



Department of Health
Republic of South Africa

Introduction to Prevention of Mother to Child Transmission (PMTCT)

January 2009



To start.....

- needs an INTEGRATED service
- pro-active Provider Initiated Testing (P.I.T.)
- consider every pregnancy as HIGH exposure
- South Africa is a hyper-endemic country (> 15 %)
- follow-on required for every patient
- start ARVs at ANY stage of pregnancy



ARK (Absolute Return for Kids)

- **ARK's** ARV programme in South Africa seeks to deliver rapid and sustainable rollout of AIDS treatment to primary care givers, their partners and children less than 18 years of age
- started in December 2003 till 2010, target 32 682
- by the end of December 2007
- (48 months) initiated 24870 (76%)



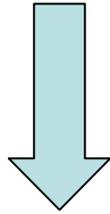
ARK Programmes

- Clinical *ARV* programme
- 101 sites
- 177 fulltime staff
- 37 235 patients on ARVs of total
- \pm 400 000
- $>$ 900 000 still in need = treatment gap



Training organogram

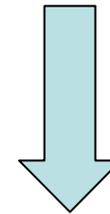
Master trainer



Districts in Province

Site personel
From PHC, CHC
- doctor
- nurse
- pharmacist
etc

Select one staff member
from each Department



become a *mentor*
and disseminate
information



health

Department:
Health
REPUBLIC OF SOUTH AFRICA



PMTCT Training Course

- healthcare worker = healthcare provider
- Staff:
 - doctors, nurses, midwives, counsellors, programme managers, social workers
 - maternal and child health = maternal and newborn health services, reproductive and child health services incl. adolescents & families
- designed to provide healthcare workers with information and introductory skills necessary to deliver core PMTCT services in an *integrated* manner

Training

P = Planning – the *start* of any programme

O = organising – *who* is going to do what

L = leading - management way *forward*,
encouraged to dissipate the information

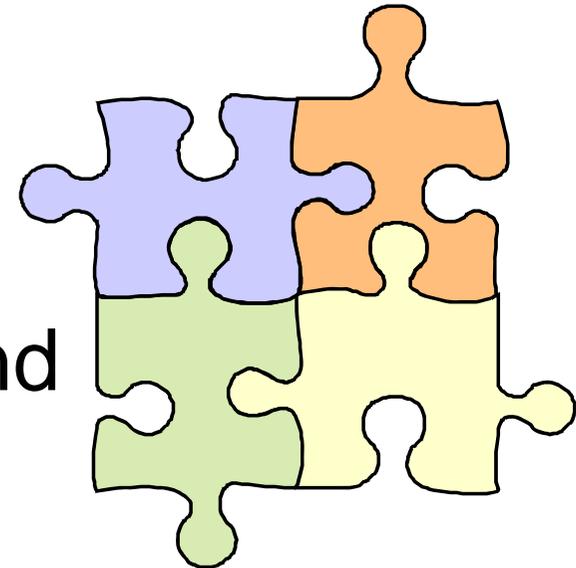
C = control – revisit sites at regular intervals to
obtain feedback about what is happening
(“*quality control*”)



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PMTCT Programme

1. Introduction – Global, SA, history
2. Basics – challenges, choices
3. Primary prevention
4. Ante-natal care
5. Labour and delivery
6. Post-natal follow up
7. Feeding choices, other and
M & E
8. Summary
- (9. DBS sample collection for infant PCR test)





International

- Interagency Task Team (IATT) 1998
- Declaration of commitment on HIV/AIDS in 2001 by United Nations General Assembly Special Session on HIV/AIDS (UNGASS)# 189 countries, ↓ infected infants 20% by 2005 and 50% by 2010
- Millennium Development Goals (MDG) – 4,5 & 6 to reduce child mortality, improve maternal health and combat HIV/ AIDS by 2015
- World Health Organisation (WHO) in 2004, CDC
- PEPFAR (Presidents Emergency Plan for AIDS Relief), Global Fund to Fight AIDS/TB/malaria
- Joint United Nations Programme on HIV/AIDS (UNAIDS)
- United Nations Children’s Fund (UNICEF)

A Nation's Health

“The easiest way to get a snapshot of a nation's health is to look at key indicators: life expectancy at birth, maternal mortality and infant mortality.”

Belinda Beresford, Mail and
Guardian, 21 November 2008

Milleneum Development Goals

- MDG no. 4 - reduction of child mortality
 - adopted by 189 countries in Sept 2000
 - to be achieved by 2015
 - 8 goals
 - reduction in under 5 mortality rate by two-thirds between 1990 and 2015
 - MDG no.1 to eradicate extreme poverty and hunger – proportion of children under 5 who are underweight

SA's poor prognosis

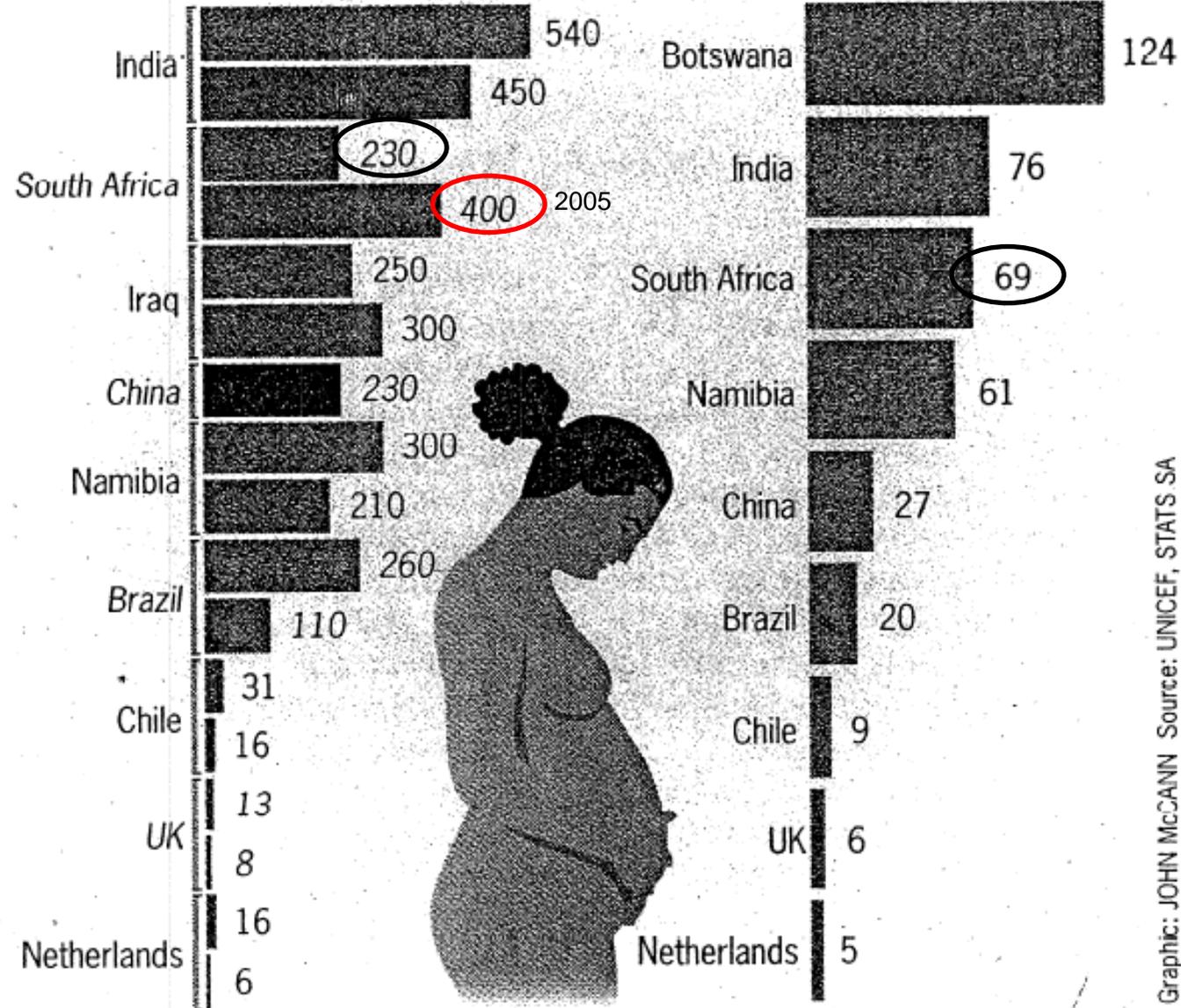
Maternal and infant mortality rates

per 100 000 births

Maternal mortality 2000 2005

per 1 000 births

Infant mortality



Graphic: JOHN McCANN Source: UNICEF, STATS SA

Mail and Guardian 21 November 2008



Children and HIV / AIDS



- 2.1 million children globally younger than 15 years are HIV infected
- 90% of whom live in SSA
- in 2007 alone, 420 000 were newly infected (mainly through MTCT) of whom half will die without interventions
- many of the 290 000 children who died* in 2007 never received an HIV diagnosis or HIV care

WHO & UNICEF
June 2008

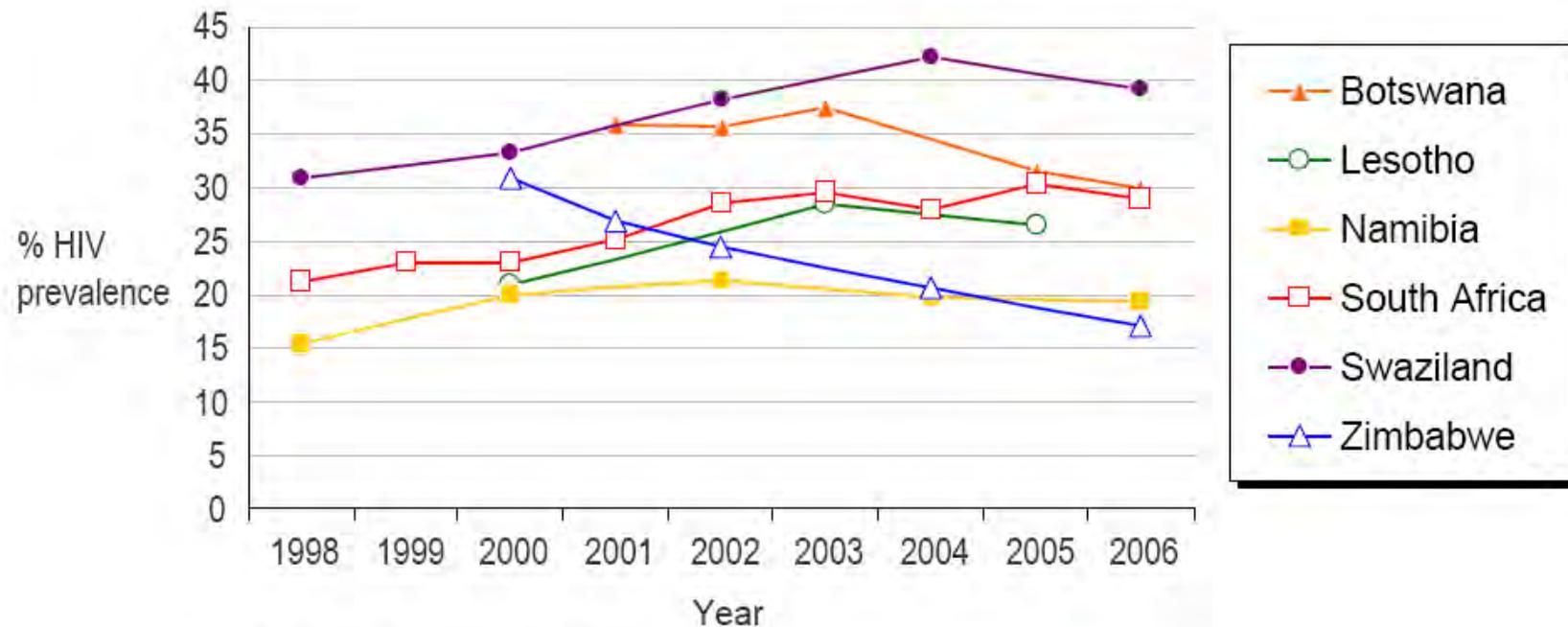
* 30% die by 1 year and 50% by age 2 years without HIV drugs

PMTCT

“Almost all of these infections in infants could be avoided by timely delivery of known interventions to prevent mother-to-child transmission.”

