

HIV and postpartum mortality / morbidity

**Maternal Health and HIV
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Introduction

- Every day, approximately 800 women die from preventable causes related to pregnancy and childbirth.
- 99% of all maternal deaths occur in developing countries. (50% in SSA and 30% in Southern Asia)
- A woman's lifetime risk of maternal death – the probability that a 15 year old woman will eventually die from a maternal cause – is 1 in 3800 in developed countries, versus 1 in 150 in developing countries.
- > 60% of maternal deaths occurred in the postpartum period; 45% of postpartum deaths occurred within 1 day of delivery, In developing countries, 80% of postpartum deaths caused by obstetric factors occurred within 1 week. (Li et al, 1996)

Introduction

- HIV/AIDS is a major factor in the burden of maternal mortality worldwide.
- A WHO analysis estimated that worldwide in 2008, 61 400 maternal deaths **(18% of all maternal deaths) were attributable to HIV**
- Without HIV infection the world burden of maternal death in 2008 would have been reduced from 342 900 to 281 500

Causes of maternal deaths in Africa

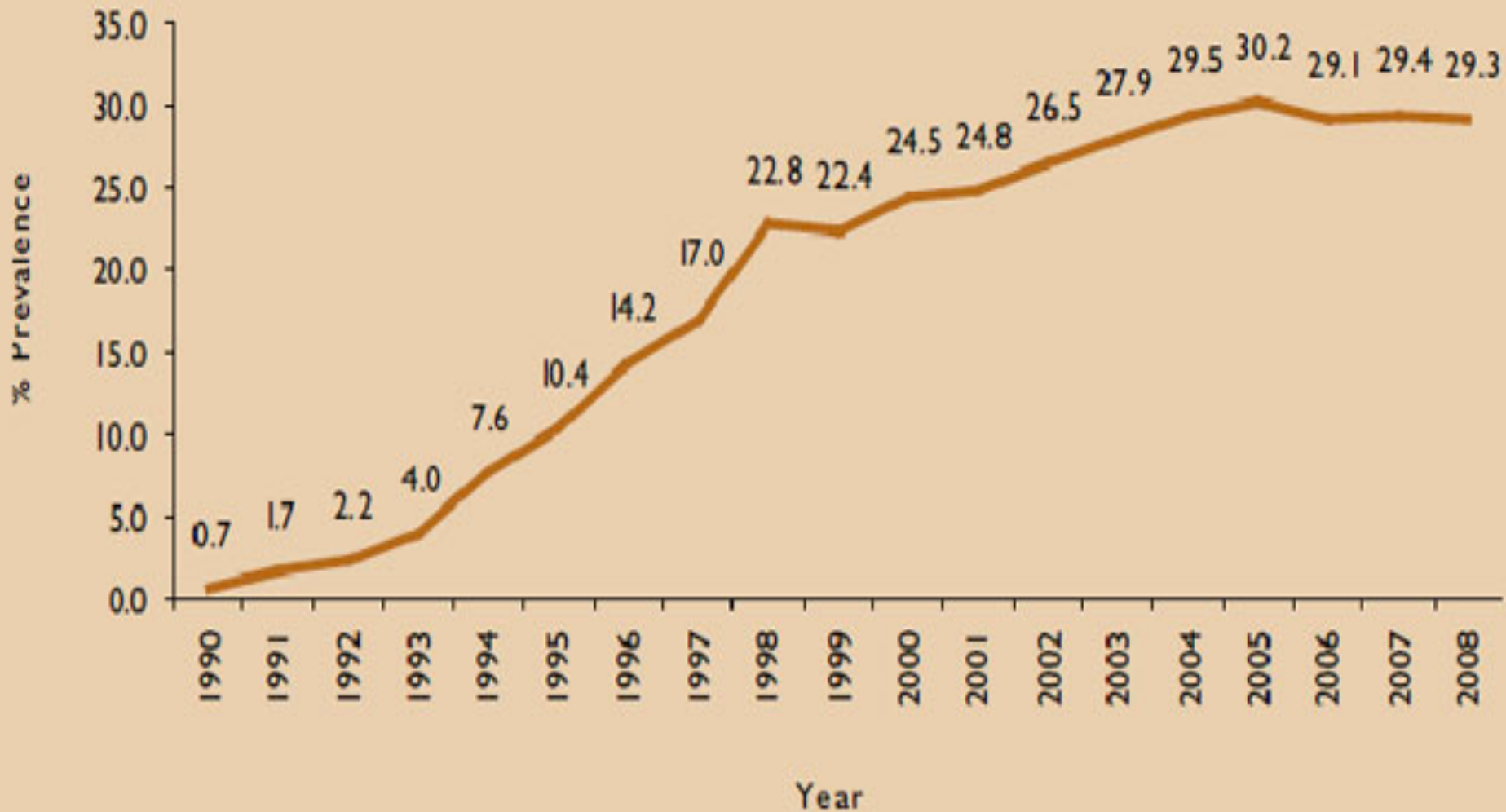
	AFRICA	SOUTH AFRICA
HAEMORRAGE	34%	14.1%
OTHER INDIRECT CAUSES	17%	OTHER INFECTIONS - 12% MED+SURGICAL-9%
SEPSIS	10%	6-8%
HYPERTENSION	9%	14 – 23%
HIV/AIDS	6.2%	28%

