

State of the Epidemic: Progress and Challenges in Prevention Among Youth

Part 1 – Epidemiology of HIV among youth in South Africa

Prof Leickness C. Simbayi, D.Phil.
Acting Executive Director, Social Aspects of HIV/AIDS and Health (SAHA),
Human Science Research Council
Cape Town South Africa

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Overview

- **Background**
- **The prevalence and incidence of HIV infection**
- **Demographic and behavioural determinants of prevalence and incidence**
- **Recommendations**

Background

- According to a report by the World Bank entitled *The World Bank's Commitment to HIV/AIDS in Africa: Our Agenda for Action, 2007-2011* launched in Washington DC on 14 May 2008 it says that:
 - *for every infected African starting antiretroviral therapy (ART) for the first time, another four to six become newly infected, even as regional figures show falling prevalence in countries such as Kenya, and parts of Botswana, Côte d'Ivoire, Malawi, and Zimbabwe.*

Background (contd)

- Therefore, Sub-Saharan African countries including South Africa must continue to champion HIV prevention efforts to slow and reverse the rate of new HIV infections otherwise all the recent modest gains in improving access to and use of ARVs in the region shall be in vain.
- South Africa has a generalised epidemic
 - It alone carries the largest burden of any single country in the world with an estimated 5.5 million PLWHA

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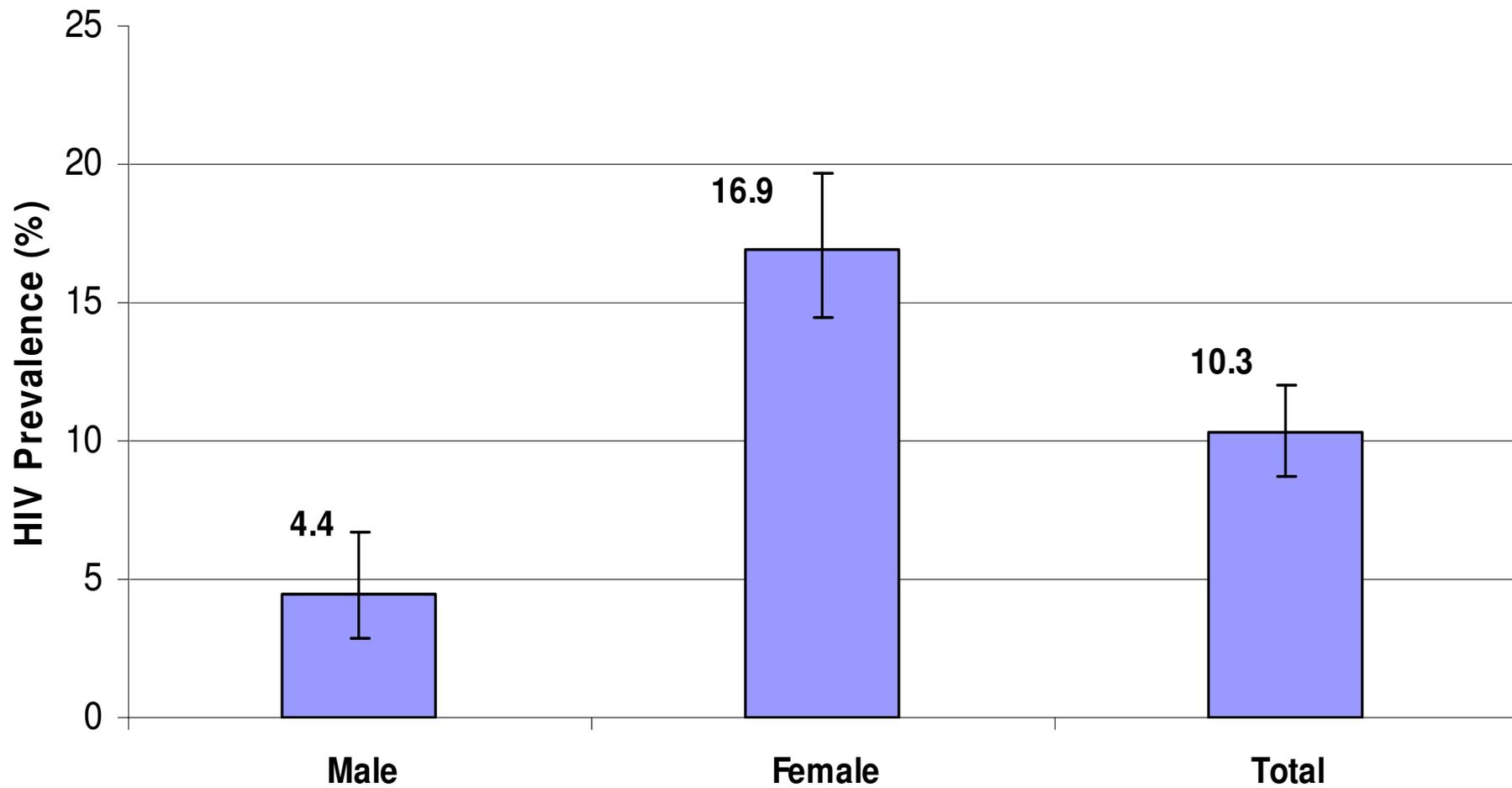