Scale up of HIV-related prevention, diagnosis, care and treatment for infants and children – A programming framework WHO UNICEF June 2008

Median HIV prevalence among women (15-49 years) attending antenatal clinics in consistent sites in southern African countries, 1998–2006



Sources: Various antenatal clinic surveys.



- 2000 – **Millennium Development Goal** to reverse the HIV/AIDS epidemic
- 2001 – **The UNGASS Declaration of Commitment** covering various targets
- 2003 – **The “3 by 5” strategy** to scale up antiretroviral drug therapy by 2005 (target to treat 3 million people in developing countries by the end of 2005)





THE TARGETS

UNGASS DECLARATION OF COMMITMENT (selected 2005 targets)

- Reduce HIV prevalence by **25%** among young people in the most affected countries
- Reduce the number of babies infected through mother-to-child transmission by **20%**
- Ensure at least **90%** of young people (aged 15-24 years) have the information, education, services and life-skills that enable them to reduce their vulnerability to HIV infection

MILLENNIUM DEVELOPMENT GOAL

- To have halted by **2015**, and begun to reverse, the spread of AIDS

only reached in 2007; now 3 million on ARVs

WHO/UNAIDS “3 BY 5” STRATEGY

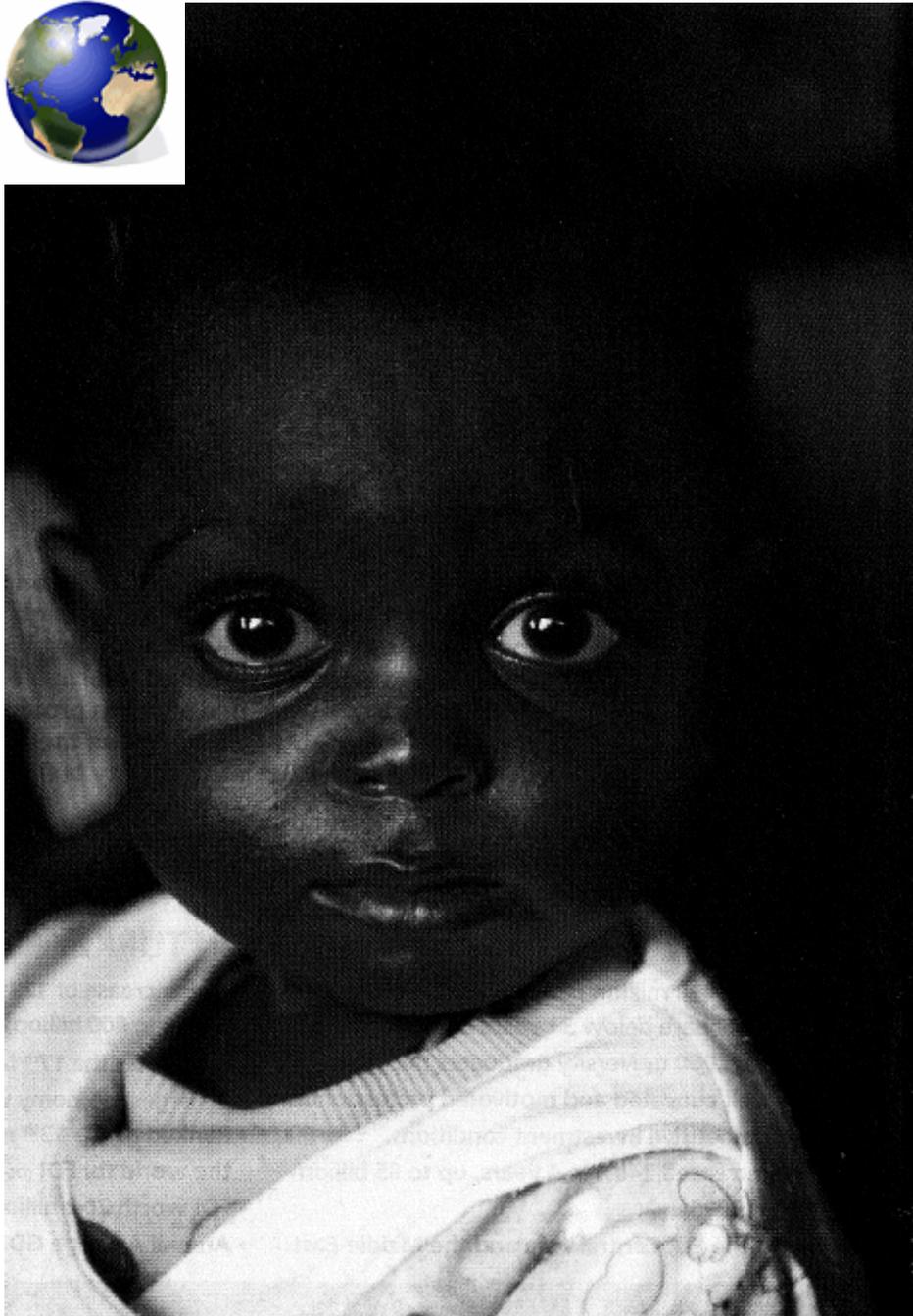
- To provide access to antiretroviral treatment to **3 million** people living with HIV in developing countries by the end of **2005**



United Nations – UNICEF report

- in 2007, 2.1 million children worldwide were infected with HIV and 290 000 died
- in 2005 15 million children under 18 years had lost one or both parents to AIDS (UN figures)
- in 2005, UNICEF set out goals for 2010 to
↓ MTCT of HIV and supply drugs to infected children
- target of 80% coverage by 2010

Children = defined as 0 to 14 years age



unicef 

To support UNICEF,
please contact your nearest UNICEF office
or National Committee for UNICEF.
www.unicef.org

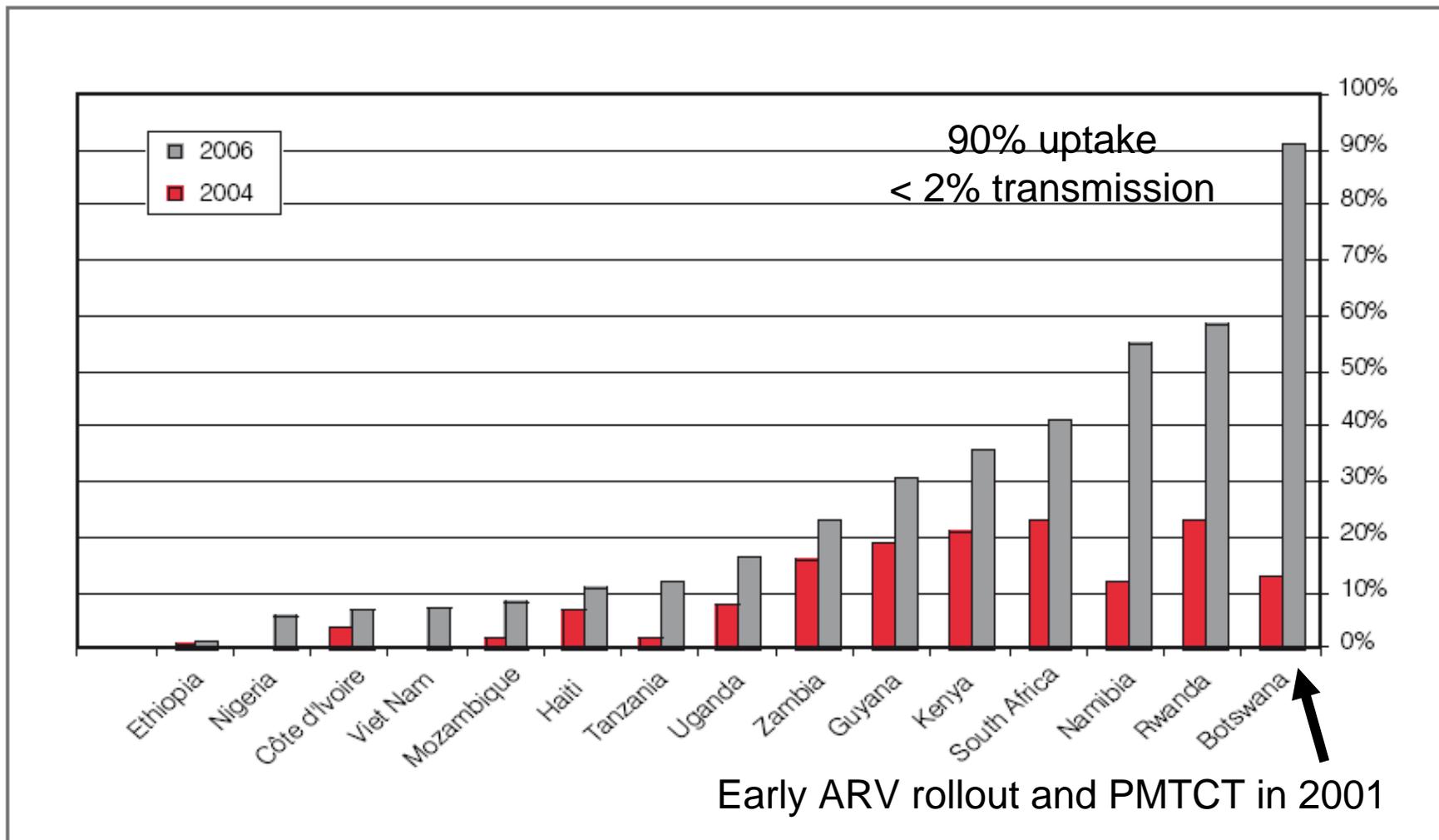
For the first time in recorded history, the number of children dying before age five has fallen below 10 million per year, to 9.7 million.

But this is only the beginning. UNICEF urges everyone to act now and together to reduce child mortality by two-thirds, from 93 children out of every 1,000 dying before age five in 1990 to 31 out of every 1,000 in 2015. UNICEF's priority actions include community health services that cover every child with breastfeeding, immunization, prevention of HIV transmission, and protection against malaria.

To help achieve UNICEF's goal, it is important that all people in their own communities are empowered to limit child mortality.