SA data

The effect of HIV infection on maternal mortality is best documented in South Africa for two reasons.

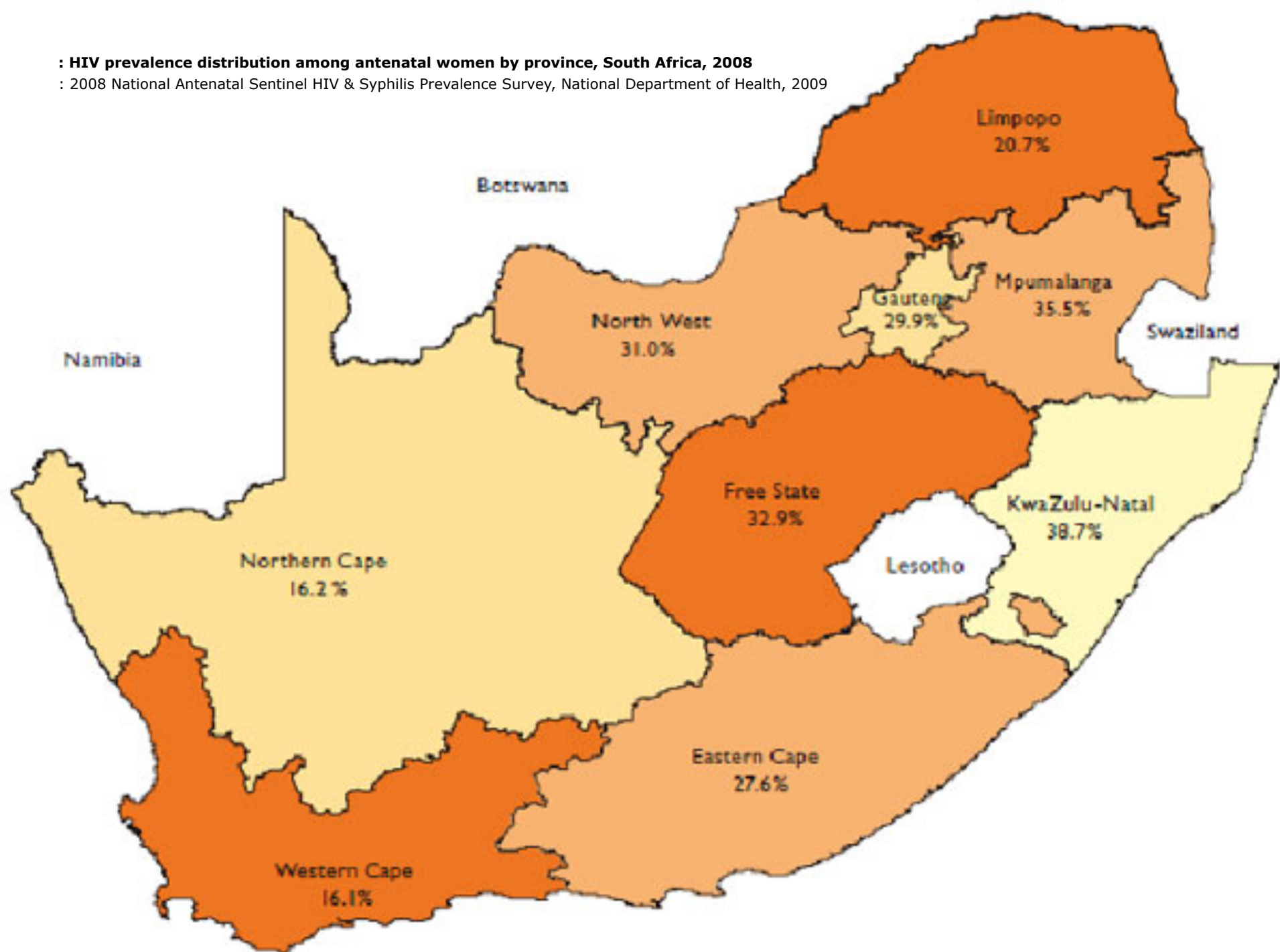
- SA the country with the highest number of people living with HIV/AIDS
 - HIV prevalence rates in pregnancy that are among the highest in the world
 - rates have been documented in annual national prenatal HIV seroprevalence surveys since 1990
- availability of detailed data on maternal deaths that occur in the country since 1995

