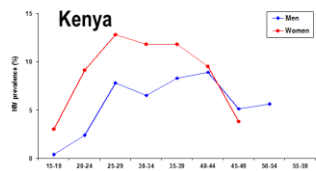
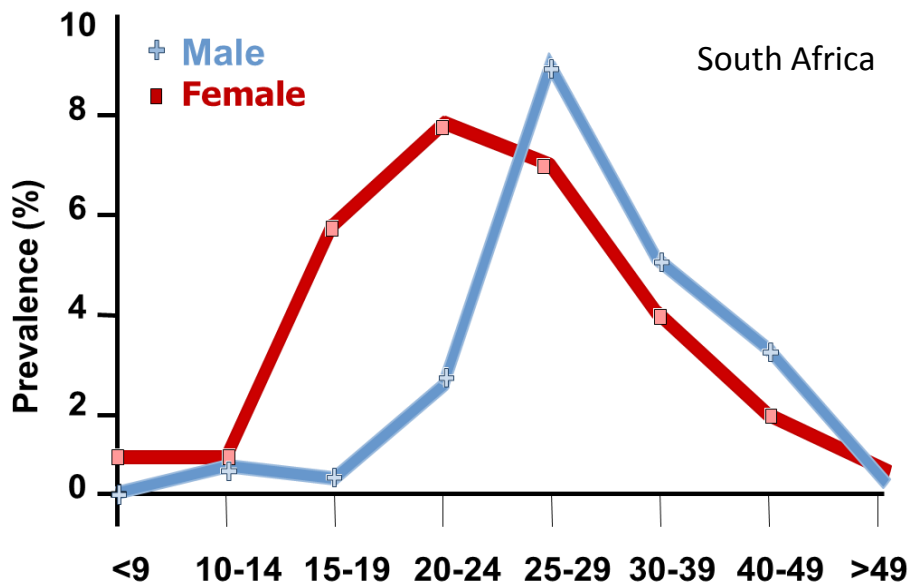
Disproportionate burden of HIV in young women



HIV infection and tuberculosis in South Africa: an urgent need to escalate the public health response

Salim S Abdoool Karim, Gavin J Churchyard, Quarraisha Abdoool Karim, Stephen D Lawn

THE LANCET



**HIV incidence in 18-35
year women in this
community:**

9.1%

**HIV prevalence in
young pregnant
women in rural
South Africa (2009-2012)**

Age Group (Years)	HIV Prevalence (N=1029)
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≤16	8.4%
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17-18	18.6%
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19-20	25.4%
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21-22	32.8%
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23-24	44.8%
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**9.1 per 100 women-years
(95% CI: 7 - 12)**

Source: Abdool Karim Q et al, Science 2010

Source: Abdool Karim Q, 2014



HIV Incidence in Young Girls in KwaZulu-Natal, South Africa-Public Health Imperative for Their Inclusion in HIV Biomedical Intervention Trials

Quarraisha Abdool Karim • Ayesha B. M. Kharsany • Janet A. Frohlich • Lise Werner • Mukelisiwe Mlotshwa • Bernadette T. Madlala • Salim S. Abdool Karim

	Rural /urban women 14-30 years of age		
	<18 years	≥18 years	P value
HIV incidence /100wy	4.7 (95%CI1.5-10.9)	6.9 (95%CI4.8-9.6)	0.41
Pregnancy incidence /100wy	23.7 (95%CI14.9-35.9)	16.4 (95%CI12.9-20.6)	0.29

High HIV and pregnancy rates

School Research:

HIV, HSV-2 And Pregnancy In High Schools In Rural KZN



ORIGINAL ARTICLE

Prevalence of HIV, HSV-2 and pregnancy among high school students in rural KwaZulu-Natal, South Africa: a bio-behavioural cross-sectional survey

Quarraisha Abdool Karim,^{1,2} Ayesha B M Kharsany,¹ Kerry Leask,¹ Fanelisibonge Ntombela,¹ Hilton Humphries,¹ Janet A Frohlich,¹ Natasha Samsunder,¹ Anneke Grobler,¹ Rachael Dellar,¹ Salim S Abdool Karim^{1,2}

Overall:

- HIV prevalence 6.7%
- HSV-2 prevalence 10.7%
- Pregnancy prevalence 3.6%

Highest priority: Reducing HIV in young girls



Prevalence of HIV, HSV-2 and pregnancy among high school students in rural KwaZulu-Natal, South Africa: a bio-behavioural cross-sectional survey

Quarraisha Abdool Karim,^{1,2} Ayesha B M Kharsany,¹ Kerry Leask,¹ Fanelisibonge Ntombela,¹ Hilton Humphries,¹ Janet A Frohlich,¹ Natasha Samsunder,¹ Anneke Grobler,¹ Rachael Dellar,¹ Salim S Abdool Karim^{1,2}

