

# Adolescents at Increased Risk of Mother-to-Child Transmission of HIV in South Africa

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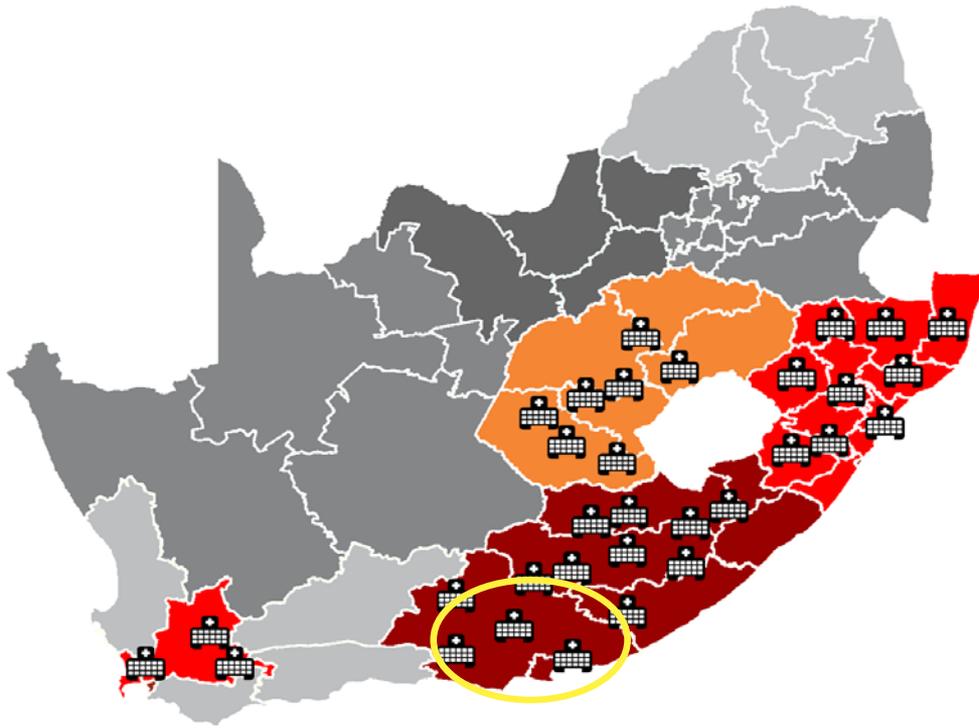


# Background

- South Africa has the highest burden of childhood HIV infection globally, and the greatest number of pregnant women requiring ARVs to prevent vertical HIV transmission (280,000pa).
- High teenage pregnancy rates(30%), especially in rural areas and impoverished communities.
- Adolescent girls have the highest HIV incidence rates( 2% pa) – 4 times that of males of the same age cohort.
- Maternal and child health outcomes are poor particularly amongst women who are HIV infected, young or from rural areas.
- Although health of adolescent girls & pregnant women is a global public health priority, scant empirical cohort data exists on MTCT and pregnancy outcomes among HIV–infected Adolescents in Africa.
- **Purpose :** To compare maternal and infant health outcomes, and vertical HIV transmission between HIV positive adolescents and non–adolescent pregnant women in a high HIV prevalence district in South Africa.



# Nelson Mandela Bay District



65 % live in poverty

Youth Unemployment at 50%

HIV Antenatal sero-prevalence 30%

Neonatal mortality rates  
25.7 per 1 000 live births,  
national rate is 10.1/1000

**Setting:** Three PMTCT sentinel surveillance sites in the Nelson Mandela Bay Metropolitan district of South Africa.

Facilities were supported by **Kheth'Impilo**: A non-profit organization that provides health system strengthening initiatives and technical assistance to the South African Department of Health.



# Methods

Cohort study – Jan 2009–March 2012

## Inclusion criteria:

All HIV pregnant women and their infants who attended facilities.  
Infants followed-up (where possible) until 6 week HIV DNA PCR test.

## Data collection

Enhanced routine individual clinical data captured electronically.  
Adolescents defined as  $\leq 19$  years of age at the first antenatal visit.

**Validation:** Roving Quality Nurse Mentors applying a data-driven approach

**Outcomes:** ART uptake during pregnancy; maternal mortality; still-birth;  
infant PCR uptake; vertical HIV transmission at 6 weeks

**Analyses:** Multivariable log-binomial and Cox regression analysis to compare outcomes between adolescents and women  $> 19$  years of age.