HIV prevalence epidemic curve among antenatal women, South Africa, 1990-2008



: HIV prevalence distribution among antenatal women by province, South Africa, 2008

: 2008 National Antenatal Sentinel HIV & Syphilis Prevalence Survey, National Department of Health, 2009

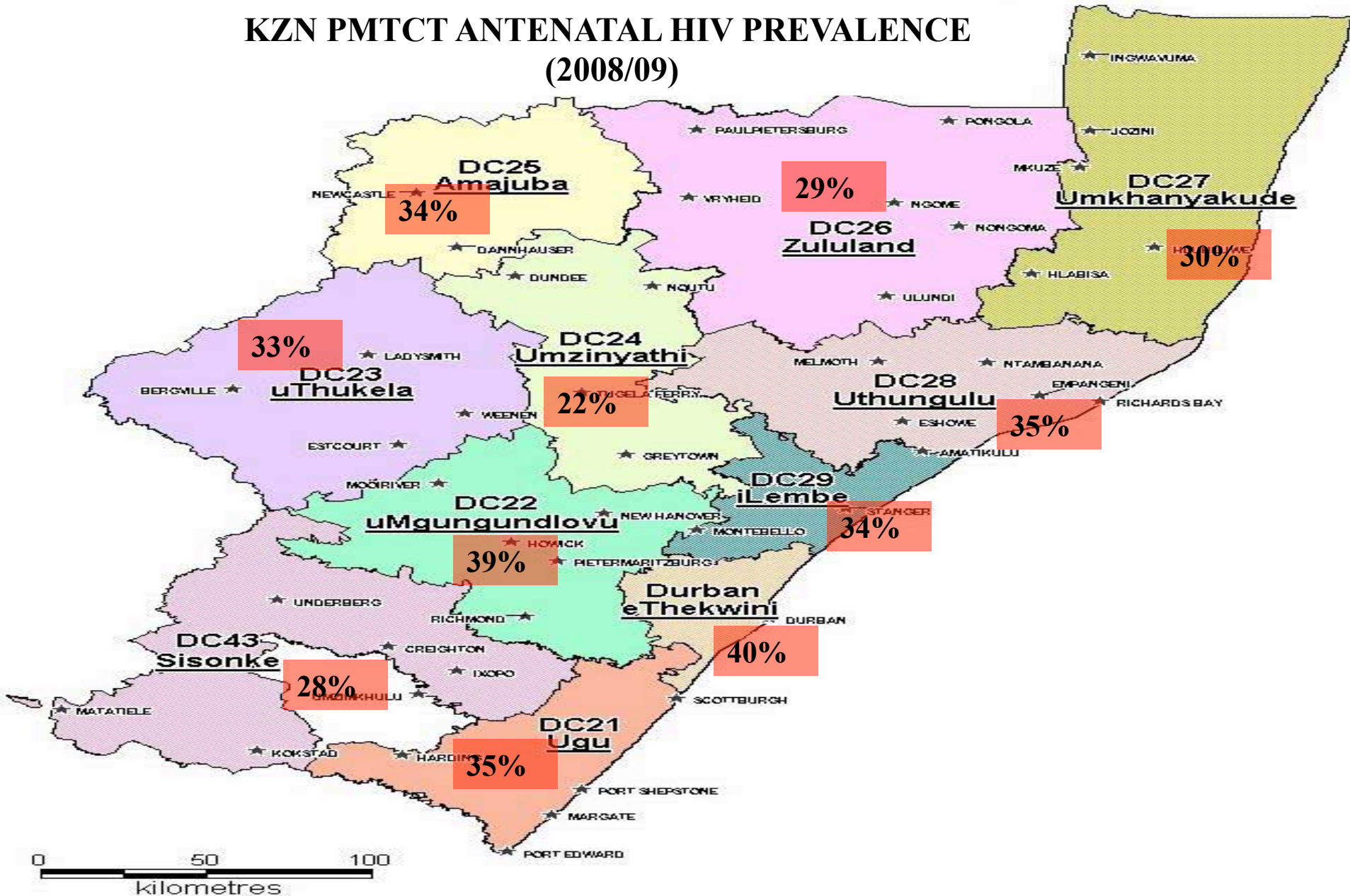


KWAZULU-NATAL HEALTH DISTRICTS

Population - 9 070 457
Area - 92 440 Sq. km
Density - 98 People per Sq. km



KZN PMTCT ANTENATAL HIV PREVALENCE (2008/09)



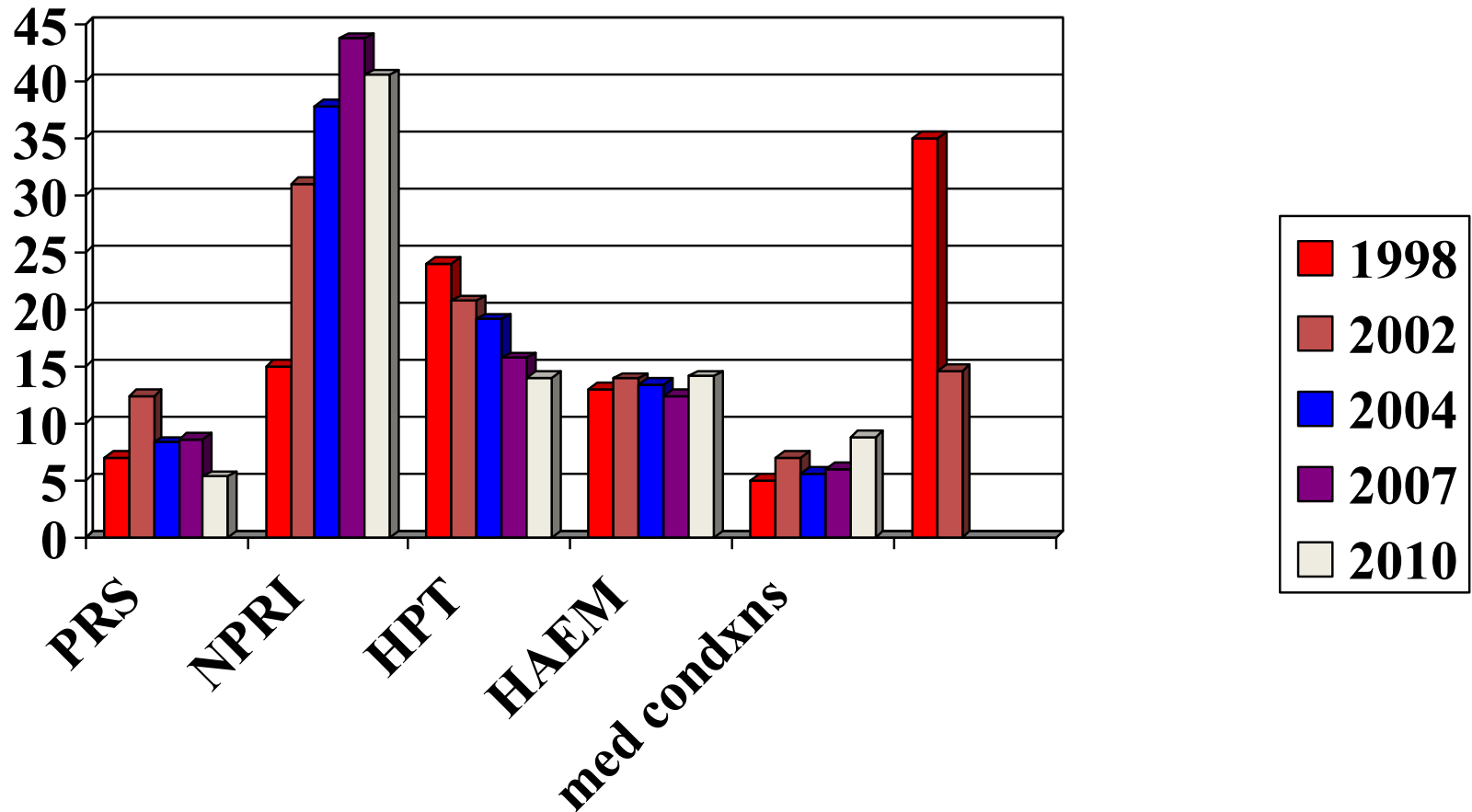
Institutional mortality ratio for HIV 6x higher!!

