

The urgency of now to end HIV vertical transmission for pregnant and breastfeeding women and their children in Asia and the Pacific



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Summary

The global strategy to #EndAIDS is underpinned by a call to end all inequities and to ensure no-one is left behind; but inequities continue, and people are still being left behind. Despite the advances seen in some populations and in some geographical areas, with ongoing high rates of HIV vertical transmission, ending HIV for pregnant and breastfeeding women and their children must be prioritised urgently. Focused on Asia and the Pacific, the region with the second largest number of people with HIV, in this viewpoint we highlight the heterogeneous nature of global and regional success in eliminating vertical transmission of HIV. We highlight the gaps of the HIV care cascades of pregnant and breastfeeding women and their children in the region that we need to address and galvanise increased attention, and resources for to set us on a path to the elimination of HIV vertical transmission or reverse the slow decline in transmission needed to achieve the last mile. We conclude that the time is now: we need action to improve maternal and child health in our regional response to HIV if we are to ensure we end AIDS for all.

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Introduction

The global strategy to #EndAIDS is underpinned by a call to end all inequities and to ensure no-one is left behind. Despite advances seen in some populations and in some geographical areas, such as gay and other men who have sex with men in the Global North, one such group where inequities in our response persist, and in some regions is growing, is among pregnant and breastfeeding women and their children. We cannot expect to end AIDS without eliminating HIV vertical transmission and ensuring children with HIV have the same clinical outcomes as adults. The estimated global

rate of vertical transmission is 10%, and with significant gaps in the paediatric testing, treatment and care cascade,¹ including HIV viral suppression,² highlights inequitable success in ending paediatric HIV and achieving the last mile: yet the silence on paediatric HIV is sometimes deafening^{3,4} And to do this we must critically and systematically address gaps in maternal and paediatric HIV care cascades, including in Asia and the Pacific, our focus for this Viewpoint.

The Asia and the Pacific region has a low HIV burden (0.2% adults 15–49 years),⁵ with 96% of infections in our region among key populations and their sexual partners with more males ≥ 15 years than females living with HIV (65% versus 35% respectively).⁵ However, our region comprises 60% of the total global population, so the number of people living with HIV in

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the Asia and the Pacific is second only to sub-Saharan Africa. This epidemiology is both detracting and distracting from the urgent needs of pregnant and breast-feeding women and their children.

Despite the low burden of HIV, the rate of HIV vertical transmission Asia and the Pacific (19.2%) is almost double of the global rate (9.9%), and threefold higher than that estimated in Eastern and Southern Africa (6.1%) (Table 1). Despite availability of interventions to reduce the risk of vertical transmission, some countries in the Asia and Pacific region have shown little to no improvements since 2010. Like Bangladesh the vertical transmission rate was 48.9% in 2010 and only reduced to 42.6% in 2023, while in the Philippines and Fiji rates stayed stubbornly the same or slightly worse in the same period (38.2%–38.5%, and 26.9%–27.9%, respectively).⁵

With almost one in ten children (0–14 years) living with HIV globally residing in Asia and the Pacific,¹ speaks to the gravity of paediatric HIV in and for our region. Most children with HIV in our region live in Indonesia (26%), followed by India (23%) and Papua New Guinea (PNG) (8%).¹ With an estimated 0.2%

national prevalence it has previously been estimated that India had 5000 and 2350 incident cases of vertically acquired HIV in 2021⁶ and 2023 respectively. Notable improvements in India's response to paediatric HIV, including maternal HIV care,¹ have been reported, highlighting what can be achieved with community leadership and adequate financing.

In our region, where maternal HIV prevalence is low, and case rates are within reach of the elimination target, transmission rates remain unacceptably high. Proportionate to the lower burden, this rate of transmission belies significant issues in our regional response to HIV, including the large number of children with HIV, the challenges that exist to meet the “last mile” of eliminating HIV vertical transmission here,⁷ and the lack of prioritisation given to the issue. The Philippines is an important case in point. Despite being the fastest growing HIV epidemic in Asia and the Pacific with >400% increase in new infections in the last decade, and the significant mobilisation of resources for key population community mobilization for testing, treatment and PrEP, and strengthened laboratory networks and systems to scale up rapid HIV diagnosis, no

	Estimated number of pregnant women living with HIV needing ART to prevent vertical transmission	Percent of pregnant women living with HIV receiving effective ARVs for PMTCT	Reported number of pregnant women living with HIV receiving effective ARVs for PMTCT	Percent of infants born to pregnant women living with HIV who received a virological test for HIV within 2 months of birth	Reported number of infants born to pregnant women living with HIV who received a virological test for HIV within 2 months of birth	Estimated mother-to-child transmission rate (%)
GLOBAL	1.4 M	84	980,000	67	747,000	9.9
UNAIDS Regions						
Asia and the Pacific	52,000	64	33,000	55	27,700	19.2
Caribbean	9300	73	6800	39	3500	13.7
Latin America	26,000	63	16,000	-	4500	15.1
Eastern Europe and central Asia	19,000	96	18,000	-	-	7.0
Middle East and North Africa	5400	21	1100	-	-	-
Eastern and southern Africa	820,000	94	770,000	80	649,000	6.1
Western and central Africa	240,000	54	130,000	27	59,500	20.3

^aThese are regions according to UNAIDS, and not all regions have estimates for each indicator. At time of submission UNAIDS has retracted two indicators on the estimated proportion of pregnant women who know their HIV status and the estimated number of pregnant women living with HIV.