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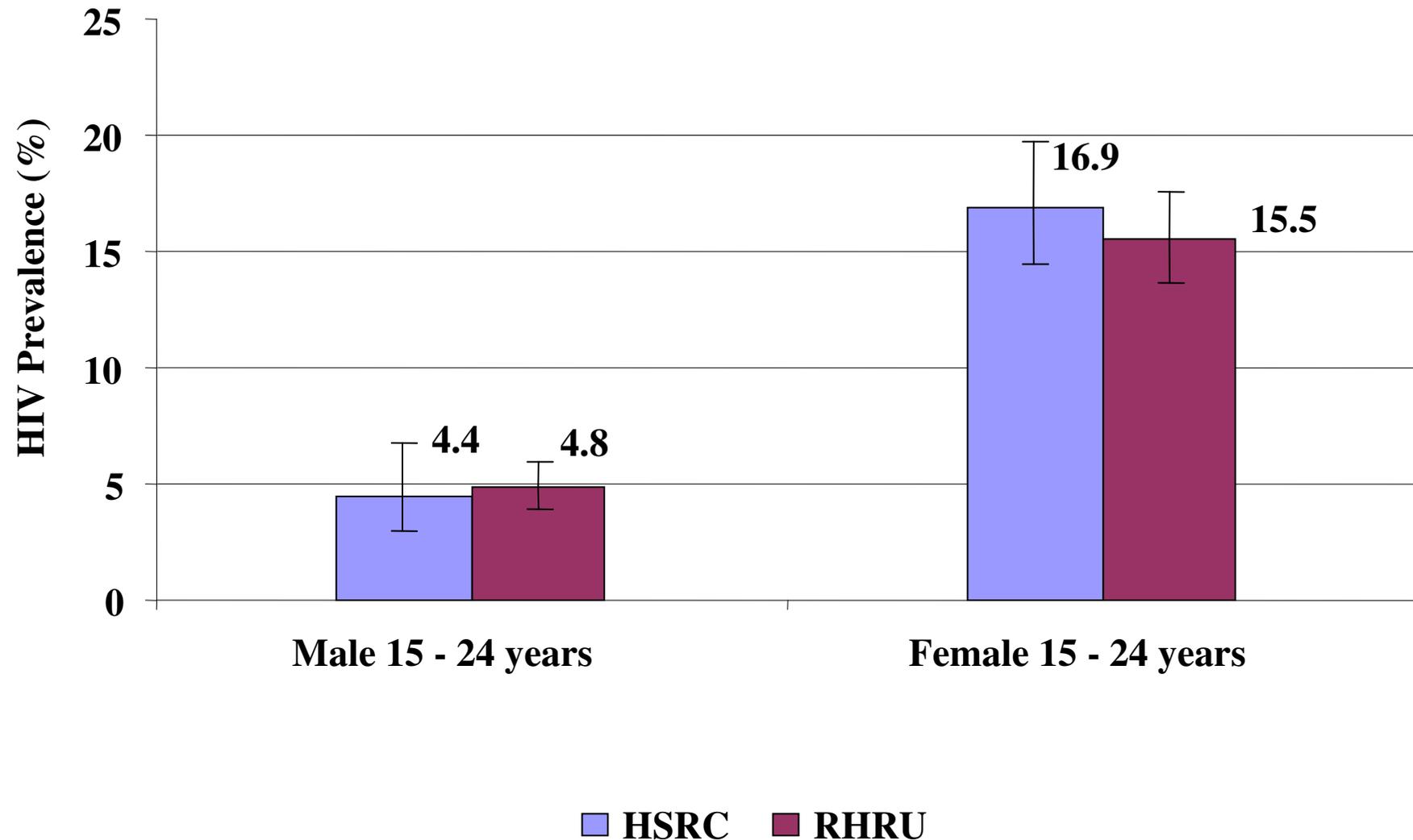
Background (contd)

- The prevalence rate of HIV infections among of the general population aged 2 years and older is estimated to be about 11% while it is about 16% among adults aged 15-49 years of age
 - This represents 14% of the global burden and about 20% of the African total
 - One out of every six PLWHA in the world
- HIV is mainly spread through unprotected heterosexual sex