- 2008 - 2010 - there were 4 867 maternal deaths in SA.
- 80% were tested for HIV (of which 70% were infected)
- The Institutional MMR was 430.35/1000000 live births for HIV infected women compared to 75.46/100000 live births HIV uninfected women

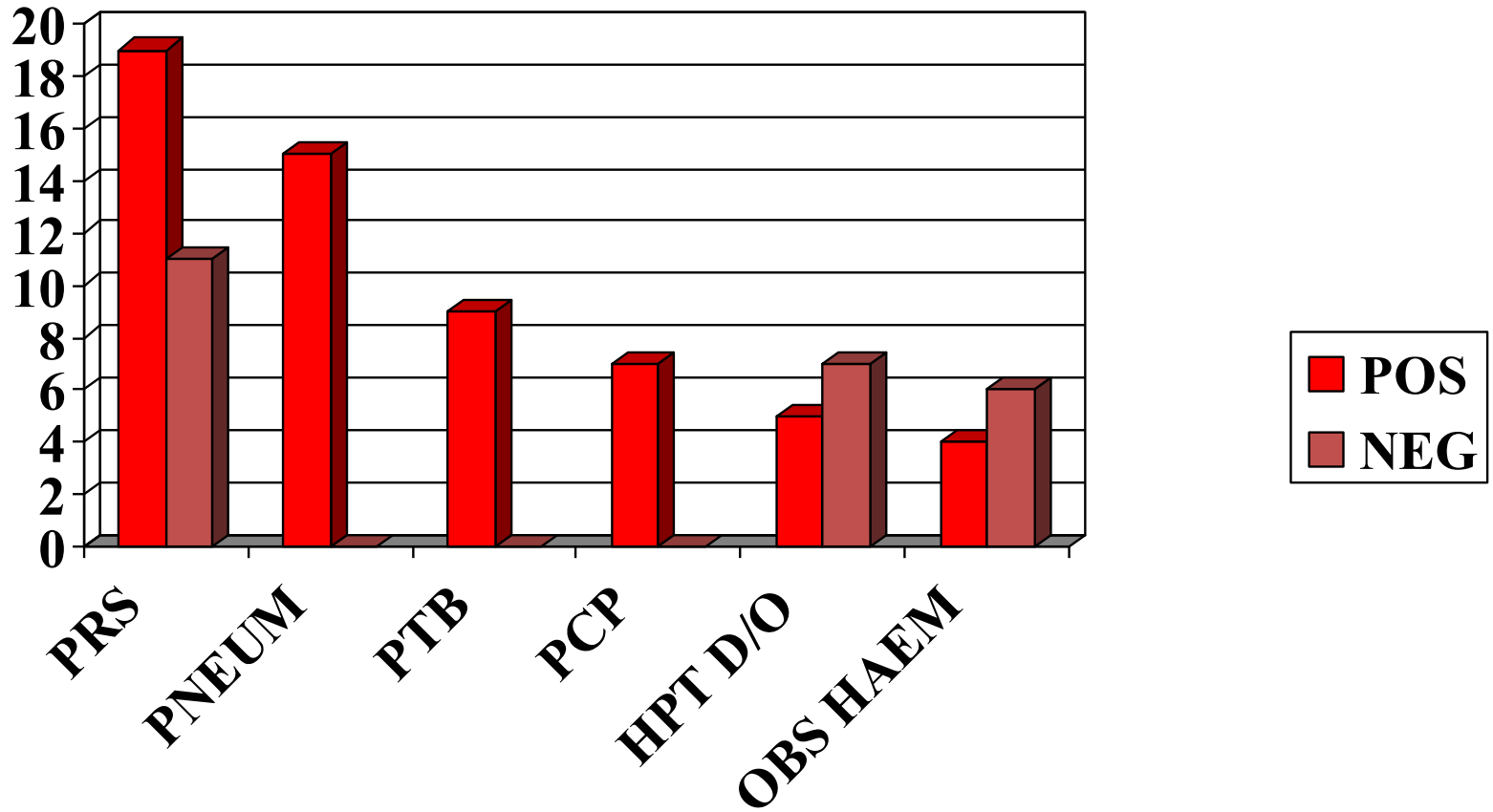
HIV testing amongst the deaths

HIV status	2002-4	2005-7	2008-2010
+ve	36%	46,2%	57% (70% of those who tested)
-ve	10.3%	12.5%	24%
Unknown	53.9%	41,3%	20%

Saving Mothers Report – “Big 5”



CAUSES OF DEATH HIV POS v/s HIV NEG



MORBIDITY

- For every death, there is 5-6x more morbidity (Severe acute maternal mortality – underrepresented)
- mainly infective, including fever, endometritis, wound sepsis, etc
- However, iMMR higher in HIV infected even for non-infective causes

Comparison of HIV status and causes of maternal death (using estimated IMMR per 100 000 live births)

Cause of death*	HIV-negative	HIV-positive	Unknown
Medical and surgical disorders	11.5	24.2	16.7
NPRIs	6.6	267.3	25.6
Ectopic pregnancy	0.3	3.0	9.1
Miscarriage	1.4	9.9	17.6
Hyperemesis gravidarum	0.2	0.2	0.0
Pregnancy-related sepsis	4.1	24.2	6.8
Obstetric haemorrhage	17.2	38.4	30.5
Hypertension	18.8	27.4	37.0
Anaesthetic complications	4.1	4.8	4.5
Embolism	3.2	4.0	3.0
Acute collapse, cause unknown	3.2	9.2	6.8
Unknown	3.7	15.7	10.1
Total	74.4	428.3	167.8

HIV status, 2008 - 2010

HIV status	n (%)	Probable cause of death
HIV-negative	1 166 (24.0)	
HIV-positive not requiring HAART	949 (19.5)	(?? Other causes)
AIDS not receiving HAART	938 (19.3)	(?late presentation)
AIDS receiving HAART	882 (18.1)	(?complications of ARV)
Declined	39 (0.8)	
Unknown	992 (20.4)	