Sex Transm Infect 2014; 90(8): 620-626

HIV Prevalence (2010)

Age Group
(years)

% (95% Confidence Interval)

Male (n=1252)

Female (n= 1423)

≤15

1.0 (0.0 - 2.2)

2.6 (1.2 - 4.0)

16-17

1.1 (0.2 - 2.0)

6.1 (2.6 - 9.6)

18-19

1.5 (0 - 3.7)

13.6 (9.0 - 18.1)

≥20

1.8 (0 - 3.9)

24.7 (6.3 - 43.1)

CAPRISA 007:

HSV-2 in rural high schools students



Prevalence of HIV, HSV-2 and pregnancy among high school students in rural KwaZulu-Natal, South Africa: a bio-behavioural cross-sectional survey

Quarraisha Abdool Karim,^{1,2} Ayesha B M Kharsany,¹ Kerry Leask,¹ Fanelisibonge Ntombela,¹ Hilton Humphries,¹ Janet A Frohlich,¹ Natasha Samsunder,¹ Anneke Grobler,¹ Rachael Dellar,¹ Salim S Abdool Karim^{1,2}

Sex Transm Infect 2014; 90(8): 620-626

**Age Group
(years)**

HSV-2 Prevalence (2010)
% (95% Confidence Interval)

Male (n=1252)

Female (n= 1423)

≤15

0.7 (0 – 1.7)

3.5 (1.8 – 5.2)

16-17

2.0 (0.6 – 3.4)

9.3 (5.4 – 13.3)

18-19

6.6 (1.9 – 11.2)

30.2 (16.2 – 44.2)

≥ 20

3.5 (0 – 7.9)

43.3 (20.8 – 65.8)

School Surveillance:

Anonymous surveillance survey of HIV Prevalence in 5 high school learners in rural KZN 2012

	HIV Prevalence % (95% CI)					All
	A N=1026	B N=529	C N=335	D N=621	E N=731	
Boys n=1544	1.8 (0.6-3.0)	2.5 (0.5-4.4)	4.1 (1.1-7.1)	2.8 (1.0-4.6)	2.2 (0.7-3.8)	2.5 (1.8-3.4)
Girls n=1698	5.1 (3.3-6.9)	7.7 (4.6-10.8)	9.0 (4.7-13.4)	8.7 (5.5-11.9)	3.5 (1.6-5.4)	6.2 (5.1-7.5)
Overall n=3243	3.6 (2.5-4.8)	5.3 (3.4-7.2)	6.6 (3.9-9.2)	5.6 (3.8-7.4)	2.9 (1.7-4.1)	4.4 (3.7-5.2)

Diversity of HIV infection between schools within a high burden district

Behavioural Science: HIV risk in young women in Africa

- **No notion of a future**
 - Live for today
- **Pressure to have sex**
 - For money or favours
 - Peer pressure
 - Flattering to be desired by an older man (status symbol)
- **Poor perception and internalisation of HIV risk**
 - “AIDS affects other people”
 - Knowledge of HIV status low
- **Family Structure**



Models of care: SRH service provision in high schools

- **Service provided to 8 867 high-school students, 4 171 (47.0%) of whom accessed on-site CCT services for HIV with 239 learners (5.7%) referred for ongoing clinical**
- **Based on our experience in providing VMMC services to high school we utilized early adopters of the programme to enhance demand**
- **Thus far, in this pilot phase 20 peer leaders have been selected and have completed a structured curriculum**

Influence of peers on uptake of SRH services



Introduction of peer ambassador information sessions increases uptake of services

Fixed and Mobile SRH service provision in Rural KZN

Low perception of risk	Need to be orientated to risk when engaging with SRH and HIV prevention methods to facilitate optimal empowerment and access
Different profile of adolescent attending fixed versus mobile services	Need different modes of service delivery to provide optimal uptake from adolescents with different needs and different risk profiles
Notable effect of peer ambassadors on uptake of services	Peer influence should be harnessed and used to the benefit of youth friendly SRH services

Preventing sexual spread of HIV

Existing accepted proven HIV prevention strategies - ABCCC:

- **A**bstinence
- **B**ehaviour (Be faithful)
- **C**ondoms (Male & Female)
- **C**ounselling and Testing
- **C**ircumcision (Medical Male)

New strategy: ART for Prevention

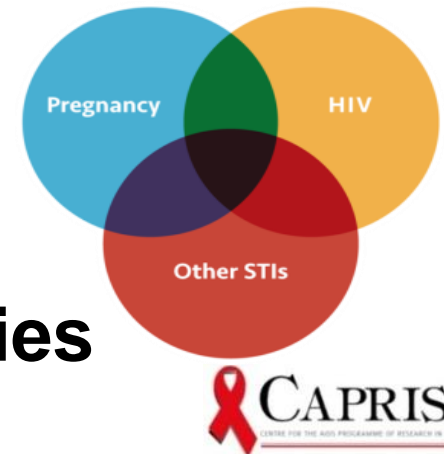
Which of these prevention tools are specifically for young women in Africa?