# Methods

## Triple ART initiation Criteria during pregnancy:

**Before 2010:** CD4 cell count < 200 cells/ $\mu$ L or WHO stage 4.

- ART ineligible–received ZDV at 28wks, single dose NVP during labor.
- Infants received sd NVP at birth and 7 day course of ZDV.

**April 2010:** CD4 cell count < 350 cells or WHO stages 3/4.

- ART ineligible–ZDV from 14 weeks, sdNVP intra–partum, and sd Tenofovir/emtricitabine after delivery to cover the NVP tail.
- Infants received sd NVP, extended NVP course depended on breastfeeding



# Results: Baseline

- ▶ 956 mother–infant pairs were included, of whom 65 (6.8%) were adolescents.

## Median ages:

**Adolescents:** 18 years (IQR: 17–19 years; Range: 13–19 years).

**Older women:** 28 years (IQR: 25–33 years; Range: 20–44 years)

## Median baseline CD4 cell count:

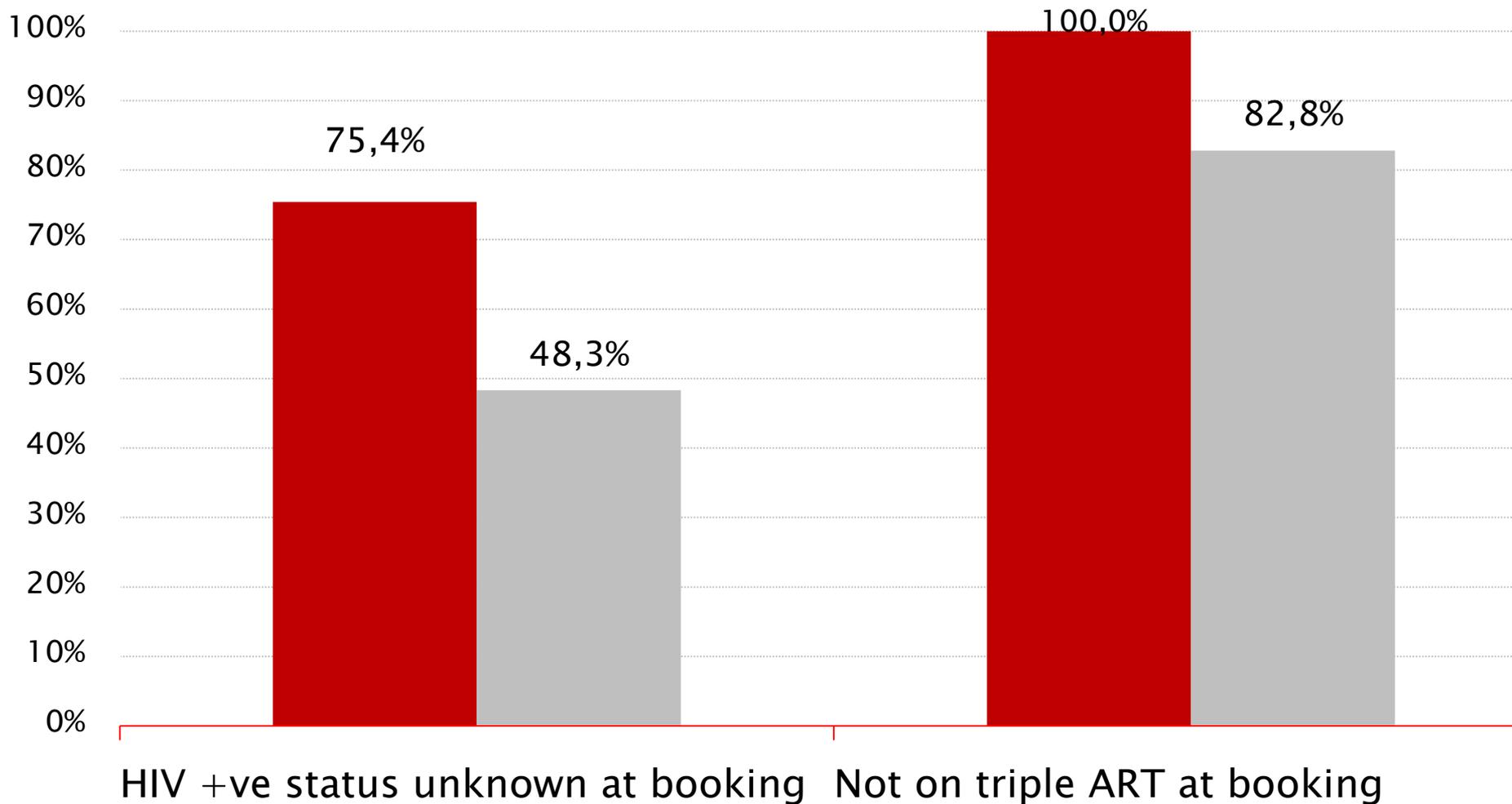
- 350 cells/ $\mu$ L (IQR: 233–489).
- Higher but not significantly different ( $P=0.16$ )