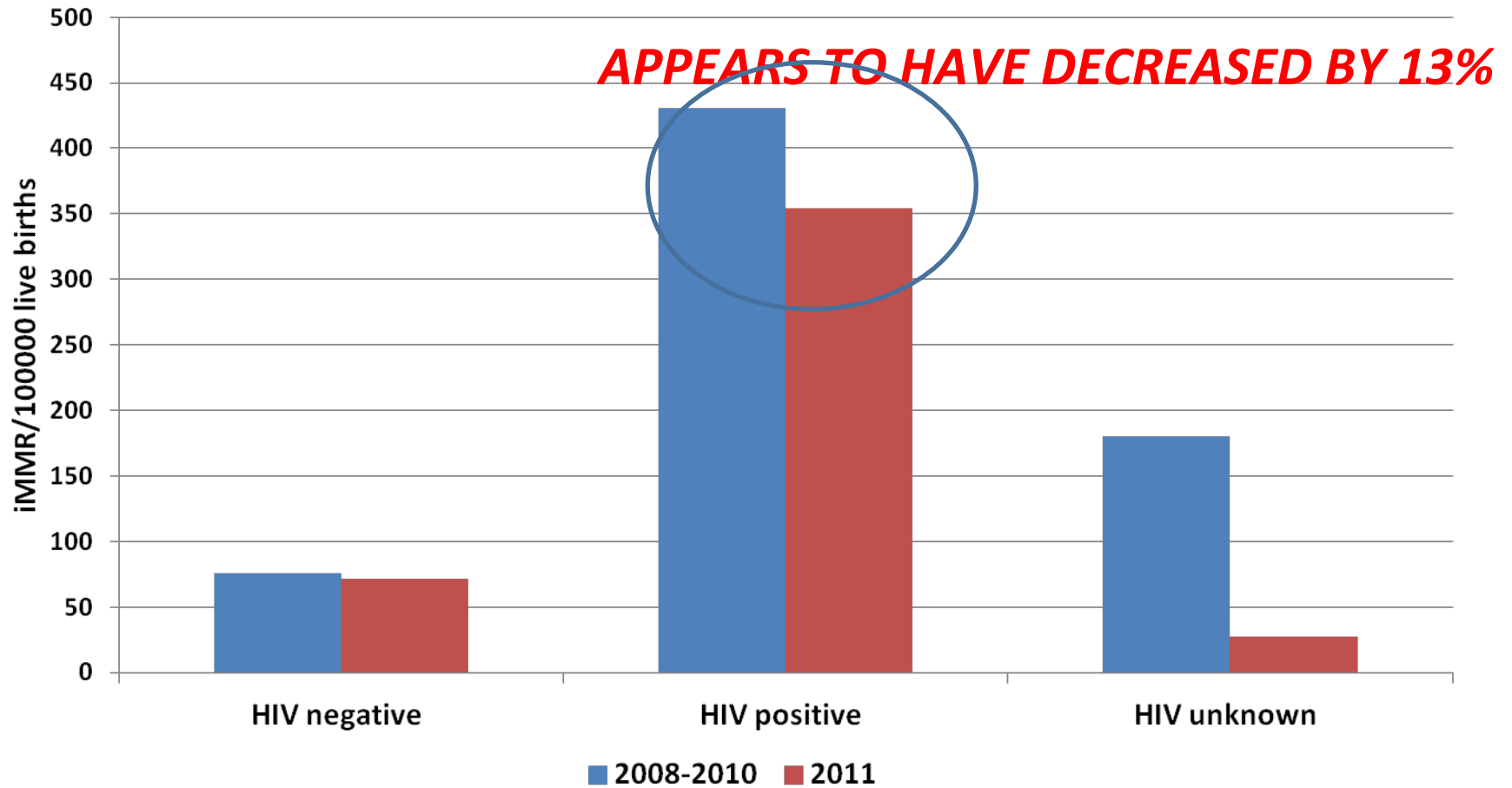
HAART = highly active antiretroviral therapy.

What can we do??

