Prevention of Parent-to-Child Transmission of HIV / PPTCT in PNG

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BACKGROUND

Prevention of parent-to-child transmission (PPTCT) of HIV is one of the most effective public health interventions for reducing new paediatric HIV infections. When pregnant women living with HIV are diagnosed early, commence antiretroviral therapy (ART), and remain engaged in care throughout pregnancy and breastfeeding, the risk of HIV transmission to their infant can be dramatically reduced.

Despite ongoing national investment in HIV prevention and maternal health services, Papua New Guinea continues to experience significant challenges in eliminating vertical HIV transmission. Adolescent girls and young mothers are particularly vulnerable, often facing structural, social and health system barriers that delay engagement with antenatal care and HIV services. These include stigma and discrimination, limited access to youth-friendly services, inconsistent viral load monitoring, geographical barriers, and periodic HIV commodity stockouts.

Understanding how outcomes differ between adolescent mothers and women aged 20 and over is critical for strengthening PPTCT services and informing targeted interventions that improve both maternal and child health outcomes.

Through its Community-Led Monitoring Program, the Key Populations Advocacy Consortium (KPAC) in PNG undertakes regular analysis of PPTCT program data, to help in assessing and responding to gaps in service delivery, and ensuring feedback from intended service users is captured and shared with key stakeholders.

AIM

To examine routine antenatal HIV service data from Papua New Guinea to assess HIV prevalence among pregnant women, ART initiation, and vertical HIV transmission rates, with a particular focus on differences between adolescent mothers (<20 years) and women aged 20 and over.

METHODS

Through KPAC PNG's CLM program, in March 2026, routine service data collected during September 2025 was analysed from the 21 antenatal clinics across the National Capital District and Eastern Highlands Province participating in the CLM program.

The analysis included 3,500 pregnant women attending antenatal services. Key indicators examined were:

- HIV prevalence among pregnant women;
- ART initiation among women diagnosed with HIV;
- Vertical HIV transmission rates; and
- Differences in outcomes between adolescent mothers (<20 years) and women aged 20 years and over.

Descriptive analyses were undertaken to identify patterns in service utilisation and maternal outcomes, with particular attention given to factors influencing successful prevention of parent-to-child transmission.

RESULTS

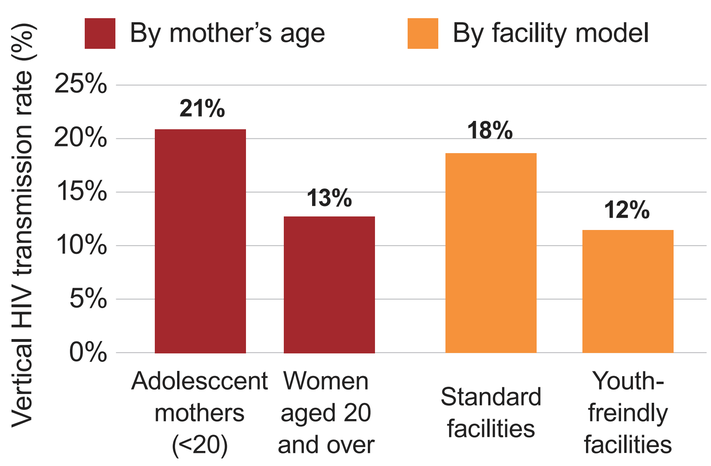
Among **3,500 pregnant women** attending antenatal care, **1,020 (29%)** were diagnosed with HIV. Of these women, **780 (77%)** commenced antiretroviral therapy during pregnancy.

Despite relatively high ART initiation, vertical HIV transmission remained unacceptably high. Adolescent mothers experienced substantially poorer outcomes than women aged 20 and over, with transmission rates of 21% compared with 13%, as shown below.

Routine program data also identified several factors likely contributing to these outcomes. Women frequently presented late for antenatal care, limiting opportunities for timely HIV diagnosis and ART initiation. Inconsistent viral load monitoring reduced the ability of clinicians to identify women requiring additional clinical support during pregnancy, while periodic HIV commodity stockouts affected continuity of care.

Importantly, facilities providing youth-friendly HIV and antenatal services demonstrated improved outcomes, reporting lower vertical transmission rates (12%) compared with facilities without these service models (18%), as shown in the below graph. These findings suggest that differentiated service delivery approaches may improve engagement and treatment outcomes for younger mothers.

VERTICAL HIV TRANSMISSION:
BY AGE AND BY FACILITY MODEL



DISCUSSION

The findings highlight that preventing vertical HIV transmission in Papua New Guinea requires more than the availability of ART alone. While most women diagnosed with HIV commenced treatment, significant gaps remain in ensuring early diagnosis, sustained engagement in care, and comprehensive monitoring throughout pregnancy.

The markedly higher transmission rates observed among adolescent mothers demonstrate the need for services that better respond to the unique circumstances of young women. Delayed presentation for antenatal care, stigma, limited access to youth-friendly services, and health system constraints can all reduce the effectiveness of existing PPTCT interventions.

The improved outcomes observed in facilities providing youth-friendly services suggest that differentiated models of care may support earlier engagement, improved treatment adherence, and better maternal and infant outcomes. Strengthening these approaches represents an important opportunity to reduce inequities in HIV outcomes among adolescent girls and young mothers.

From the sample studied

3,500 pregnant women analysed

29% HIV prevalence among pregnant women sampled

77% of women living with HIV commenced ART

21% vs 13% vertical transmission among adolescent versus older mothers

CONCLUSIONS

Vertical HIV transmission remains a significant public health challenge in Papua New Guinea, particularly among adolescent mothers.

While ART initiation rates are encouraging, persistent gaps in early antenatal engagement, viral load monitoring, and continuity of HIV services continue to limit progress towards elimination of mother-to-child transmission.

Expanding youth-friendly HIV services, strengthening health system capacity, ensuring reliable HIV commodity supply chains, and supporting earlier engagement with antenatal care are likely to improve outcomes for both mothers and infants.

Targeted investment in adolescent-responsive HIV services should be considered a priority within Papua New Guinea's broader HIV response.

KEY RECOMMENDATIONS

- ✔ Strengthen early HIV testing and antenatal engagement among adolescent girls and young women.
- ✔ Expand youth-friendly PPTCT and antenatal service models across Papua New Guinea.
- ✔ Improve routine viral load monitoring throughout pregnancy and breastfeeding.
- ✔ Strengthen ART and HIV commodity supply chains to minimise treatment interruptions.
- ✔ Increase community awareness and stigma reduction initiatives to encourage earlier access to care.
- ✔ Strengthen follow-up systems for HIV-exposed infants to improve early diagnosis and treatment.

Key Population Advocacy Consortium Papua New Guinea

Women Affected By HIV & AIDS Papua New Guinea

HEALTH EQUITY MATTERS

KPAC's CLM Program in PNG is currently funded by the Australian Government, through UNAIDS and FHI360.

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AUGUST **2026**