Table 1: 2024 UNAIDS global and regional estimates for 2023.^{5,a}

investment has been made in maternal and child health programs including free HIV testing in antenatal clinics, improvements in infant diagnosis or sustainable procurement of neonatal prophylaxis.

The global commitment to the elimination of HIV, and improving maternal and child health, requires a financial and political investment in eliminating HIV vertical transmission and improving paediatric HIV outcomes everywhere, not just in settings of high HIV burden. It is also cost-effective to do this, reducing the number of new infections that will require lifetime treatment.⁸ As we approach the midpoint of the time-frame set by the United Nations General Assembly to end AIDS by 2030, now is the time to ensure we address vertical transmission and paediatric HIV by resolving the gaps that exist across the HIV care cascades of pregnant and breastfeeding women and their children. Drawing on 2024 UNAIDS HIV estimates for 2023, we review global, regional and country level data to identify the gaps in the HIV care cascades of pregnant and breastfeeding women and their children in Asia and the Pacific. And while the cascades are focused on a global drive for scaling-up biomedical responses (testing, treatment and viral load monitoring), we implore governments, donors, and the community to continue to address structural inequalities including gender inequity, universal health care coverage, criminalisation, and quality of care. All these inequities hinder women's initial and ongoing engagement in HIV care and treatment for their own health and that of their children.

Global achievement, lessons learned and challenges for Asia and the Pacific

Starting with Cuba in 2015, to date only 19 countries have been validated as having eliminated vertical transmission of HIV, all lower prevalence countries. It is noteworthy that three countries in Asia and the Pacific have been validated including Thailand, Malaysia and Sri Lanka, with Bhutan and the People's Republic of China making important progress towards elimination. Despite some regional success, five have vertical transmission rates close to or $\geq 30\%$, mirroring the natural history of transmission⁹ (Table 2). Eastern and southern Africa has shown significant improvement, with two high burden countries validated as on the path to elimination: Botswana and Namibia. The success of the countries which have been validated as having eliminated vertical transmission offer important lessons to consider for progressing our region. These successes show community ownership, integration of HIV into strong maternal and child health services, government leadership and commitment and adequate and sustained financing and resourcing elimination of HIV vertical transmission can be achieved.⁷

HIV test coverage among pregnant women

HIV testing rates among pregnant women in antenatal care in our region remain critically low; too low to increase ART coverage to both improve the health of the mother and prevent vertical transmission.

Access to antenatal care underpins global and local efforts to prevent transmission, providing a critically important opportunity to identify and engage pregnant women living with HIV in care, for their own health as well as to prevent vertical transmission. Much like HIV care, antenatal care is not universally equal. In our region, 92.0% of pregnant women attend skilled antenatal care at least once but there is marked variability where some countries fail to achieve even basic antenatal care coverage.⁹ This has important implications for HIV testing coverage of pregnant women. PNG offers a concerning example. In 2022 only 49.0% of pregnant women attending antenatal care, and despite having adopted an opt-out model, and free HIV testing, in the same year there was only 19.8%⁵ testing coverage of antenatal women. This equates to merely 9.7%. HIV testing coverage of all pregnant women in PNG. Even where universal antenatal care is extremely high, such as Fiji, the pathways for diagnosing women with HIV, has seen women with HIV missed in antenatal care, and is considered a key reason for the recent increase in the number of children diagnosed with HIV in this small Pacific Island state. Knowing HIV testing coverage in antenatal care is critical to knowing our epidemic and targeting resources and efforts to end vertical transmission. This data, and the estimated number of pregnant women living with HIV for 2023, is still being finalised and not available for inclusion here.