## Median Gestational Age at Booking:

22 weeks (IQR: 17–27); equivalent between groups ( $P=0.64$ )



# Baseline Differences

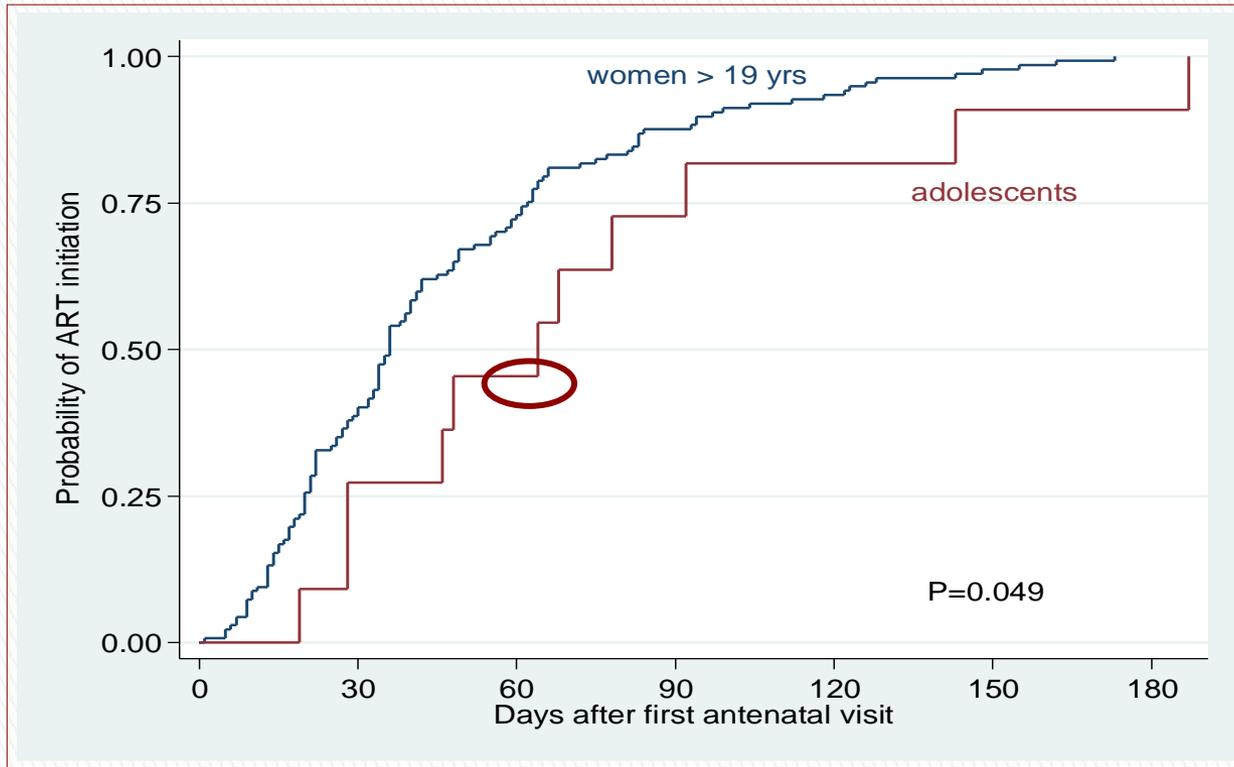


■ Adolescents

■ Women > 19 yrs



# ART Uptake After First Antenatal Visit



## Median time starting ART after first antenatal visit :

Adolescents: 64 days (IQR: 28–92)

Women > 19 years: 36 days (IQR: 20–62)