Options for PrEP for women

- Antiretroviral drugs to prevent HIV in uninfected
- ARVs in gels, tablets, rings, films & injections:



- **Proven PrEP:** Tenofovir in gel & tablets (Truvada)
- **PrEP agents currently in tests:**
 - Tenofovir in dissolving film (at the time of sex)
 - Dapivirine ring (monthly)
 - Cabotegravir injections (3-monthly)
- **Multi-purpose prevention technologies**



CAPRISA 004 Results

- **Tenofovir gel prevents HIV in women**
 - **39% protection against HIV overall**
 - **54% effective in women with high adherence**
 - **74% protection with high tenofovir levels**
- **Tenofovir gel prevents HSV-2 infection in women**
 - **51% reduction in HSV-2 incidence**

First results to show that antiretroviral drugs can prevent sexual transmission of HIV & HSV-2

Adherence is key to ensuring effectiveness of ARV based microbicides

- CAP 004

- **Median adherence rose from 53.6 % pre-ASP to 66.5 % post-ASP**
- **Detectable tenofovir levels increased from 40.6 % pre-ASP to 62.5 % post-ASP**
- **Following implementation of the ASP, microbicide adherence improved with a concomitant increase in the effectiveness of tenofovir gel**

FACTS 001

- **Double-blinded, randomized, placebo-controlled trial**
- **Tested whether tenofovir (TFV) 1% gel inserted vaginally before and after sex could reduce HIV and HSV-2**
- **The study was conducted in 9 sites in South Africa and included over 2000 sexually active women.**
- **FACTS 001 was designed to confirm the CAPRISA 004 study findings**
- **CAPRISA 004 had shown 39% protection by intent-to-treat (ITT) analysis and 54% protection in women who adhered to the protocol.**

FACTS 001 Results

- **By intent-to-treat analysis, the gel was not proven to be effective**
- **The incidence rate in the tenofovir and placebo arms was 4.0/100 women years**
- **The gel was effective in women who used it consistently.**
 - 214 participants in the TFV-treated group, detection of TFV in genital fluids was associated with a 52% reduction in HIV.
 - women who did not use the gel at all were 5 times more likely to become infected.
- **These results are very similar to those of the VOICE study**

What does this mean for Tenofovir Gel?

- While the gel may not be appropriate for all woman, approximately 25% of the women participating in gel trials were willing and able to use it consistently
- The decision on the future of tenofovir gel will need to be carefully considered by looking at all of the data from CAPRISA 004, VOICE, and FACTS 001.