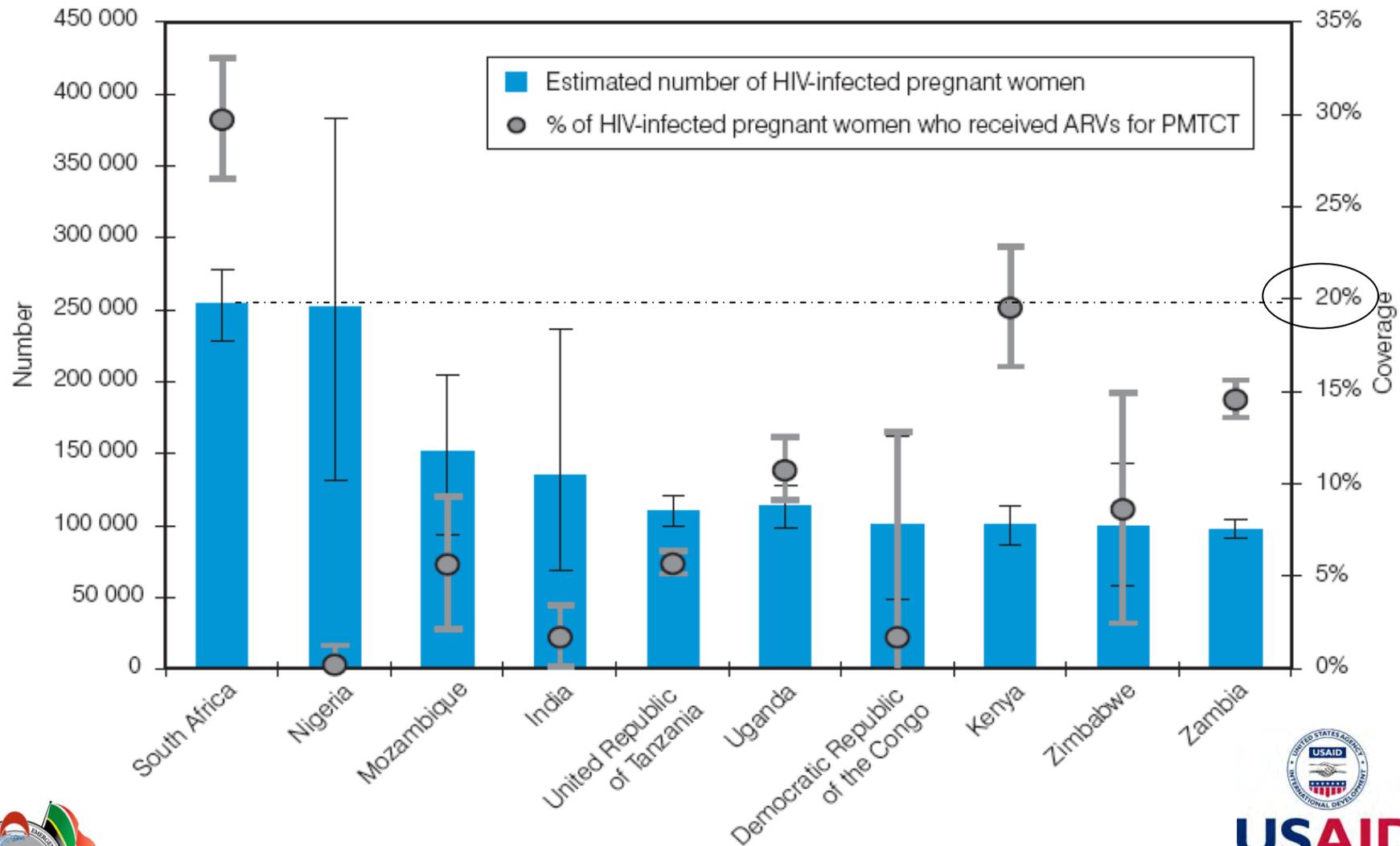
Percentage of pregnant women living with HIV attending at least one antenatal care visit who received any antiretroviral drug regimen for PMTCT in Fiscal Year 2004 and Fiscal Year 2006 with United States Government support (both upstream and downstream) by country



Report - Global scale-up of PMTCT of HIV, WHO 2007



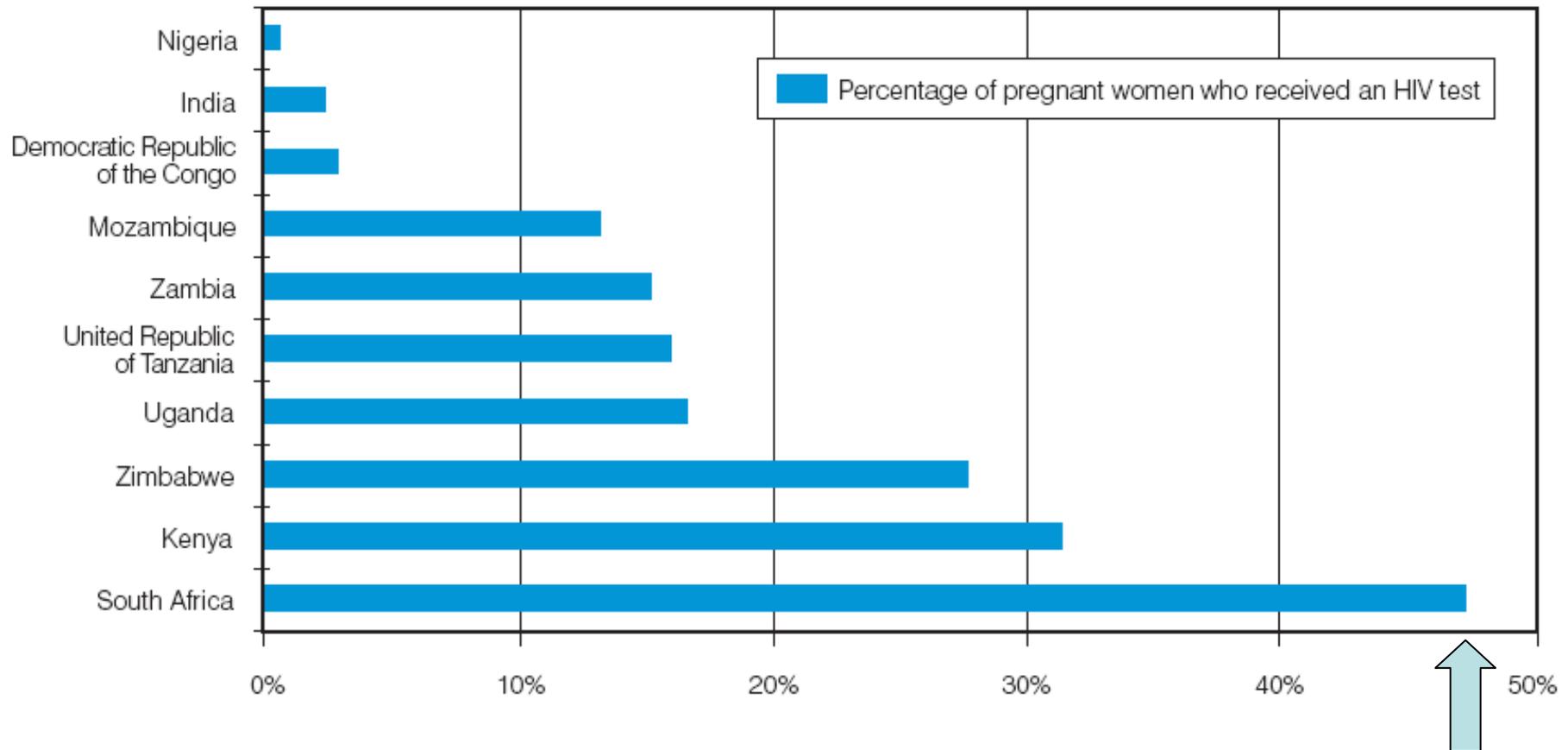
Ten low- and middle-income countries with the highest estimated numbers of HIV-infected pregnant women and corresponding percentages of HIV-infected pregnant women who received ARVs for PMTCT, 2005



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Percentage of pregnant women who received an HIV test in the ten countries with the highest estimated number of HIV-infected pregnant women, 2005