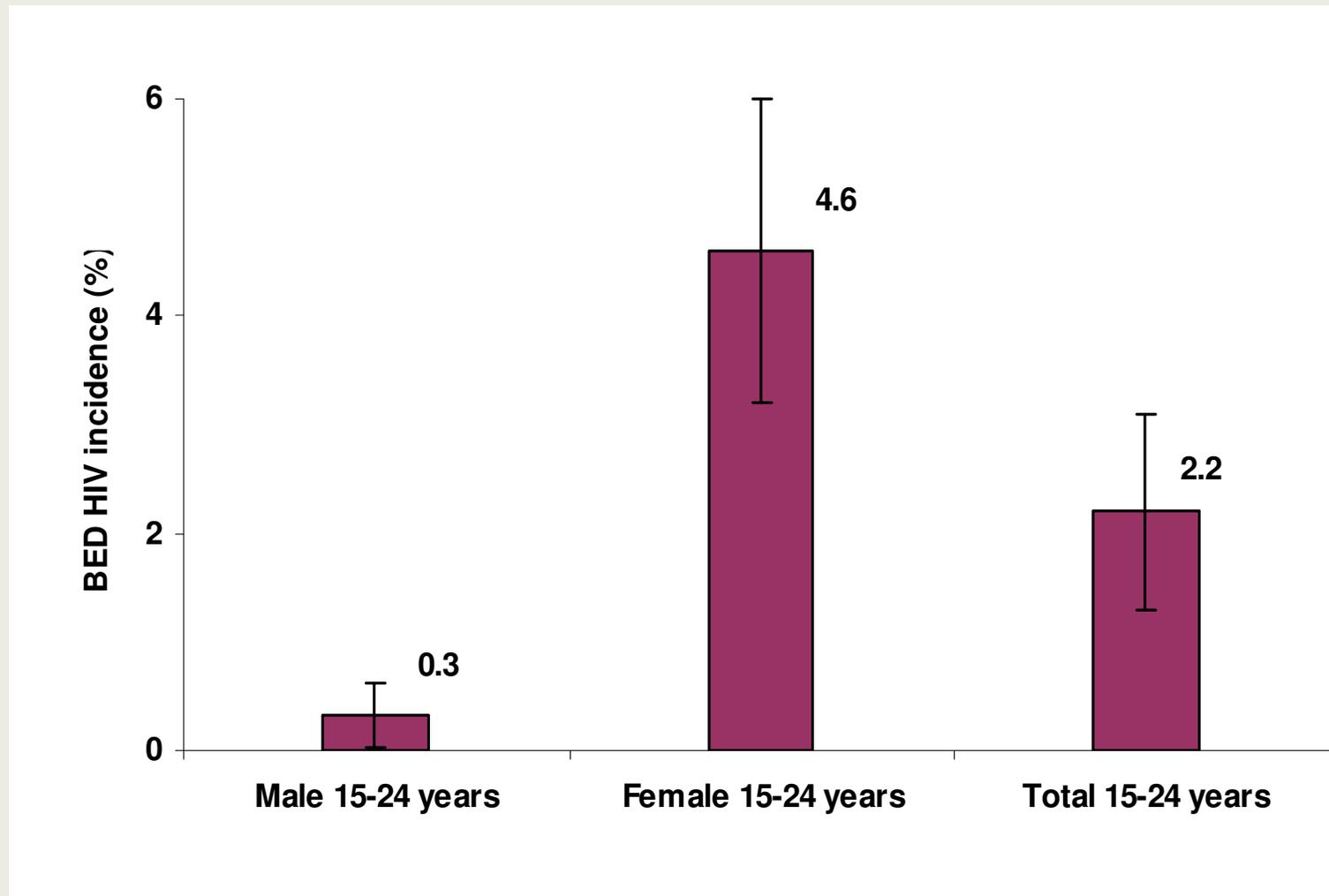
HIV prevalence among youth 15 - 24 years old by sex, South Africa 2005



Comparison between results from the HSRC 2005 vs. RHRU (loveLife) 2003 Surveys



HIV incidence in youth aged 15-24 years, South Africa 2005



HIV prevalence and incidence among young adults aged 15-24 years, South Africa 2005