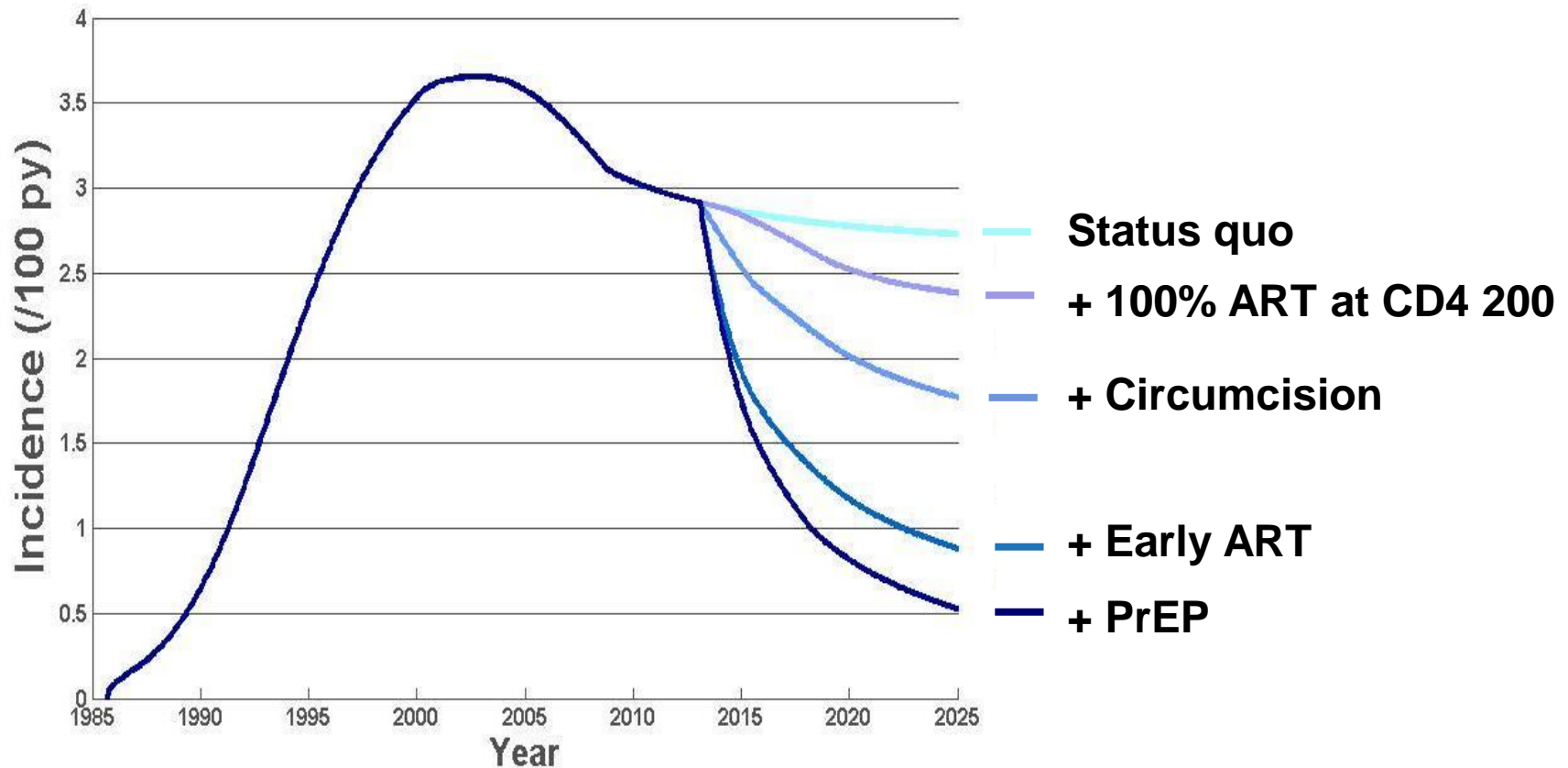
These studies include:

- CAPRISA 008
- MTN 017.
- Other smaller studies using TFV gel are also ongoing or have just been completed.
- In addition to preventing HIV infection, Tenofovir gel also prevents HSV-2 infection. HSV-2 infection enhances the chances of getting HIV infected.

What's next for women?

- The FACTS 001 study and several other studies highlight the continued high rates of HIV infection
- As we move the microbicide agenda forward we need to better understand the relationship between HIV risk and product adherence. There is unlikely to be 1 solution for all women.
- Studies are already underway with monthly vaginal rings and longer acting products such as three monthly injections..
- Immunotherapy or the use of antibodies that protect against HIV infection and delivered three monthly are also under development.
- CAPRISA remains committed to finding HIV prevention methods for women

Is HIV epidemic control achievable Without a vaccine or cure?



Yes, HIV epidemic control is achievable!

Conclusion

- **HIV is decreasing worldwide but not in young women (and not in key populations such as MSM, IDU, etc)**
- **No magic bullet for HIV prevention, not even PrEP**
 - Need a nuanced understanding of who is infecting young women
 - Locally Customised approach
 - PrEP is one of technologies that could reduce HIV substantially in adolescent girls & young women
- **Schools as opportunities for health**
- **Address social and structural issues**
- **Knowledge of HIV status is key.**
- **Multidisciplinary approach to bridge data gaps, clinic to community gaps, school-home gaps, family-school-health gaps**
- **In Africa, HIV cannot be controlled unless there is a marked reduction in HIV in young women**



Acknowledgements



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- **CAPRISA was established as part of the Comprehensive International Program of Research on AIDS (CIPRA) of the National Institutes of Health (NIH) (grant# AI51794)**

CAPRISA is funded by:

- DAIDS, NIAID, National Institutes of Health
- US Agency for International Development (USAID) via FHI and CONRAD
- President's Emergency fund for AIDS Relief (PEPFAR)
- US Centers for Disease Control and Prevention (CDC)
- South African Department of Science and Technology (DST)
- Fogarty International Center, NIH
- Howard Hughes Medical Institute (HHMI)
- Gilead Sciences (tenofovir API)
- Royal Netherlands Embassy and MIET
- MACAIDS Fund (via Tides Foundation)
- Technology Innovation Agency (LIFE Lab)

Past Funders:

- National Research Foundation, South Africa (NRF)
- CHAVI
- SAAVI
- European Commission - EDCTP
- Doris Duke Charitable Foundation (DDCF)
- Global Fund against AIDS, TB & Malaria (GFATM)
- Johap - Oxfam