PMTCT coverage 30% of South Africa

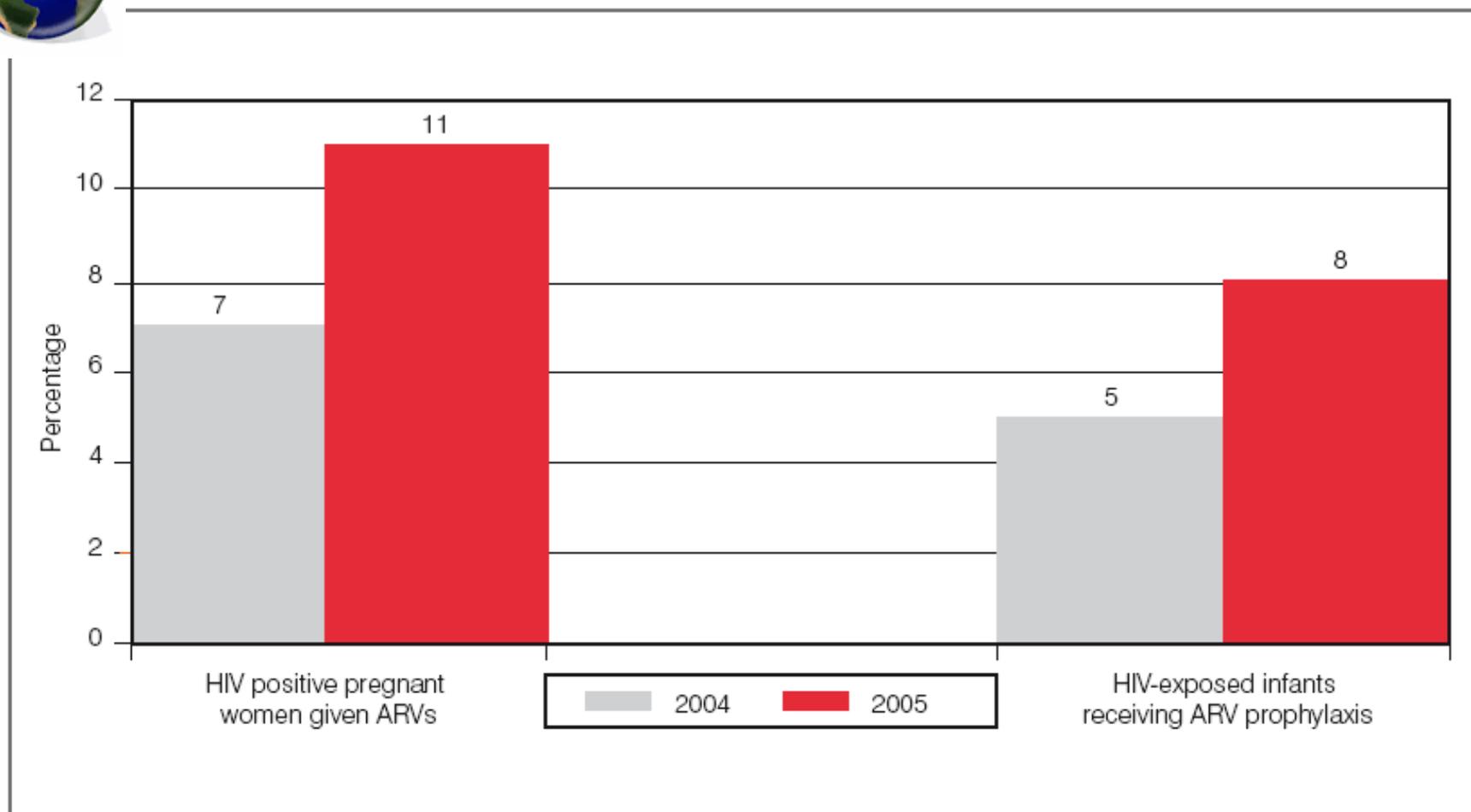
SAMJ April 2008 p.254-6

73%

"Towards Universal Access" - WHO April 2007 p. 31



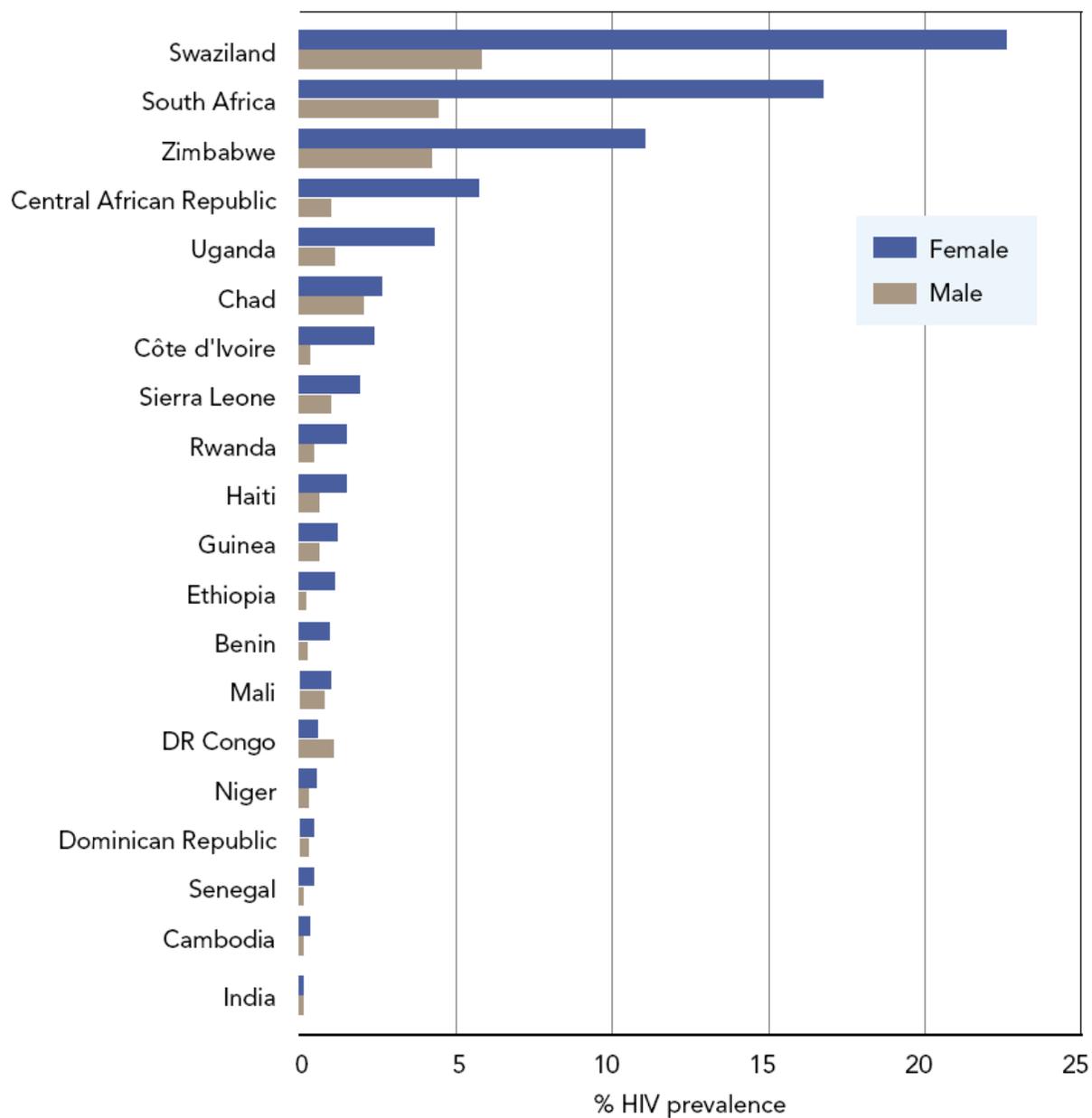
Percentage of pregnant women living with HIV and HIV-exposed infants receiving antiretroviral prophylaxis for PMTCT, 2004–2005



In 2005, ± 220 000 pregnant women received ARV prophylaxis for PMTCT (WHO, April 2007)

FIGURE 5

HIV prevalence (%) among 15–24 years old, by sex, selected countries, 2005–2007

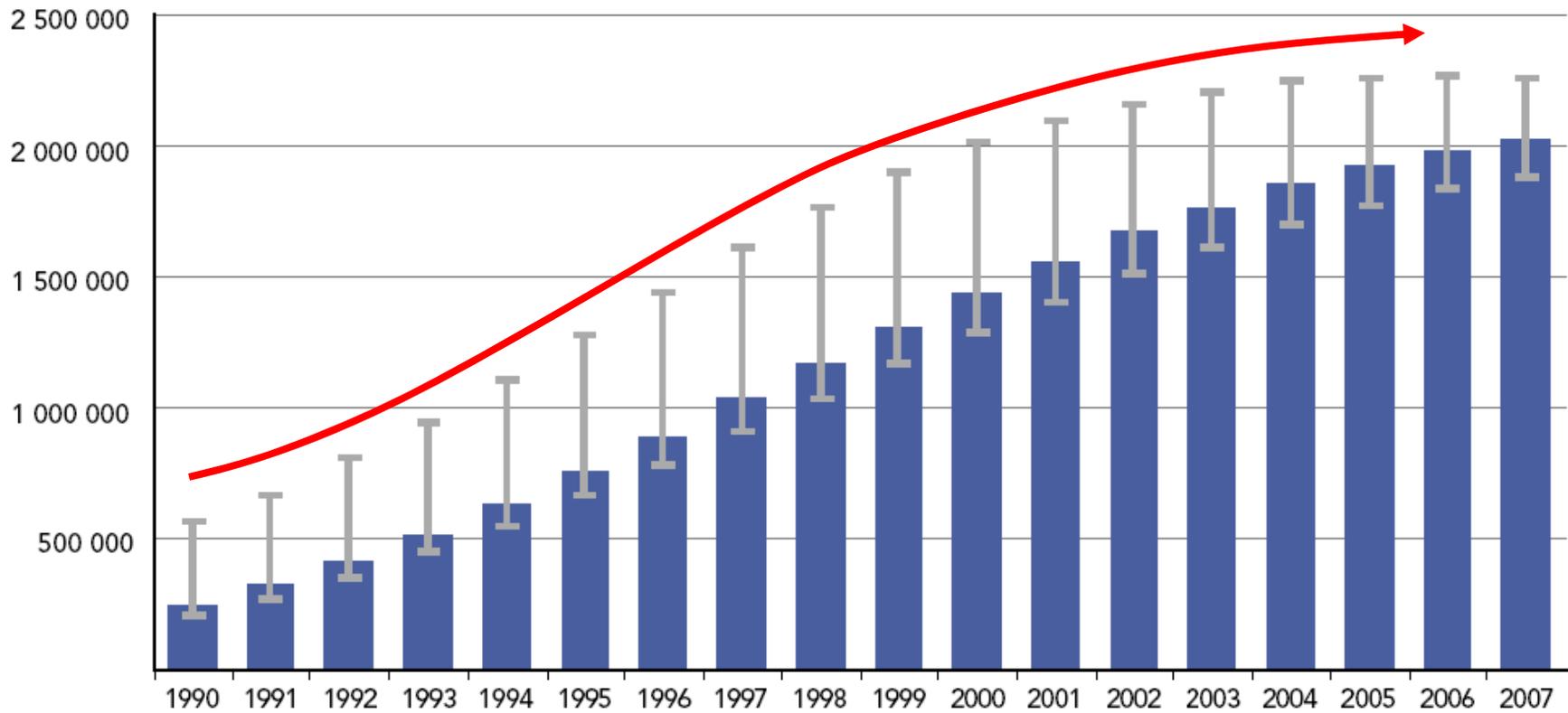


Young people account for 45% of all new infections

Report on Global AIDS epidemic
UNAIDS
2008

FIGURE 8

Children living with HIV globally, 1990–2007



I This bar indicates the range around the estimate



Report on Global
AIDS epidemic
UNAIDS
2008

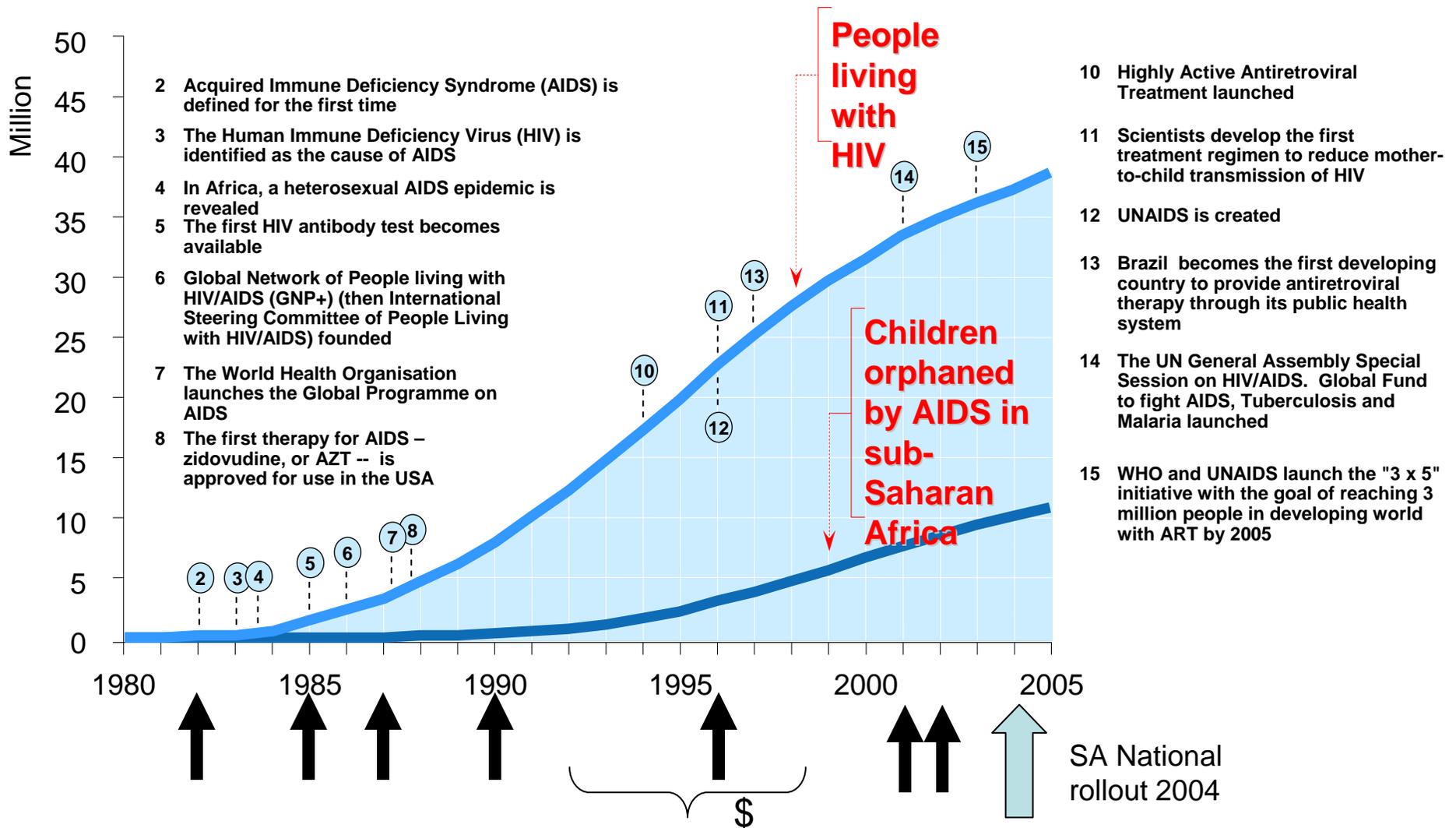


MTCT - Plus

- the *MTCT-Plus* initiative was established in 2002, Columbia University School of Public Health
- aim to move beyond interventions aimed ONLY at preventing infant HIV infection
- it supported provision of specialised care to HIV infected women, their partners and their children identified in MTCT programmes (12 sites in SSA)