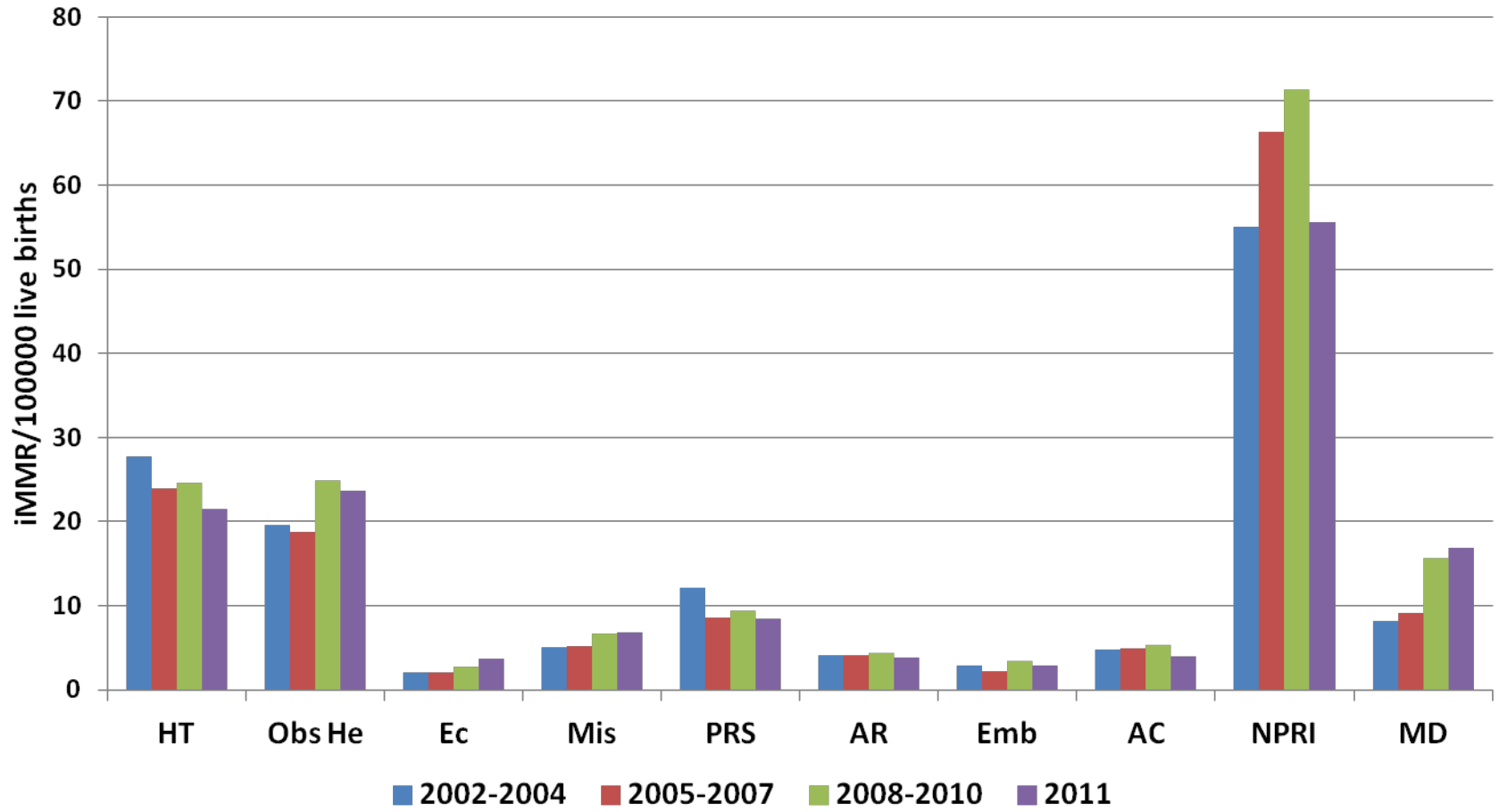
HIV

- Prevention
- Early identification and initiation of treatment
- Use of regimen safe in pregnancy
- Screening for TB and prophylaxis
- Prevent unwanted pregnancies in HIV infected women (which result in septic abortions)

iMMR and HIV status (? Effect of HAART)



Underlying causes of maternal deaths



Pharmaco-vigilance and safe regimen in pregnancy

- ARV with small for gest age
- NVP toxicities
- Could there be other problems - ??effect of antiretrovirals on the uterine muscle

Table 2.21. Rates of complications of antiretroviral therapy for 2008, 2009 and 2010

	2008	2009	2010
Number maternal deaths due to complications ARVs	14	17	42
Approx. Number HIV infected pregnant women per year	279798	279650	277216
Maternal deaths due to complications of ARVs/ Number pregnant HIV infected women /100000 births	5.00	6.08	15.15
Number of maternal deaths who were on HAART	214	306	362
% of deaths due to complications of ARVs of all maternal deaths who were on HAART	6.5	5.6	11.6

WHO strategy to reduce TB in people with HIV

- The 3 I's:
 - Intensified TB case finding,
 - Isoniazid preventative therapy (IPT); and
 - Infection control for TB.