In the Philippines, which has the fastest growing epidemic in the region, HIV testing among pregnant women follows an opt-out model and coverage is extremely low ($\sim 1.2\%$), with women bearing the economic burden of testing in antenatal care. Similarly, HIV testing in Viet Nam is not universally free. In mountainous regions with large proportions of ethnic minorities, and economic disadvantage, the Global Fund provides a limited number of HIV test kits, but not enough to meet the needs. For all other pregnant women, they must pay and seek financial reimbursement from the national health insurance scheme. In many provinces insurance programs refuse to reimburse on the grounds that the national HIV testing guidelines refer to testing in antenatal care as screening.¹⁰ The language used to describe testing is the policy barrier with economic impacts to HIV testing among pregnant women.¹⁰

Recognising the dual elimination targets of ending HIV and congenital syphilis, some countries are making important progress to improve coverage of both HIV and syphilis testing. Notable countries that have incorporated novel point-of-care lateral flow technologies such as the dual HIV/syphilis test into routine testing include, for example, China, Taiwan, Cambodia, India,

Countries in UNAIDS Asia and the Pacific	Estimated number of pregnant women living with HIV	Percent of pregnant women living with HIV receiving effective ARVs for PMTCT	Reported number of pregnant women who received effective ARVs for PMTCT	Estimated mother-to-child transmission rate (%)	Percent of infants born to pregnant women living with HIV who received a virological test for HIV within 2 months of birth	Reported number of infants born to pregnant women living with HIV who received a virological test for HIV within 2 months of birth	Estimated number of AIDS-related deaths in children aged 0–14 years
Afghanistan	<200	21	29	39.0	3	4	<100
Bangladesh	<200	28	35	44.5	14	20	<100
Bhutan	–	–	11	–	–	–	–
Cambodia	590	97	568	7.8	75	440	<100
China	–	–	–	–	–	–	–
Fiji	<100	35	28	27.9	54	40	<100
Iran (Islamic Republic)	<500	32	114	33.2	32	110	<100
India	20 000	–	–	11.4	71	14 100	1100
Indonesia	8700	17	1490	29.8	12	1000	2100
Lao People's Democratic Republic	<500	63	133	28.6	38	80	<100
Malaysia	<500	100	217	1.6	95	210	<100
Mongolia	–	–	2	–	–	–	–
Myanmar	4300	56	2404	21.0	29	1300	560
Nepal	<500	77	165	22.2	50	110	<100
Pakistan	3200	11	354	–	56	1800	880
Papua New Guinea	2600	58	1515	30.5	52	1300	<500
Philippines	920	8	70	38.5	–	–	<200
Sri Lanka	–	–	15	–	–	–	–
Timor-Leste	–	–	31	–	–	–	–
Thailand	3000	97	2873	1.7	89	2600	<100
Viet Nam	1600	80	1301	11.71	40	650	<200

^aOnly countries in UNAIDS Asia and Pacific region with estimates are included, and where included, not all data is complete. At time of submission UNAIDS has retracted two indicators on the estimated proportion of pregnant women who know their HIV status and the estimated number of pregnant women living with HIV.

Table 2: 2024 UNAIDS Asia and the Pacific country estimates for 2023.^{5,a}

Indonesia, Papua New Guinea, Fiji, and all other small Pacific Islands countries.

Universal provision of free HIV testing for pregnant women is needed wherever they receive care. Finding models that make HIV testing convenient for pregnant and breastfeeding women, and their partners, including self-screening and novel community-led testing, need to also be considered and implemented.

HIV treatment for pregnant women

Increasing global access to more robust ART, for example those containing dolutegravir (DTG) enables achievement and maintenance of suppression more rapidly and sustain it throughout pregnancy, birth, and breastfeeding. Still coverage is inadequate. While up from 24% in 2010 to 64% in 2023 in the region, with 100% in Malaysia and 97% in Cambodia and Thailand,⁵ coverage of HIV treatment in Asia and the Pacific is still lagging (Tables 1 and 2). Even when treatment is available, late detection means maternal HIV treatment is initiated too late to be effective in reducing vertical

transmission. Reflective of this, in Viet Nam where HIV testing in labor is routine, national data shows of all newly diagnosed pregnant women starting treatment, in the last five years between 51.5% and 64.7% are initiated in ART in labor and during birth¹⁰; a consequence of its HIV policy, and structural barriers related to health insurance reimbursements.

We need to invest in increasing the number of women who know their HIV status and are on ART prior to conception while at the same time increase overall antenatal care attendance, early HIV testing in pregnancy and support for timely lifetime ART initiation. Even when pregnant and breastfeeding women are initiated on treatment, retention in care remains an ongoing issue.^{6,11–13} We need to simultaneously address HIV-related stigma and discrimination as it affects attrition and adherence in many settings.

