

# Adolescent HIV in Tanzania

Results from an Application of the  
Pediatric HIV Transition Model

**HP+** POLICY *Brief*

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## Adolescent HIV in Tanzania

Adolescents (ages 15–19 years) account for a disproportionately high number of new HIV infections in Tanzania. Further, the number of adolescents living with HIV in the country is increasing, despite lower rates of HIV prevalence compared with other age groups (Barker et al., 2016). Providing antiretroviral therapy (ART) to adolescents and young adults (ages 20–24 years) is crucial, yet ART coverage among this group remains low (57% in 2017) (UNAIDS, 2017).

With improved early diagnosis and treatment options, increasing numbers of adolescents living with HIV are outgrowing pediatric care and needing to transition to adult care. In Tanzania, adolescents are expected to transition to adult models of HIV care when they demonstrate readiness to take on greater responsibility for managing their own care. According to the draft *National Training Package on Adolescents Living with HIV and AIDS* (MoHCDGEC, 2018b) and *Adolescent HIV Services: A Guide for Health Care Workers* (MoHCDGEC, 2018a), providers may assess readiness to transition based on emotional, developmental, and physical maturity.

Governments need information to help them plan and budget appropriately to provide adequate support for young people transitioning to adult HIV care. In response, the Health Policy Plus (HP+) project, funded

## Pediatric HIV Transition Model

### What is it?

- A program planning tool to determine the number of youth ages 0–24 years who are eligible for transition in care/specific services
- A tool that is meant to be used in conjunction with epidemiological models, such as AIM
- A tool that builds off AIM by providing more nuanced ART coverage estimates and other disaggregated estimates not available in AIM

### How can it be used?

- ART target setting for young people ages 0–24 years (can be adapted for other age groups)
- Transition planning for adolescent and/or adult HIV care programs
- Estimating resource requirements
- Supply chain planning and antiretroviral forecasting



by the U.S. Agency for International Development (USAID) and the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), developed a Pediatric HIV Transition Model and applied it in Tanzania and Mozambique to estimate the number of adolescents and young adults living with HIV who will be eligible for and actually transitioning to adult care each year between 2018 and 2025 under two coverage scenarios:

1. Coverage increases based on recent trends in identification, linkage to care, and retention in care (*trends scenario*)
2. National coverage targets are met (*targets scenario*)

Results will inform ART target setting and transition planning.

## Methods and Data Sources

The HP+ Pediatric HIV Transition Model estimates the number of people on ART by subnational unit, gender, and single-year age band. The model uses official country-specific AIDS Impact Model (AIM) files to estimate the number of people living with HIV. To estimate the number of people on ART each year, the transition model uses programmatic data on trends in HIV testing coverage, yield rates, and rates of linkage to care and retention. In Tanzania, HP+ used regional Spectrum files updated with 2017 programmatic data and publicly available PEPFAR data (PEPFAR, 2017a; 2017b).

The model requires selecting age criteria for transitioning, as many countries stipulate a minimum age for transition. For Tanzania, 18 years was selected, based on stakeholder recommendations, current practice, and National AIDS Control Programme guidance (MoHCDGEC, 2018a, Chapter 13).