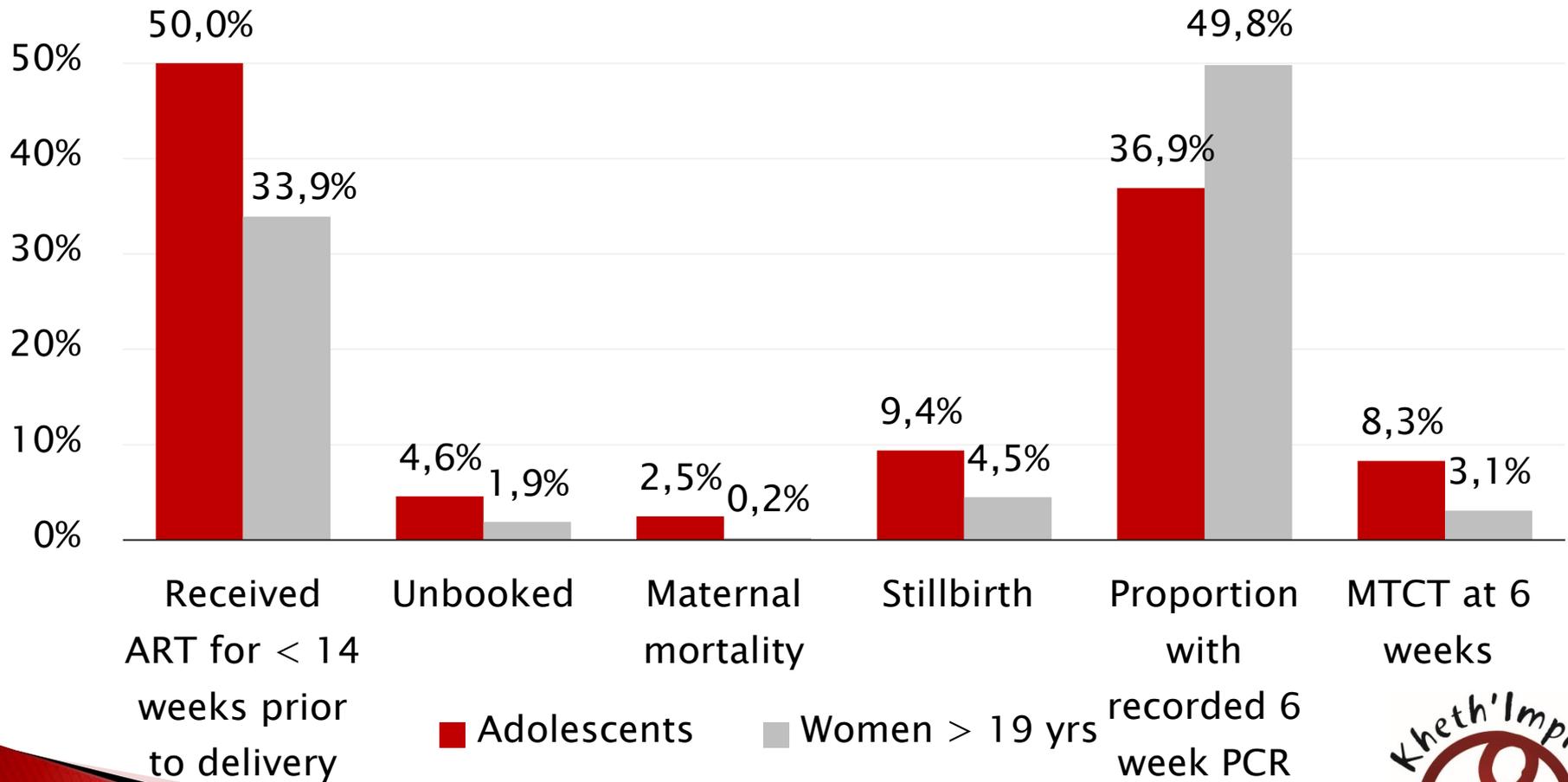
## % started ART 60 days after the first antenatal visit:

Adolescents: 45%

Women > 19 years: 73%

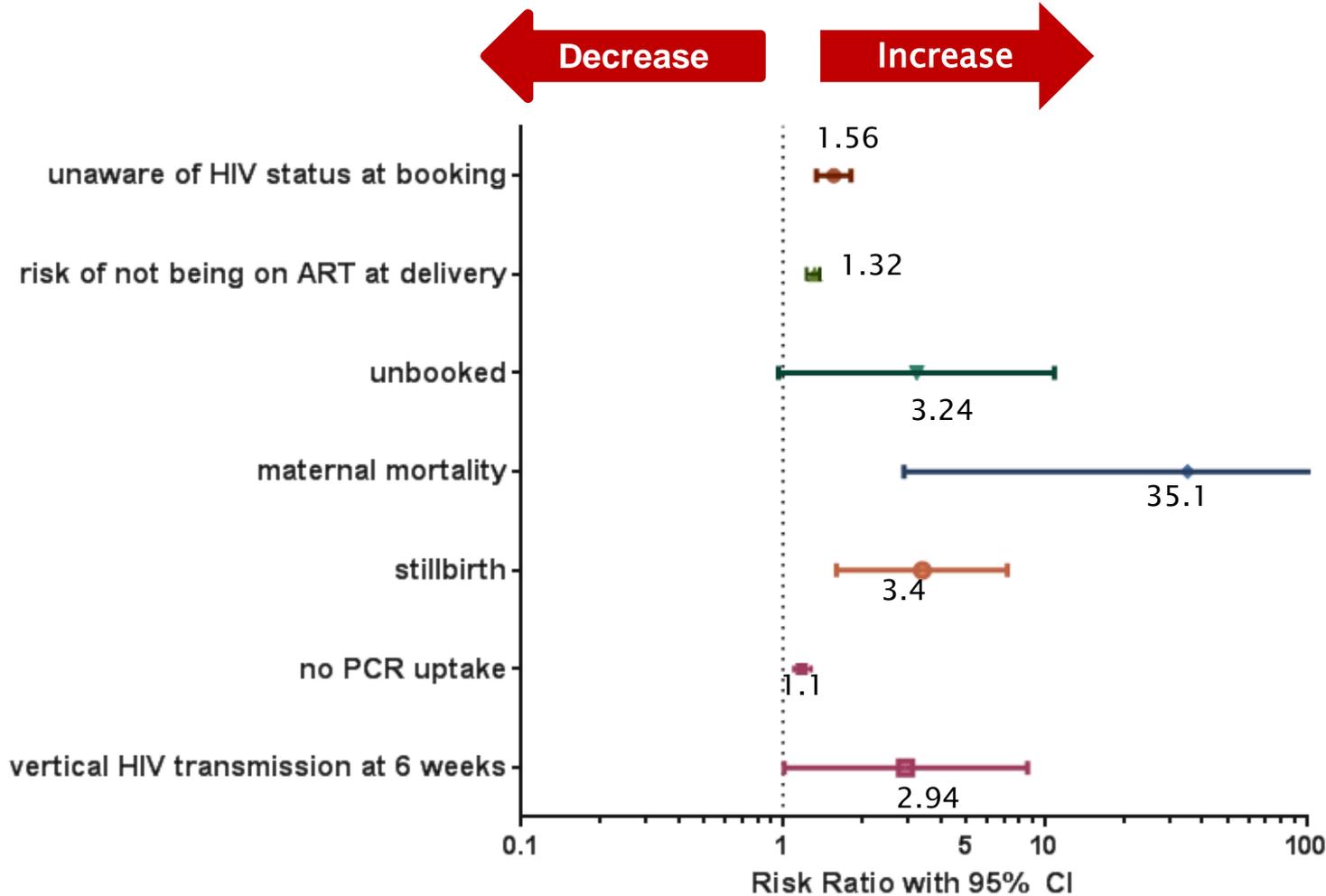


# Outcomes



# Adjusted Effect Measures

## Adolescents compared with Women >19 yrs



# Conclusions

- **Adolescents:** Less aware of their HIV status; less likely to be on ART at booking; increased maternal mortality and stillbirth and reduced ART uptake during pregnancy.
- **Children :** Reduced 6 week PCR uptake and a two-fold increased vertical HIV transmission.
- ▶ This data reflects the vulnerability of this group and the consequences on the mother and child, if prevention, treatment, care and support services are not appropriate or accessible.
- ▶ Interventions targeting adolescents are increasingly needed to reduce pregnancy, HIV acquisition, MTCT, improve maternal and infant outcomes if South Africa is to attain its MDG goals.



# Way Forward

- ▶ Since 2013, SA has adopted a policy that all pregnant women start lifetime Triple ARV therapy from the time of HIV diagnosis.
- ▶ For this to be successfully implemented, providing appropriate & accessible adolescent friendly services during the antenatal & postnatal period is critical, if young women and their babies are to benefit from it.
- ▶ ISHP has to be more pro-active in increasing access to HCT,FP and barrier methods.



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health

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