- IPT reduces the risk of active TB in HIV-infected individuals > if TST +ve
- HAART also reduces incidence of TB, (IPT +HAART may have added beneficial effect

Puerperal sepsis/ infection (local audit)

- 55 septic patients in 6 months
- Most presented day 7 – 10pp
- 44/55 by c/s (5 ELCS vs 39 emergency)
 - 80% HIV infected
- 21 admitted to ICU
- 29 with hysterectomies
- 7 deaths

Puerperal sepsis cont.

Decline seen, the significant proportion of the remaining problem mainly from septic miscarriages

Modified obstetric practices

- Delaying AROM
- Vaginal swabbing – meta-analysis of 6 -9 trials showed no benefit
- Antibiotic prophylaxis – vaginal and c/sections
- Effect of HAART

Unanswered questions

Why are IMMR for all causes higher for HIV infected women

- AIDS and other infections
- HPT?? Effect of HAART on immuno-pathogenesis of Pregnancy induced hypertension
- ??other medical and surgical disorders
- Obstetrics hemorrhage – ?chorioamnionitis / ?? effect of ARV drugs on grossly dilated vessels / effect on myometrium
- Sepsis – remains higher despite judicious use of “prophylactic antibiotics”, and HAART
- The acute phase - ??poorly understood

Ngiya bonga

Q+A