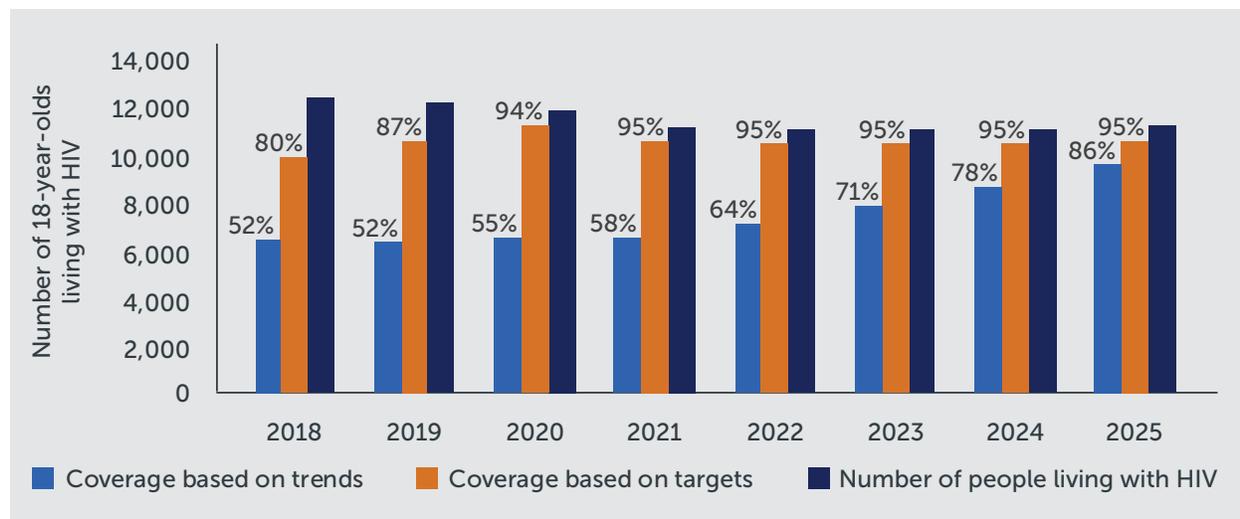
Additionally, the model estimates the number of people likely to actually transition to adult HIV care based on past trends. In Tanzania, transitioning data are not routinely collected or reported. Therefore, to understand transitioning rates, HP+ used 2014–2017 cohort data from the Baylor Tanzania Children’s Foundation. A key limitation of the HP+ analysis is that this data may not fully represent the national situation.

## Results

### How many people are eligible to transition to adult HIV care between 2018 and 2025?

***Trends scenario:*** If Tanzania scales up ART coverage for children and adolescents in line with past trends in identification, linkage to care, and retention in care, the number of 18-year-olds on ART is estimated to increase from 6,340 in 2018 to 9,486 in 2025. This represents a 50% increase in the number of adolescents eligible to transition, assuming that eligibility is solely age-based (18 years). Under this scenario, males represent 35% to 38% of 18-year-olds on ART/eligible to transition, depending on the year. Regions with the most transition-eligible adolescents (percentage of 18-year-olds on ART in 2025) include Dar es Salaam (16%), Mbeya (11%), and Kagera (9%).

***Targets scenario:*** If, instead, ART scale-up achieves national targets—which exceed the global 90-90-90 coverage target of 81% by 2020—the number of 18-year-olds on ART is estimated

**Figure 1. Number Eligible to Transition to Adult HIV Care, by Year and Scenario**

Note: Percentages shown are the percentage of people living with HIV on ART. Number of people living with HIV are point estimates from AIM.

to increase slightly (6.2%) between 2018 and 2025, from 9,727 to 10,328 (Figure 1). Under this scenario, males represent 38% to 45% of 18-year-olds on ART, depending on the year. Regions with the most transition-eligible adolescents include Dar es Salaam (11%), Mwanza (8%), and Tabora (7%). Given underlying uncertainty about the number of people living with HIV, the number of adolescents eligible to transition in 2025 could range from 5,264 to 13,508. Regardless, recent trends in identification, linkage to care, and retention in care indicate that it may be difficult for Tanzania to meet its ambitious ART coverage targets.

### How many people are expected to actually transition to adult HIV care based on recent trends?

The two scenarios assume that all adolescents transition to adult care at 18 years of age. In reality, however, many remain in adolescent HIV care well into their adult years. According to 2014–2017 Baylor cohort data, approximately 13% of 18-year-olds, 12% of 19- and 20-year-olds, 4% of 21-year-olds, 3% of 22-year-olds, and 6% of 23-year-olds transition to adult HIV care each year. Assuming these trends continue, fewer people are expected to transition each year than are eligible. Using the trends scenario for ART coverage scale-up, the number of adolescents and young adults actually transitioning each year is estimated to increase from 3,916 in 2018 to 5,362 in 2025. Nearly one-fifth (17%) of those transitioning in 2025 are predicted to live in Dar es Salaam (Table 1).