25 years of AIDS – in the 3rd decade of the Epidemic





Maternal survival

- a strong predictor of child survival AIDS, 2003;
Journal of Tropical Medicine and Hygiene, 2003, 11th Conference on Retroviruses, 2004
- disease progression or deaths among mothers may undermine an improvement in child survival due to ARV prophylaxis for preventing MTCT Journal of Tropical Medicine and Hygiene, 2003
- a study in rural Uganda found that the death or terminal illness of a mother was an independent predictor of mortality among children AIDS, 2003

History of HIV / AIDS in South Africa

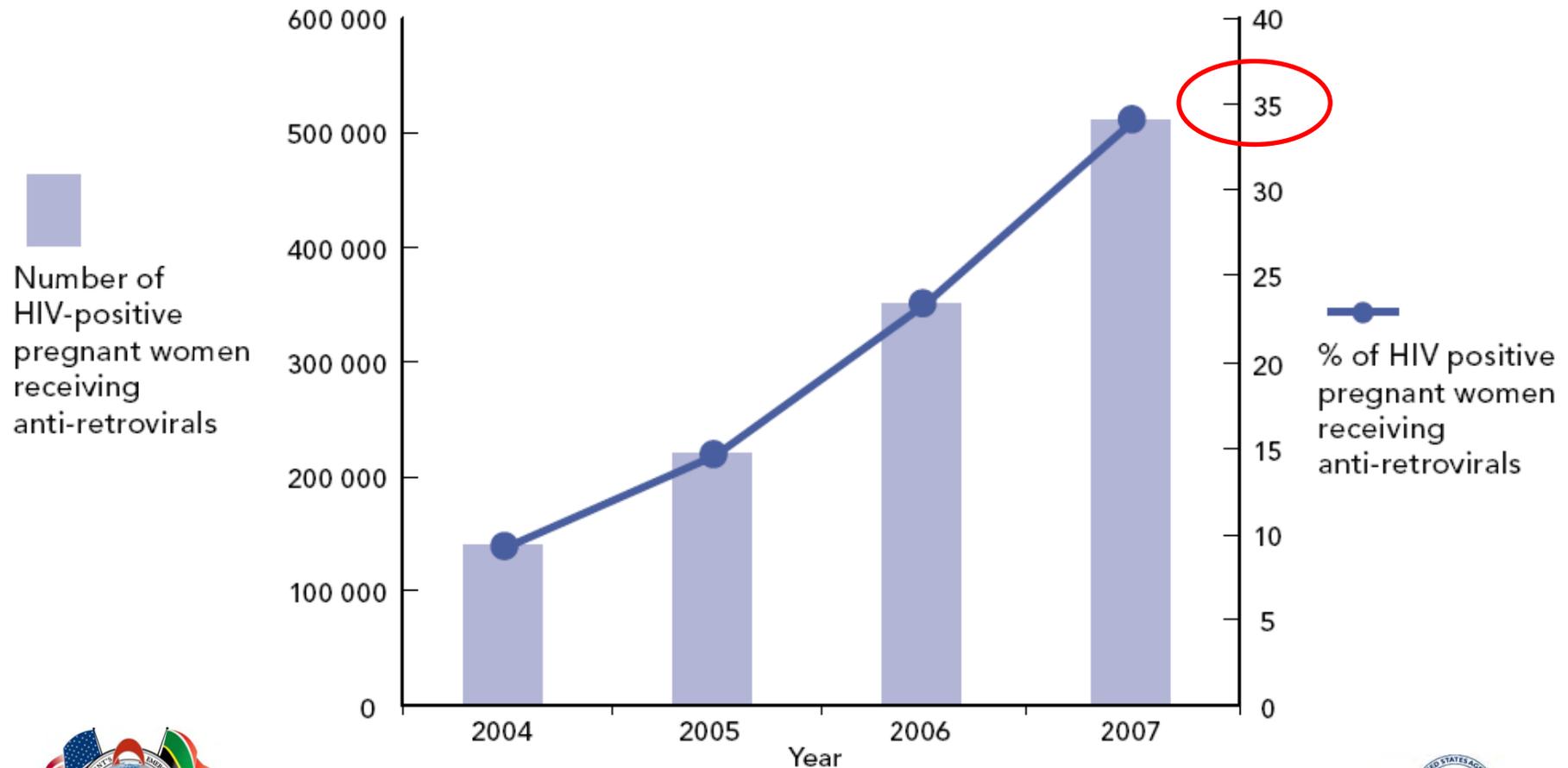
- 1982 – first case of AIDS diagnosed in SA
- 1985 – ELISA test (formal venesection)
- 1987 – AZT (GSK) available
- 1996 – NVP (B-I) available
- 2000 – 2005 DoH plan to care for HIV+ patients
- 2001 – TAC vs. sdNVP → registered by MCC
- 2001 – National PMTCT programme
- 2004 – revision of PMTCT programme in WC to include testing at 14 weeks and addition of AZT (dual therapy)

Exponential growth
1992 to 1999



FIGURE 18

Number and percentage of HIV-positive pregnant women receiving antiretroviral prophylaxis, 2004–2007



UNICEF & WHO, 2008; data provided by countries.



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Table I. Historical development of the Western Cape provincial PMTCT programme

Date	District	Testing method on mothers	Drug	Infant feeding	Infant-testing method
Jan 1999	Khayelitsha	ELISA	AZT	Formula	ELISA at 9 months
June 2000	5 priority sites	Rapid test	NVP	Formula Exclusive breast	Rapid test at 9 months
May 2003	Entire province	Rapid test	NVP (AZT in Khayelitsha*)	Formula/ Exclusive breast	Rapid test at 9 months
May 2004	Entire province	Rapid test	NVP+AZT	Formula more than breast	PCR test at 14 weeks
2008	WC	Rapid test	NVP + AZT		PCR at 6 weeks

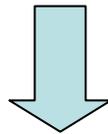
*AZT (zidovudine was administered at Khayelitsha, which was the initial pilot site in 1999 before nevirapine was available on the medicines code).

Draper B et al : A review of the PMTCT programme in WC Provincial Government, 2003 – 2004 *SAMJ* ; 98 : 431 - 434



PMTCT pioneers

MTCT Protocol in Western Cape in March 2002 :
mom had 200mg NVP at labour, NVP to
newborn within 72 hours, Rapid ELISA at 9
months to infant

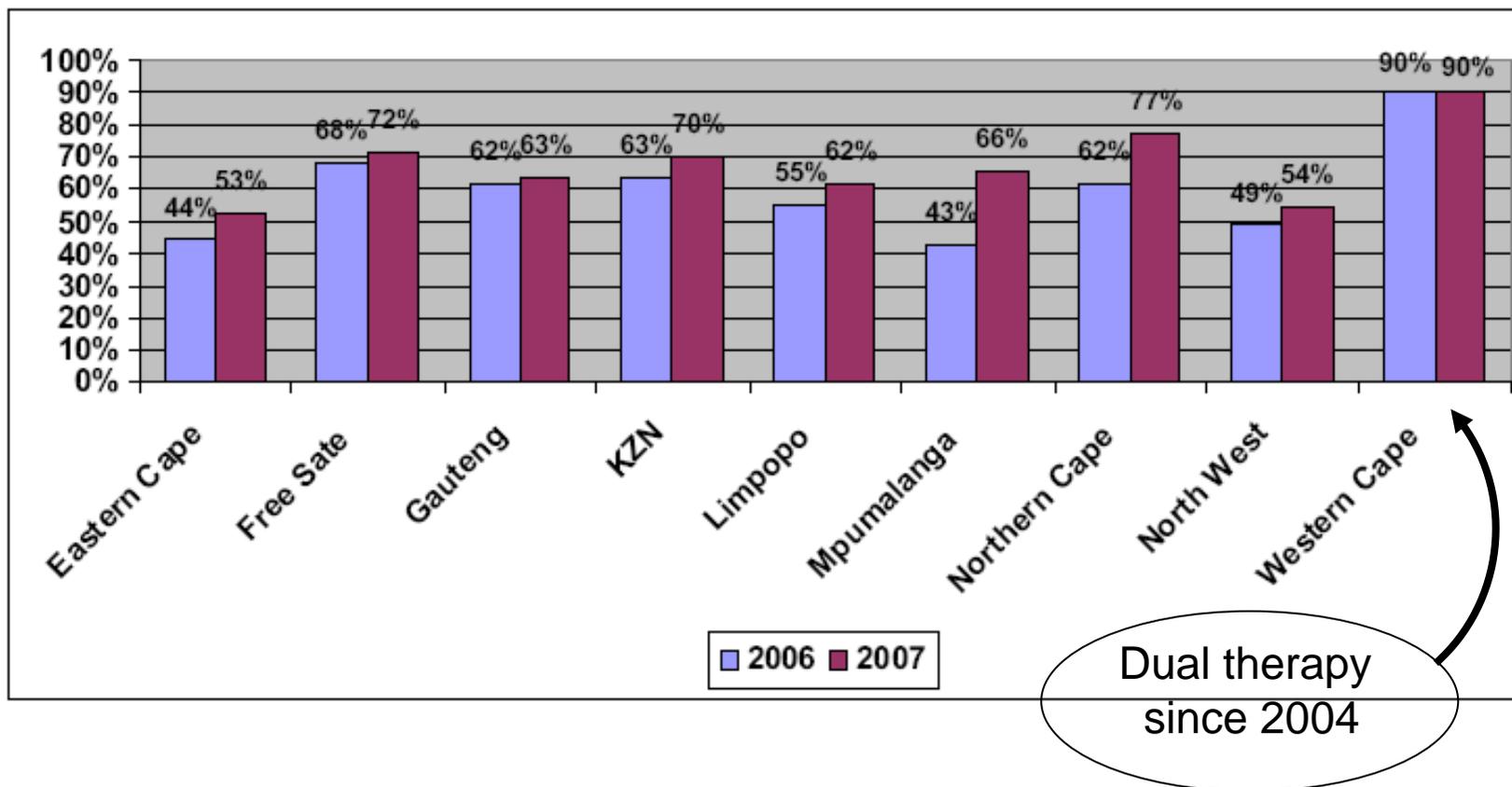


Revised PMTCT Protocol in 2004 : AZT added
antenatally from 34 weeks (if < 34 weeks and
CD4 < 200, refer for HAART). Newborn baby to
receive AZT syrup 12 hourly for 7 days, PCR
done at 14 weeks (with 3rd immunisation visit) –
if negative it means newborn UNINFECTED

Revised again – now at SIX weeks

sdNVP since 2002

Figure 5: Percentage of HIV positive pregnant women who received antiretrovirals to reduce the risk of mother-to-child transmission



Achieving an AIDS free generation - National

- National Strategic Plan (NSP) 2007 to 2011
- Department of Health (DoH) → Provincial, South African National Aids Council (SANAC)
- Statistics from Actuarial Society of South Africa (ASSA), Medicine Research Council (MRC)
- Medicines Control Council (MCC)
- NGOs, CBOs, Charity organisations

HIV and AIDS and STI Strategic Plan for South Africa (NSP)

POCKET VERSION

2007 - 2011



South African National AIDS Council
(SANAC)

Ensuring that people who are dying are able to do so with dignity,
and are buried with dignity.
Making sure that everyone who has another sexually transmitted
disease is also tested for HIV.