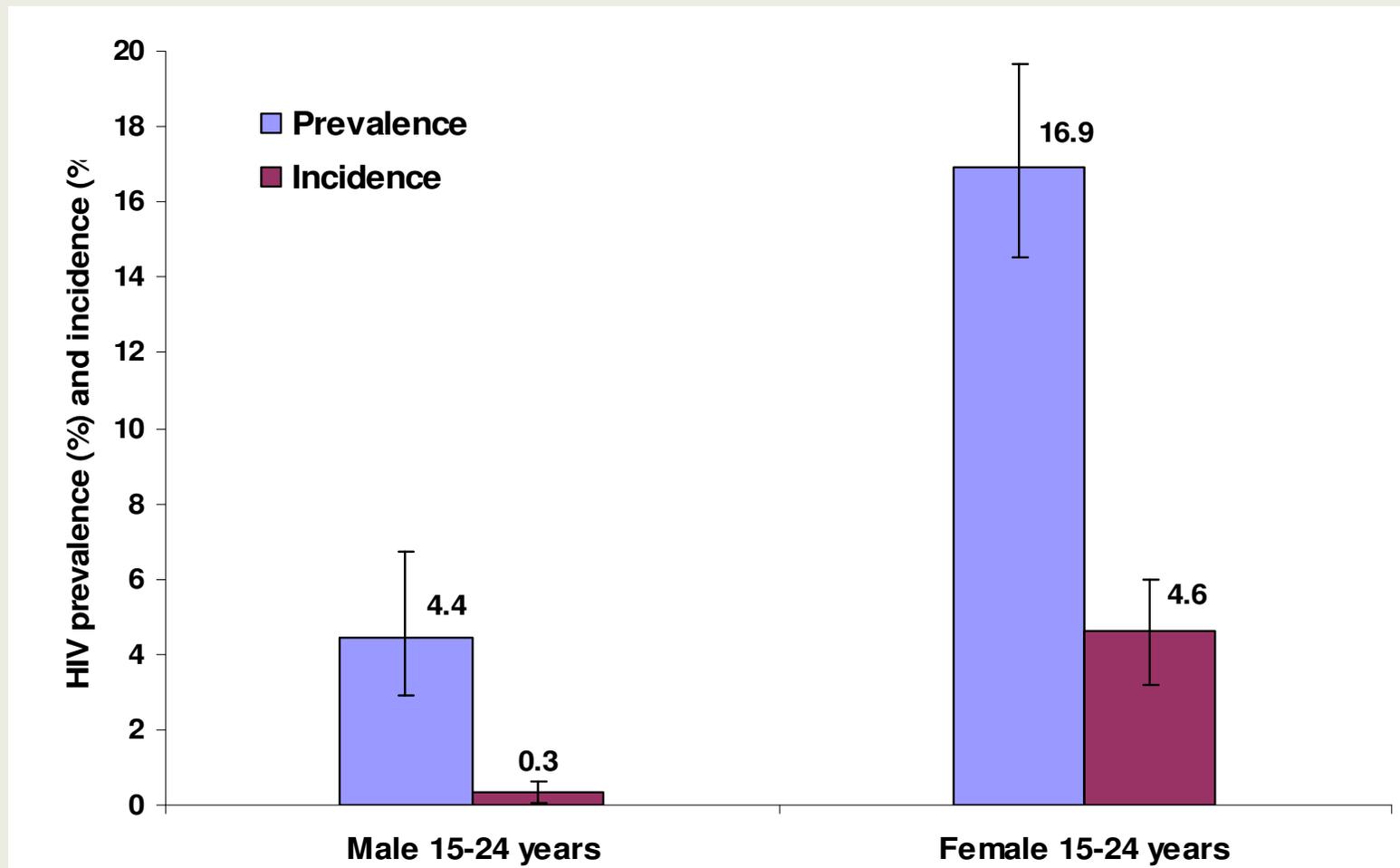
Gender	Weighted sample (n)	HIV prevalence %	HIV incidence % per year [95%CI]	Estimated number of new infections per year (n)
Total	9 615 628	10.3 [8.7 -12.0]	2.2 [1.3 - 3.1]	192 000
Males	5 130 262	4.4 [2.9 - 6.7]	0.3 [0.03 - 0.6]	16 000
Females	4 485 365	16.9 [14.5 - 12.0]	4.6 [3.2 - 6.0]	176 000