Neonatal HIV prophylaxis and treatment

The biomedical advances in ART are not evenly felt across the life-course, with fewer drugs available for

children, and even fewer among neonates^{14,15} due to a range of factors including pharmacokinetic and pharmacodynamic complexities, and slower development of age-appropriate formulations.^{16,17} As such, few drugs have sufficient safety, dosing and efficacy data to support use in neonates for treatment and prophylaxis.^{14,18} In the absence of alternate antiretroviral drug classes for neonates, infants exposed to HIV continue to be prescribed inferior nucleoside reverse transcriptase inhibitor and non-nucleoside reverse transcriptase inhibitor (NNRTI) based regimens, notably nevirapine (NVP) which is no longer used in HIV treatment for people with HIV including children. Raltegravir (RAL) is the only other agent that has safety data for use in neonates to prevent HIV acquisition.¹⁹ Recent results from a pharmacokinetic and safety trial study offer further hope, showing that abacavir–lamivudine dispersible tablets and ritonavir-boosted lopinavir granules in neonates were safe and provided similar drug exposures to those of other young infants.¹⁵ DTG is also emerging as an extremely promising agent, with pharmacokinetic-pharmacodynamic trials ongoing.^{20,21}

Following WHO guidelines, current neonatal post-exposure prophylaxis regimen for low-risk transmission (suppressed HIV viral load within a month of birth) is nevirapine (an NNRTI) and for high-risk transmission (unsuppressed viral load or no viral load result within 4 weeks of birth) zidovudine (an NRTI) and nevirapine. Ongoing stockout of one or more of these drugs, such as in Timor-Leste, Viet Nam and PNG, means that even in circumstances where the risk of vertical transmission is assessed as high, infants are prescribed, at best, prophylaxis for low risk, or worse none. In other circumstances, health care workers crush paediatric formulations of combined tablets of zidovudine and lamivudine to ensure effective prophylaxis is still administered. The very low case number of children needing prophylaxis in other settings, such as Viet Nam, is legally prohibitive under pharmaceutical legislation to procure for “rare diseases”, and in this case ongoing access to neonatal prophylaxis is reliant on donor procurement.¹⁰ Other countries in the region, such as Indonesia,²² are not yet following the WHO guidelines using time on ART treatment and viral load suppression prior to birth for determining risk.

Ongoing inequities in neonatal ART formulations continue to hinder our efforts. We concur with the call made by Jacob and colleagues¹⁴ for urgent attention and shared action and commitment to address the needs of neonates, and similarly with that of Gaur and Siberry²³ who implore the acceleration of the development and approval of current and new antiretroviral therapies for neonates. Advancing equity in paediatric HIV pharmaceuticals is key to leaving no-one behind.

Infant diagnosis

As part of the elimination effort, access to timely infant diagnosis is crucial for early initiation of lifesaving HIV treatment. WHO recommends HIV DNA PCR testing by 2 months of age, and if resources permit, at birth.²⁴ Global coverage of PCR testing by two months of age reached 67% in 2023, with Asia and the Pacific reaching barely half of exposed infants (55%)⁵ (Table 1). Of reporting countries, vast regional inequity in testing coverage persisting, with coverage as high as 95% in Malaysia and 89% in Thailand to as low as 12% in Indonesia, 17% in India and 3% in Afghanistan⁵ (Table 2).

While countries in Asia and the Pacific have many competing needs for resources and attention for a strengthened, expanded and equitable HIV response, laboratory strengthening and capacity for HIV diagnostics remains key. In some parts of the region there is no in-country capacity to perform infant diagnosis, such as the Federated States of Micronesia, Samoa, and Tuvalu, where dried blood spots from infants exposed to HIV are sent to Australia for processing. In Thailand, dried blood spots can be tested in 20 different provincial laboratories. In the Philippines, a select few tertiary referral hospitals can perform infant diagnostics testing; with only 6.2% testing coverage in 2022, and no reported data in 2023, this model is failing to meet national needs. Until 2021, PNG only had one laboratory that could provide such testing, and with exceeding long turnaround times, failing to inform clinical care in a timely manner.

The widespread availability of closed molecular platforms for point-of-care testing for tuberculosis and COVID-19 offers an important opportunity to improve infant diagnosis. In the first field-trials outside of Africa, in Myanmar and PNG point-of-care testing, infant diagnosis showed that can transform the diagnostic landscape to enable a faster turnaround time for timely ART initiation, and highly acceptable.^{24–26} In PNG, the ACTUP project introduced routine point-of-care infant diagnosis, and is being scaled up in the country. Building on an in-country visit to PNG to observe its program for infant diagnosis, Timor-Leste has now introduced in-country using point-of-care testing to circumvent the need to send samples overseas for testing.

Concluding remarks

We are at a critical crossroad¹ if we want to ensure no one is left behind. Our region cannot continue to accept the unacceptability high rates of vertical transmission and the significant gaps in maternal and paediatric HIV testing, treatment and care cascades; this would be inconsistent with the global commitment to Ending AIDS and leaving no one behind. It is urgent to galvanise the sector for increased attention and resources to

ensure our region, and all countries are on the path to elimination. We need to address this with approaches that recognise and respond to our region's unique challenges and strengths.

In Asia and the Pacific, the urgency is now.

Contributors

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Declaration of interests

None.

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