C. Taking care of the special needs of pregnant women and children

We can do this by:

- Making sure that all pregnant women are offered an HIV test, and that those who are HIV-positive receive proper treatment and counselling. Including ART for those mothers who need this.
- Making sure that HIV-positive mothers are given a short course of ART to reduce the risk of transmitting HIV to babies.
- Making sure that HIV-positive pregnant women and sisters are educated about safe infant feeding to reduce the risk of transmitting HIV to babies.
- Making sure that babies are tested for HIV early so that they can get the treatment and medical support they need.
- Making sure that there is a full package of services including wellness, immunisation, growth monitoring, care and ART for children and wellness for adolescents.



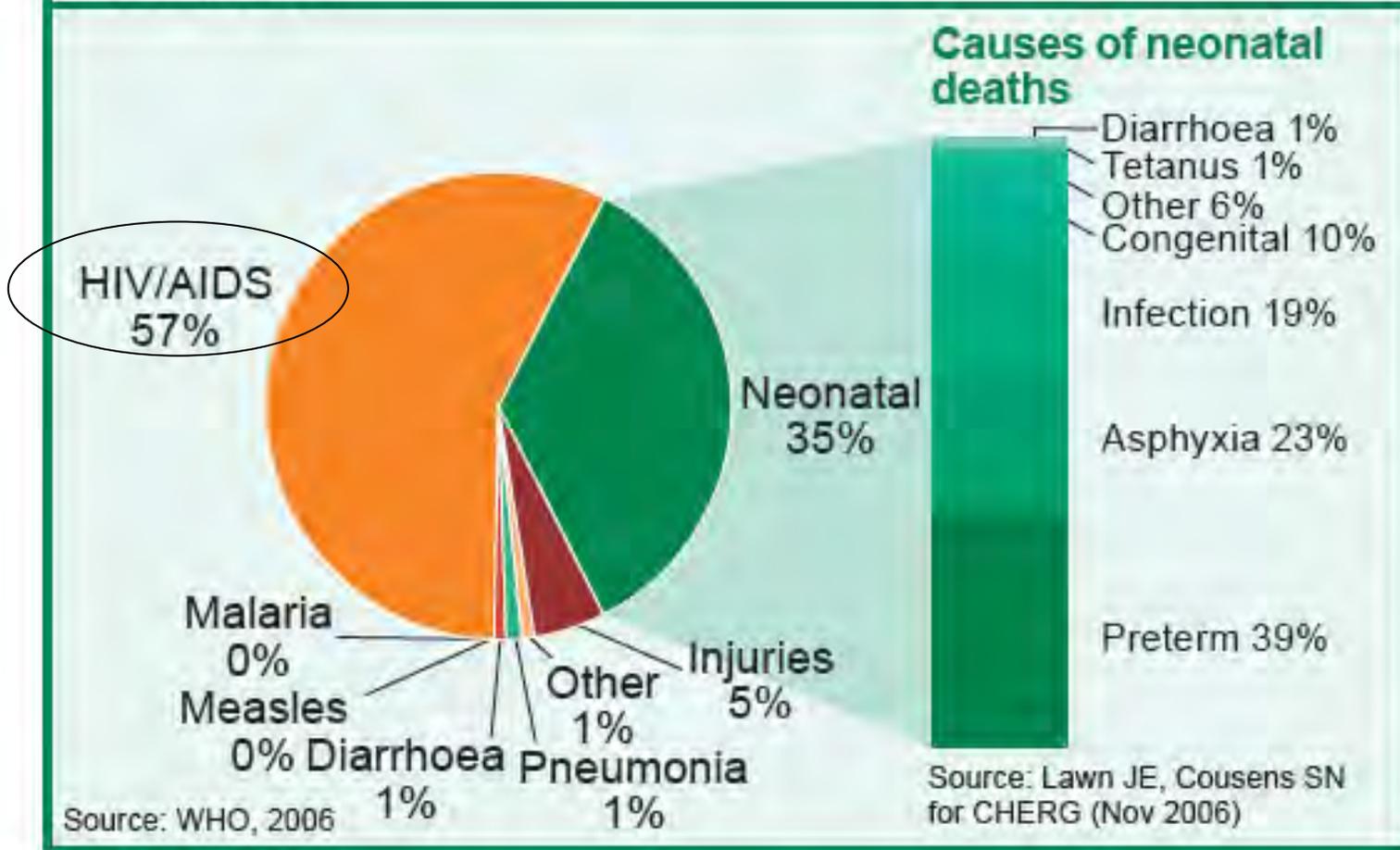
National Strategic Plan - SA

- Objectives
 - increase the proportion of public antenatal services providing PMTCT from 85% of all public antenatal facilities in 2007 to 100% by 2009
 - increase the proportion of HIV+ pregnant women receiving PMTCT services from 60% of all HIV+ pregnant women in 2007 to 80% in 2009 (95% by 2011)
 - implement P.I.T.C*. of children of HIV+ adults from 30% of health service facilities to 80% in 2009 (95% by 2011)

*make sure health workers actively offer HIV tests & counselling to patients

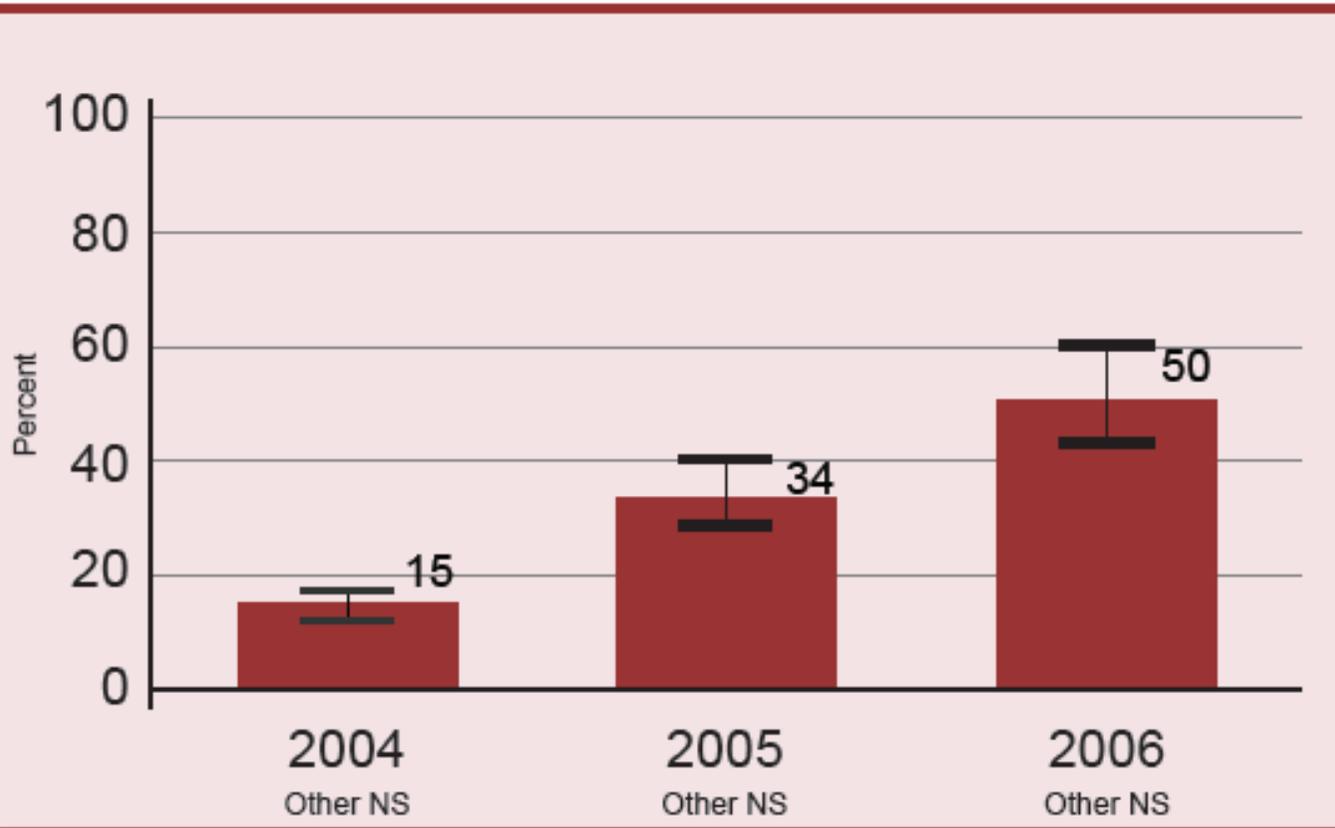
Causes of under-five deaths

Globally more than one third of child deaths are attributable to undernutrition



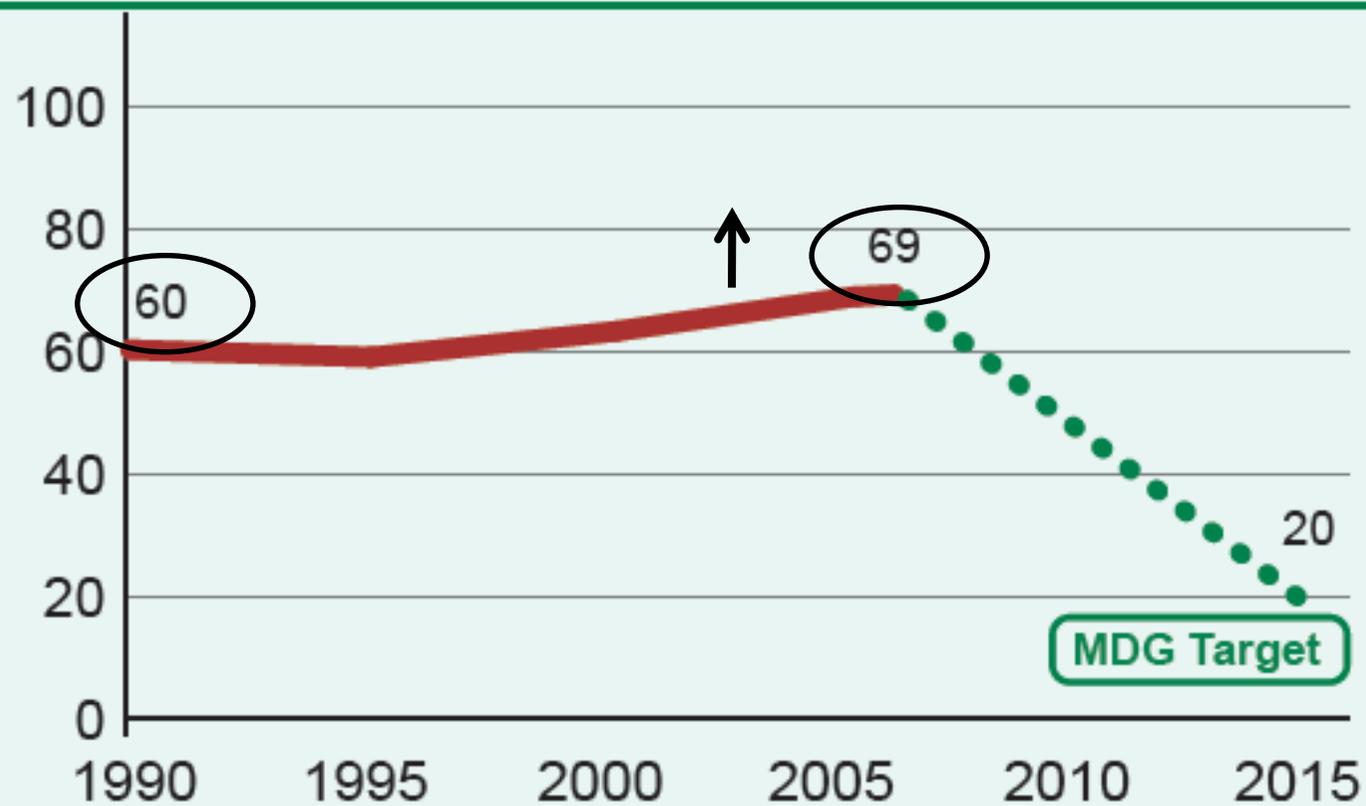
Prevention of mother to child transmission of HIV