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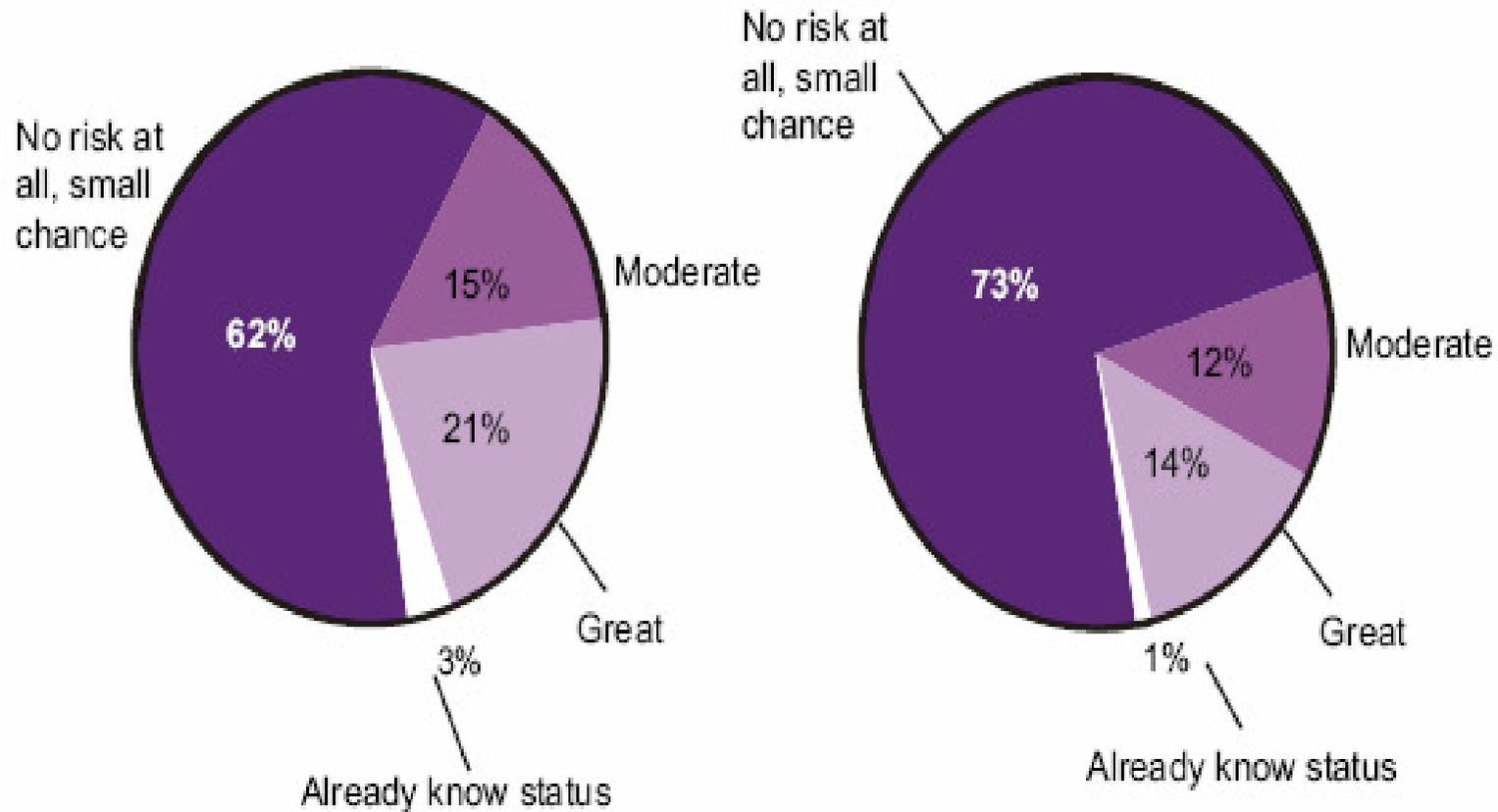
HIV prevalence and incidence among young adults aged 15-24 years, South Africa 2005



Perceived Risk of Contracting HIV by HIV Status

Among those who are HIV positive ...

Among those who are HIV negative ...



Source: National HIV and Sexual Behaviour Survey of 15-24 year olds, 2003

Sexual debut and secondary abstinence

- The overall median age at first sex for youth aged 15–24 years as a group in this study was 17 years. This was true for both sexes.
- The trend identified in our studies is that the median age of first sex is becoming younger with each generation.
- Secondary abstinence levels among youth aged 15-24 years were 23.0% of males and 20.0% of females.

Basic knowledge about prevention

- Although levels of knowledge about HIV/AIDS are generally high, there are significant minorities of South Africans who still hold some myths and misconceptions about the disease:
 - 18.7% of adolescents did not accept the fact that HIV can be transmitted through unprotected sex
 - 18.1% disagreed or were unsure that HIV can be prevented by using condoms
 - Only one third (32.8%) believed that HIV can be reduced by having fewer multiple sexual partners.
- This indicates that messages are not clear, not accepted and/or are untargeted.

Age mixing

- **Having a partner 5 years older poses high HIV infection risk for youth, as it exposes them to a higher prevalence age group**
 - **Only 2.0% of sexually active males aged 15-19 had female partners 5 or more years older**
 - **18.5% of sexually active females aged 15-19 had male partners 5 or more years older**

HIV prevalence and age mixing in youth aged 15-19 years, South Africa



Multiple concurrent partnerships over past 12 months among youth, South Africa 2005

Males		Females	
n	>1 partner	n	>1 partner
972	27.2	1397	6.0

Multiple sexual partnerships (contd)