Percent HIV+ pregnant women receiving ARVs for PMTCT



Under-five mortality rate

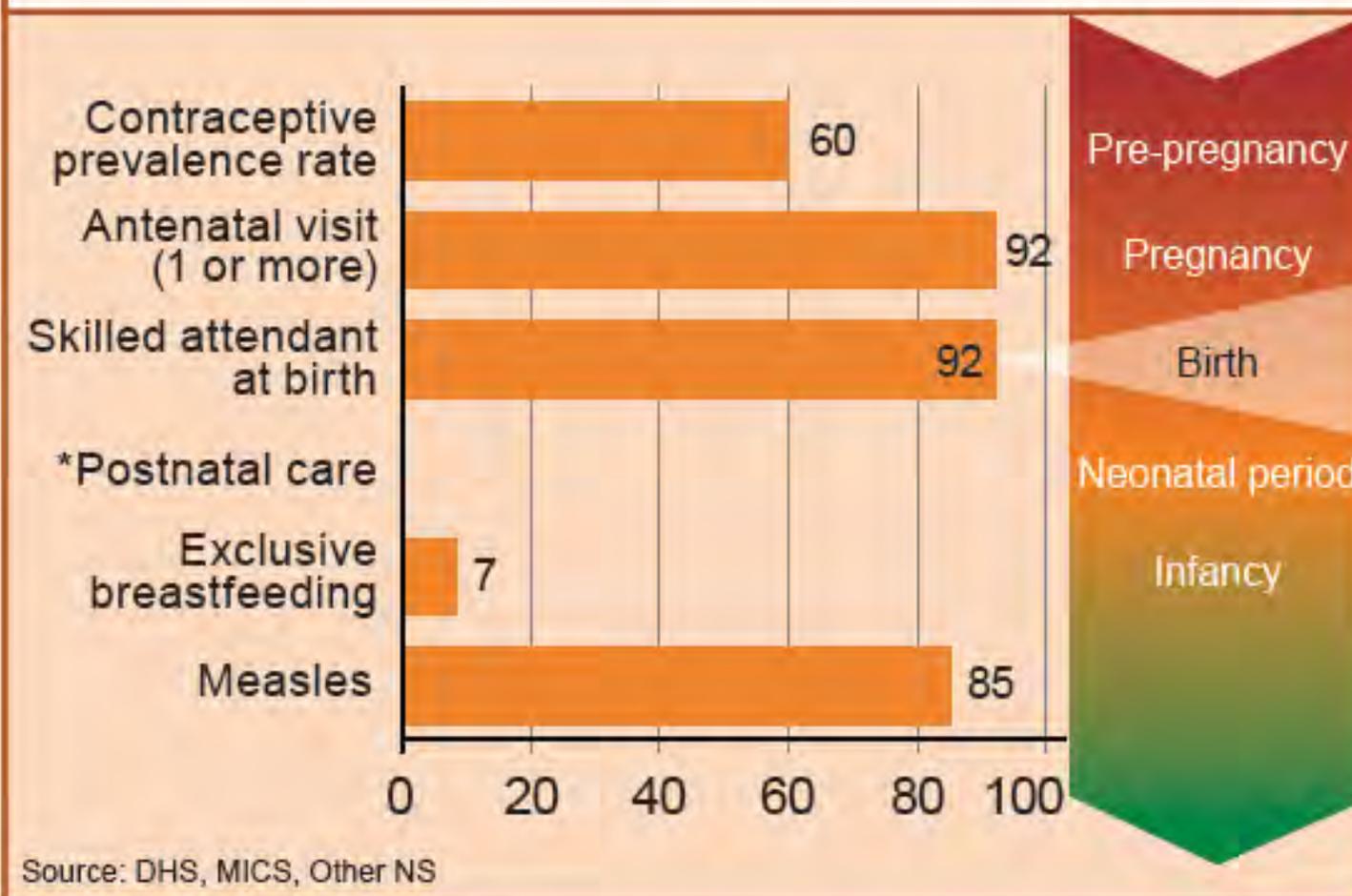
Deaths per 1000 live births



Source: UNICEF, 2006

MATERNAL AND NEWBORN HEALTH

Coverage along the continuum of care



*See Annex for indicator definition

Conclusions HIV incidence and HIV prevalence

Current HIV-transmission dynamics in South Africa are best reflected by the HIV-incidence figures observed in the different sub-populations. Especially alarming are the incidence rates among young females at prime childbearing age. Females aged 15–24 years have an eight-times higher HIV incidence than males (6.5% compared to 0.8%) and account for 87% of the recent HIV infections in this age group. Our incidence analysis also confirmed recent findings from Uganda by Gray et al. (2005) that suggest an increased risk of HIV acquisition during pregnancy. African females aged 15–49 years who reported having been pregnant in the last 24 months (n = 630) were estimated to have an HIV incidence of 7.9%, the highest incidence rate of all analysed sub-populations in our survey.

SA National Survey, 2005



Integration of family planning and HIV/AIDS services is vital

In view of the high prevalence and incidence of HIV amongst pregnant women and women in the child-bearing age group, it is critical that the government targets this group and strengthens family planning programmes. This is important, given that one in five South African women of reproductive age are not using any contraceptive method. For those who use injectable contraceptives and contraceptive pills, it is important to emphasise consistent use of condoms with regular and non-regular partners as long as they are not certain of their own, or their sexual partner's HIV status.

SA National Survey, 2005



Table 6: HIV and AIDS estimates for South Africa in 2006

Parameter	2006
Adults age 15+ years	
HIV Prevalence (%)	15.83
Number living with HIV (Millions)	
Men	2.29
Women	2.86
Children age 0-14 years	
Number living with HIV (thousands)	257.90
Total Population	
Number living with HIV (millions)	5.41

National SA HIV Sero-prevalence survey, 2007

Child epidemic in South Africa

Equal : Jan 2008

- over 300 000 children under the age of 15 years are HIV infected
- more than 60 000# babies* born in 2007
- (about 6 % of all babies born) became HIV-positive before their first birthday
- about 38 000 HIV-positive babies were infected at birth; a further 25 000 contracted the virus through BF

* approx. 1 million deliveries per year

Child epidemic in South Africa

17 000 KZN
Sept 2008



- over 50 000 children need ARV now; approximately < 30 000 are on ARVs now
- there are > 1.2 million children whose mothers have died of AIDS
- a child born with HIV who does not access ARVs lives on average two years; a few can live much longer without treatment
- children on ARVs can probably live almost normal lives

Statistics – November 2007

- 550 000 patients receiving ARV, also more pts treated in private sector (76 217 in 2006) and by NGOs
- 143 434 adults in March 2006 → will rise to 600 000 in 2009 / 2010
- 55% are female
- 889 000 needed treatment last year
- 52 000 < 15 years needed ARVs in 2006, but 23 369 (45%) received

Statistics – November 2007

- figure grew to 65 000 in 2007 with 32 060 children (49%) receiving ARVs



The treatment gap : definition

The mismatch between
HIV infected people
receiving HAART and
those who *need* it

↑
Number
of HIV
positive
patients

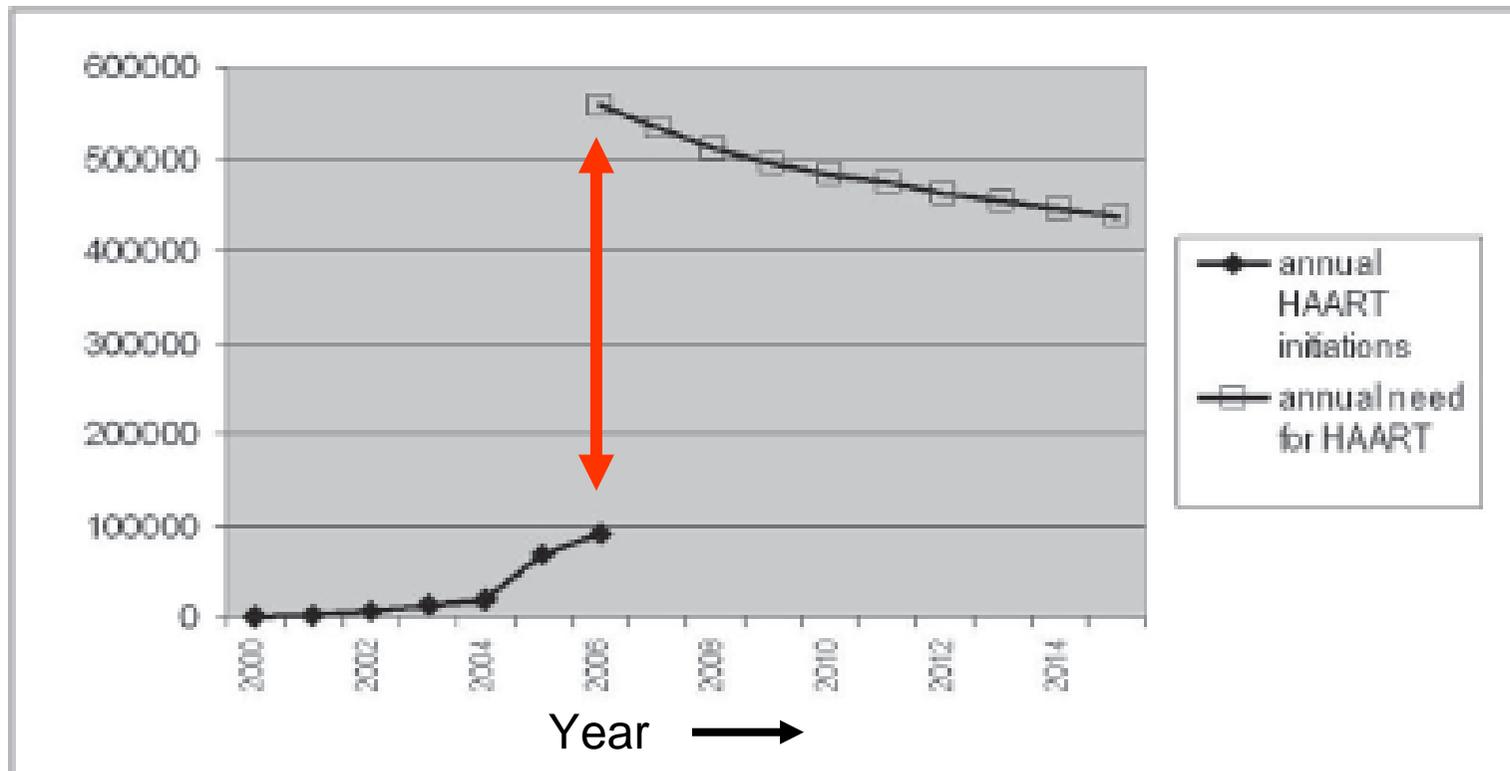


Fig. 1. Estimates of the number of HIV-infected people in South Africa who require HAART each year, and the number of adults started on HAART each year since 2000. This number is derived from the total number of South Africans that ASSA estimates to have been infected 6 years earlier, less the number of infants who were infected that year.² Estimates of adults who require HAART before 2006 are not available since ASSA has not published estimates of people infected before 2000.