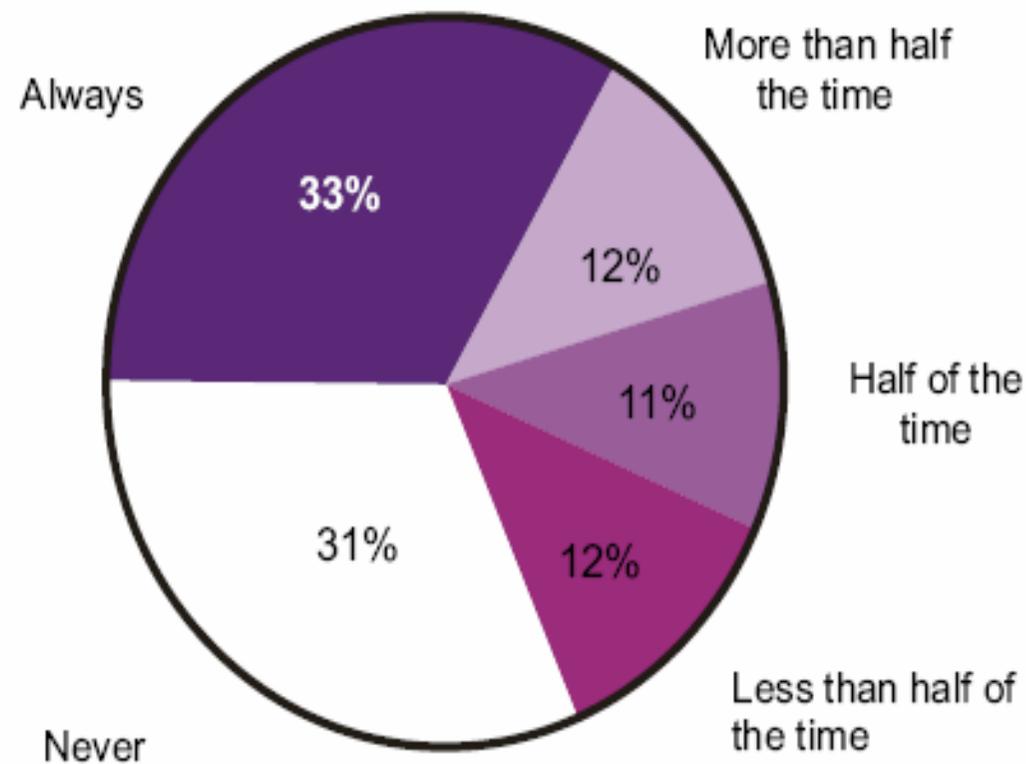
- **Overall rates were higher for informal settlements**
 - **20.0% for males vs. 3.5% for females**
- **HIV prevalence for those with more than 1 partner in past year was higher**
 - **20.6% for >1 partner vs. 16.3% for 1 partner**

Condom use during last sex act 2002 and 2005

Age	Male (%)		Female (%)	
	2002	2005	2002	2005
15-24 yrs	57.1	84.8	46.0	73.0
25-49 yrs	26.7	53.4	19.7	55.3
50 yrs+	8.2	25.2	5.6	18.7

Condom Use Consistency with Most Recent Sexual Partner

Among those who reported having had sex in the past 12 months...



Awareness of HIV status and condom use, South Africa 2002 vs. 2005

HIV status	<u>Condom use</u> HIV positive		<u>Condom use</u> HIV negative	
	2002	2005	2002	2005
Know status from test taken within 2 years	33%	66.2%	26%	50.8%

HIV prevalence and incidence for risk behaviour among youth aged 15-24 yrs, South Africa 2005

	Sample size (n)	HV prevalence % [95% CI]	HIV incidence % / year [95%CI]
Condom use at last sex			
Yes	1011	14.3 [11.0 - 18.4]	2.9 [0.5 – 5.2]
No	392	20.8 [15.3 - 27.8]	6.1 [0.0 – 12.9]

Rehle et al., S Afr Med J 2007.

HIV test history among respondents 15 years and older (n = 11 838), South Africa 2005

Age group (Years)	Previously tested for HIV*	HIV status found in this study	
	%	HIV+ %	HIV- %
15–24	20.8	33.8	18.3
25–49	43.4	37.6	44.8
50+	17.7	35.1	18.5

Recency of HIV test by age group, South Africa 2005

Age group (Years)	All			HIV+		
	1-2 years ago	1-2 years ago	More than 2 years ago	Less than 1 year ago	1-2 years ago	More than 2 years ago
	%	%	%	%	%	%
15-24	49.4	38	12.6	42.4	45.7	11.9
25-49	36.6	32.7	30.7	38.9	29.5	31.5
50+	32.5	29.4	38.1	14.3	29.5	31.5

ARV treatment and prevention

- **By the end of September 2007, more than 370 000 people living with HIV/AIDS (PLWHA) including more than 32 000 of these are children under 14 years had been initiated on antiretroviral therapy by September 2007 in both the public and private health sectors in the country (SADoH, 2007) .**
- **This exceeds 50% out of an estimated 599 298 PLWHA who were requiring ARV treatment in South Africa at the end of 2006 (Dorrington, Johnson, Bradshaw & Daniel, 2006).**

ARV treatment and prevention (contd)

- It is expected that by 2010 there will be an estimated 791,000 patients on ARV treatment in South Africa (Nattrass, 2006).
- One of the major challenges faced whenever there is a new biomedical prevention strategy developed is the possibility of the development of what is known as *behavioural disinhibition* or *risk compensation* or *treatment optimism*.

ARV treatment and prevention (contd)

- **This refers to the increase in risk behaviour because of people believing in this case that they are no longer at risk of dying prematurely because of the availability of ART which improves their health and restores their sexual libido.**
- **This would then actually put them at great risk of HIV infection.**

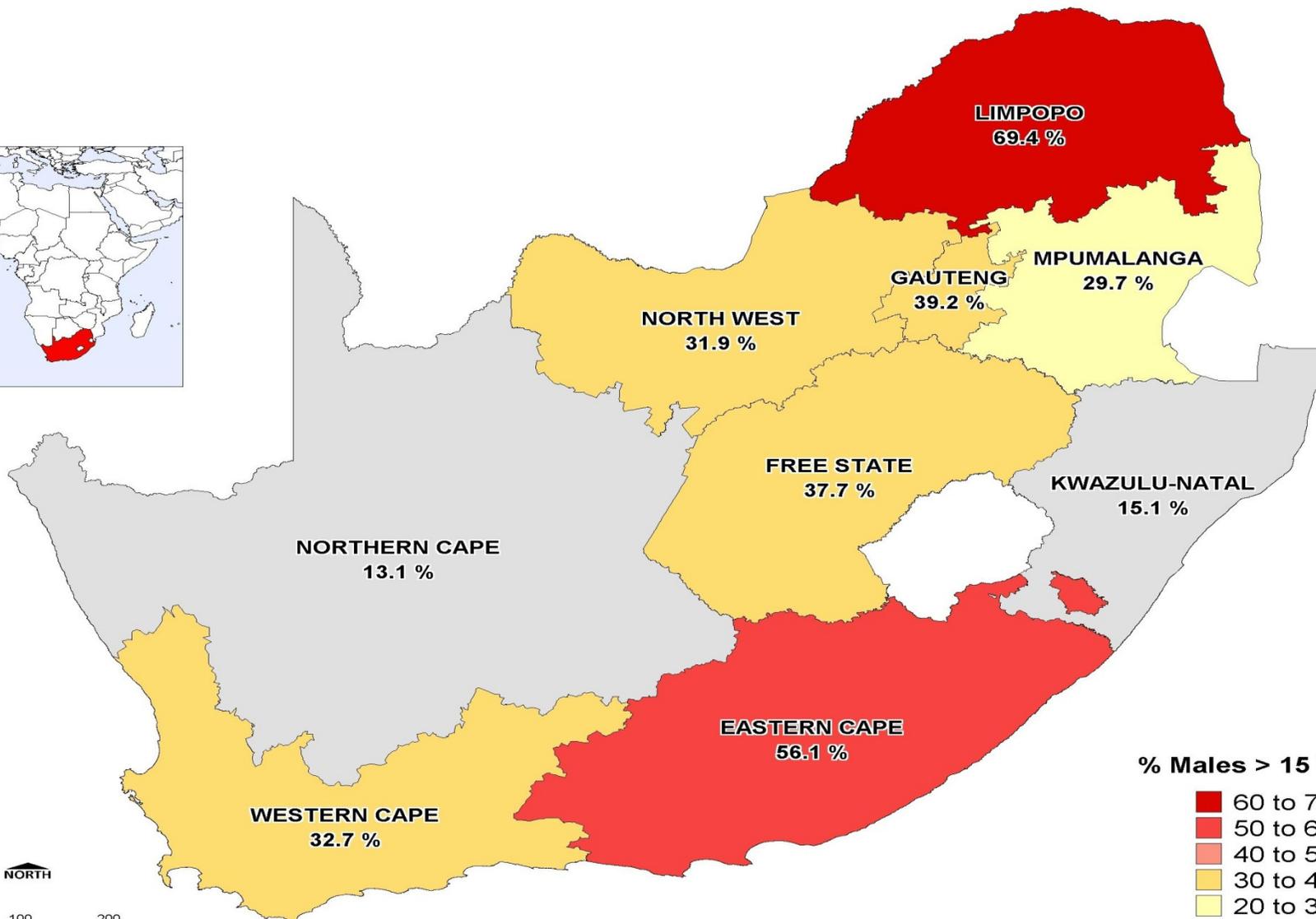
ARV treatment and prevention (contd)

- One of the major concerns about PLWHA on ARV treatment is whether they will show any behavioural disinhibition due to treatment optimism and/or especially when the viral load is no longer detectable as a result of successful treatment.
- Indeed two large studies that were conducted among PLWHA in Cape Town by both the MRC by Mickey Chopra's team (see Eisele et al., 2008) and my own team at the HSRC (see Simbayi, 2008 Mexico Conference poster presentation) towards the end of 2005 have not shown any evidence of some behavioural disinhibition at all among those on ART compared to those not yet on treatment.

Source: Eisele, T., Mathews, C., Chopra, M., Brown, L., Silvestre, E., Daries, V. & Kendall, C. (2007). High levels of risk behaviour among people living with HIV initiating and waiting to start antiretroviral therapy in Cape Town, South Africa. *AIDS and Behaviour*, 12(4), 570-577.

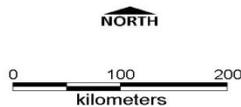
Percentage of males circumcised, by province: South Africa 2002.

(Source: Connolly, Simbayi et al. SAMJ 2008)



% Males > 15 Years

- 60 to 70
- 50 to 60
- 40 to 50
- 30 to 40
- 20 to 30
- 10 to 20



Age of circumcision and HIV prevalence among men, South Africa 2002.