ASSA = Actuarial Society of South Africa

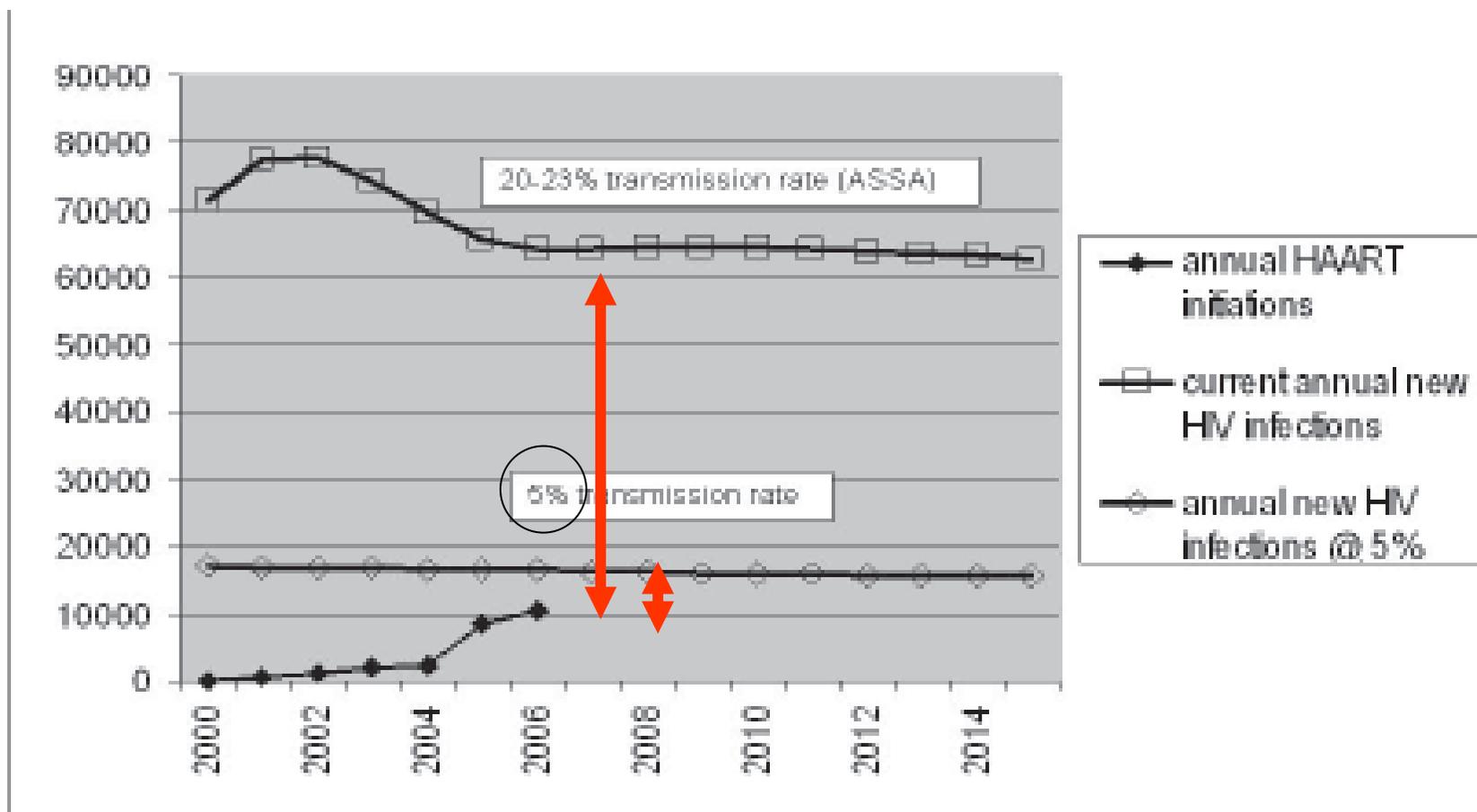


Fig. 2. Estimates of the number of infants infected with HIV each year through perinatal transmission and breastfeeding, and number of infants and children started on HAART each year since 2000. Data are derived from ASSA reports.²

Health Department finally clears the way for implementation of HIV dual therapy

The Department of Health yesterday released a revised policy and guidelines clearing the way for dual therapy in the prevention of mother-to-child transmission (PMTCT) of HIV.

Health Minister Manto Tshabalala-Msimang dismissed claims that her department was reluctant to implement the new regime.

"I was the first person to express concern about monotherapy ... but we had to make sure that we had enough time

to examine the implications of dual therapy," she said.

Up to now, most state clinics have offered only the officially sanctioned single drug, nevirapine, to infants.

Dual therapy will mean the addition of a second drug, AZT, which will increase the effectiveness of the intervention.

Speaking at Parliament yesterday morning, Tshabalala-Msimang said treatment guidelines and protocols had had to be drafted before the pro-

gramme was implemented.

"We had to make sure that sites are properly accredited and that there were proper facilities," she said.

She said the department would meet the National Health Council at the end of February to finalise time frames for implementation.

Those provinces which were ready - such as Gauteng - would be allowed to implement the dual therapy immediately.

Western Cape clinics

already offer dual therapy.

Commenting on disciplinary action threatened against KwaZulu-Natal doctor Colin Pfaff for administering dual therapy at Manguzi Hospital, Tshabalala-Msimang implied that the provincial Health Department was correct in its decision to suspend him.

"We have particular protocols and guidelines on dual therapy. Anything done outside these guidelines is incorrect," she said.

However, she would not be drawn into details of the case, saying it was an issue between Pfaff and the KZN provincial department.

In a foreword to the policy document, which is dated February 11, Tshabalala-Msimang said the PMTCT programme was introduced in 2001.

At that time, the department had had concerns about monotherapy and the possibility of resistance to a single drug as well as the lack of clar-

ity on infant feeding options.

She said evaluation of the programme in 2005 suggested that resistance to monotherapy had indeed become a major issue and that providing nevirapine alone was insufficient to "improve outcomes" for mothers and babies.

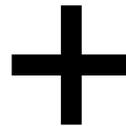
"Recent research and advice from experts now suggests that dual therapy is indicated."

"After consultation between the Department of Health and experts it has been decided that

the PMTCT guidelines should be revised and that dual therapy, using nevirapine and AZT, should be used instead of nevirapine only."

She said this had not been an easy decision, given the lack of unequivocal scientific data and evidence on safety and effectiveness.

In the 2005/06 financial year 70% of all antenatal clinic attendees were tested for HIV, of whom 26% tested positive. - Sapa



Long awaited delivery

- women will now have access to medication that will further reduce the risk of passing the virus onto their babies
- new guidelines adopted 25 January by SA National Health Council
- WHO guidelines advise using the combination to reduce transmission to 5%
- implementing the guidelines will require increasing the budget for PMTCT from R 85 million to 281 million, and the Health Dept will be asking the treasury for additional funds

New guidelines

- Policy Committee of the National Health Council adopted in January 25 2008
 - provide HIV + pregnant women with AZT from 28 weeks gestation till labour
 - infant receives a single dose of NVP during labour plus AZT bd for 7 days



Department of Health
Republic of South Africa



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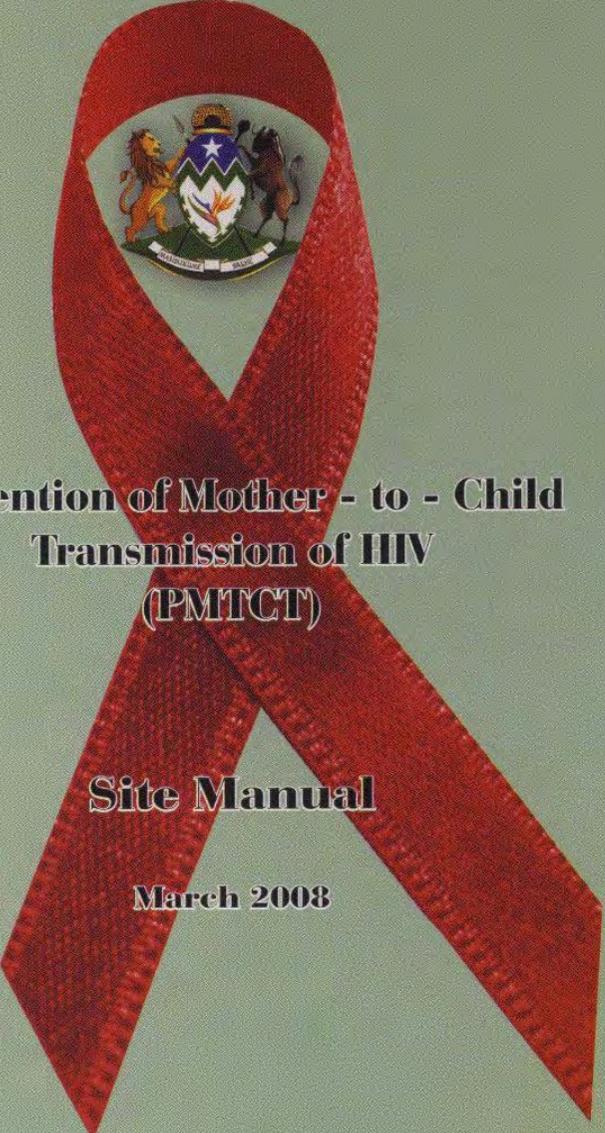
In between.....

- adhere to current National protocols and guidelines
- be aware that recommendations are being changed and updated
- need a flexible problem solving approach





Department of Health
Republic of South Africa



**Prevention of Mother - to - Child
Transmission of HIV
(PMTCT)**

Site Manual

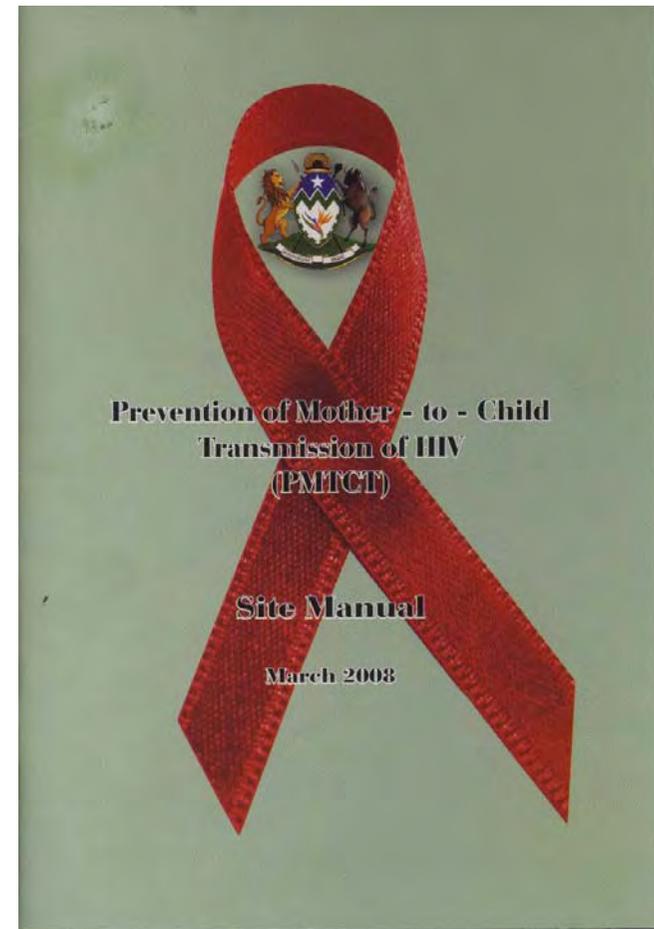
March 2008



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PMTCT Policy document Feb 2008

- A) Introduction and background
- B) Guiding principles
- C) Aims and objectives
- D) **PMTCT policy and guidelines**
 - Enrollment of women
 - VCT
 - ANC
 - Infant feeding
 - Infant follow up
- E) M&E
- F) Team and organisation



Playing the numbers.....

10%

1400

50.08%

70%

2.3 million

85%