Sub-group	Not circumcised		Circumcised			
			<=12 yrs		13+	
	n	HIV prevalence (%)	n	HIV prevalence (%)	n	HIV prevalence (%)
All men in the study	1669	11.00%	264	6.80%*	602	13.50%*
Sexually active men	1316	12.00%	203	8.90%**	568	13.60%**
Africans and Coloured sexually active men	996	15.00%	121	13.20%	538	14.10%

* Total circumcised = 11.1%; ** Total circumcised = 12.3%

The median age of circumcision and race in South Africa, 2002

- 18 years for Africans
- 10 years for Coloureds,
- 2 years for Whites, and
- 1 year for Indians.

Conclusions

- Although we have a generalised epidemic and the majority (79%) of South Africans know where to access VCT if needed, in 2005 only 30% were estimated to have had been tested for HIV and half of all HIV-positive people did not know about their status.
 - Every South African needs to undergo HIV testing and to know their status. In particular, youth must therefore be encouraged to know their status through the “know your status campaign”.
 - There is also a need to promote positive prevention both primary and secondary prevention) among young PLWHA who are aware of their HIV status

Conclusions (contd)

- **Some people including youth still do not believe that they are at risk for HIV might be because they simply do not have correct knowledge of how HIV is transmitted.**
 - **Too many do not accept that**
 - **HIV can be transmitted through unprotected sex,**
 - **that condoms are mostly effective in preventing HIV transmission or**
 - **that having multiple sexual partners increases the risk of HIV.**

Conclusions (contd)

- So they continue to engage in risky sexual practices and seldom go for HIV testing.
- **To curb new infections, we must re-emphasize the ABC messages, even though they seem so basic. There are members of our society who still do not get the message.**

Conclusions (contd)

- Behavioural change responses especially among youth have been positive and are increasing in relation to both condom use and VCT.
- Partner turnover continues to be high and is not perceived as a major risk (as condom use is very high amongst those with multiple concurrent sexual partners).
- ARV treatment should be used as another a golden opportunity for promoting both primary and secondary prevention among PLWHA who know their HIV status (positive prevention) just like VCT.

Conclusions (Contd)

- HIV infection rates amongst young women continue to be high relative to their male counterparts and many of the young women engage in intergenerational sex or age mixing with older men for economic reasons.
- There is a need for societal censure against both older men and young women who engage in intergenerational sex or age mixing and young women who become pregnant during adolescence.
- There is also a need for structural interventions such as promoting education of girls and the economic empowerment of women to reduce their reliance on men.

Conclusions (Contd)

- There are relatively low levels of male circumcision in South Africa in general as some ethnic groups in South Africa practice traditional circumcision while others eschew the practice.
- There is an urgent need to expedite the development of a national policy on male circumcision for HIV prevention and begin implementing it to be implemented preferably before puberty or during infancy.

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Acknowledgements (contd)

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- **Human Sciences Research Council (HSRC),**
- **Medical Research Council (MRC) &**
- **Centre for AIDS Development, Research and Evaluation (CADRE)**

References

This presentation is based mainly on the following two publications:

A. The main research report:

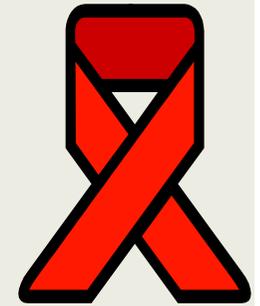
- Shisana, O., Rehle, T., Simbayi, L.C., Parker, W., Bhana, A., Zuma, K., Connoly, C., Jooste, S., Pillay, V. et al. (2005). *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey 2005*. Cape Town: HSRC Press.

Available on www.hsrc.ac.za or www.hsrbpress.ac.za

B. Incidence paper:

- Rehle, T., Shisana, O., Pillay, V., Zuma, K., Puren, A. & Parker, W. (2007). National HIV incidence measures – new insights into the South African epidemic. *South African Medical Journal*, 97(3), 194-199.

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Comparison of adjusted HIV incidence estimates, South Africa 2005

	BED ODn=0.8	BED ODn=0.4	BED Hargrove	BED McDougal	ASSA 2003
Overall (≥ 2 years)	2.7	1.3	1.5	1.4	1.3
<i>Male</i>	1.5	0.7	0.5	0.5	1.2
<i>Female</i>	3.9	1.9	2.5	2.4	1.5
Youth (15-24 years)	3.3	1.9	2.3	2.2	2.9
<i>Male</i>	0.8	0.3	0.3	0.3	1.8
<i>Female</i>	6.5	3.8	4.9	4.6	4.1
Adult (15-49 years)	4.4	1.9	2.6	2.4	2.2
<i>Male</i>	2.4	1.1	1.1	1.0	1.9
<i>Female</i>	6.3	2.8	4.0	3.8	2.5