Using the targets scenario, the number of adolescents and young adults actually transitioning each year is estimated to decrease slightly, from 6,028 in 2018 to 5,884 in 2025. This decrease is due to high ART coverage levels across all years under this scenario, in combination with slight declines in the estimated number of people living with HIV. Under this scenario, Dar es Salaam accounts for the largest proportion (12%) of those expected to actually transition by 2025, followed by Mwanza (9%) and Tabora (7%).

Under both scenarios, 20-year-olds represent the greatest proportion of those transitioning to adult HIV care (approximately 24% each year).

**Table 1. Number Expected to Actually Transition Each Year, by Province**

Region	Trends Scenario		Targets Scenario	
	2018	2025	2018	2025
Arusha	90	81	138	143
Dar es Salaam	581	937	751	721
Dodoma	189	212	314	267
Geita	147	210	299	373
Iringa	140	144	244	343
Kagera	259	469	324	327
Katavi	72	275	83	89
Kigoma	67	63	165	154
Kilimanjaro	122	96	170	136
Lindi	57	39	84	75
Manyara	23	9	35	50
Mara	114	62	285	228
Mbeya	386	554	325	289
Morogoro	82	81	167	200
Mtwara	44	63	70	86
Mwanza	373	331	692	513
Njombe	91	108	231	237
Pwani	57	205	87	105
Rukwa	92	211	158	128
Ruvuma	137	226	189	161
Shinyanga	131	196	194	207
Simiyu	117	70	145	165
Singida	62	133	85	112
Songwe	184	177	170	153
Tabora	204	339	376	435
Tanga	79	68	220	165
Zanzibar	16	2	26	20

### How many adolescents ages 15 to 17 years will need to start preparing for the transition to adult HIV care?

Ideally, providers begin preparing adolescents for the transition to adult HIV care well before they begin attending adult clinics. Advance preparation helps adolescents better understand why the transition is needed and gives them time to address any potential challenges in the transition process.

The number of 15- to 17-year-olds who may need to be prepared for transition is large and expected to increase between 2018 and 2025 under both ART coverage scenarios—from 16,215 to 24,865 under the trends scenario and from 24,816 to 27,638 under the targets scenario, with 17-year-olds accounting for the greatest proportion of those expected to need transition preparation (36%).

## Conclusion

The HP+ Pediatric HIV Transition Model application in Tanzania revealed that:

- Increasing numbers of adolescents will become eligible to transition to adult HIV care. In 2025, as many as 13,508 18-year-olds could be on ART and eligible to transition (assuming that ART coverage targets are met and using the upper bound for underlying numbers on ART).
- Tanzania may struggle to meet its national ART coverage targets given recent trends in identification, linkage to care, and retention in care for children, adolescents, and young adults.
- Taking current transitioning rates into account, over 5,000 adolescents and young adults are expected to transition to adult HIV care by 2025.
- Depending on the scenario, an estimated 24,865 to 27,638 adolescents ages 15–17 years will need support preparing for the transition to adult care.

### Growing Number of Adolescents Transitioning to Adult HIV Care

#### Between 2018 and 2025:

- The number of adolescents eligible to transition is expected to increase by 50% (trends scenario)
- Taking current transitioning rates into account, the number of 15- to 17-year-olds needing transition preparation is expected to increase by between 11% (targets scenario) and 50% (trends scenario)

Young people need adequate support before, during, and after the transition to adult care to minimize the risks of nonadherence to ART or dropping out of care. Adult care and treatment facilities need to have the infrastructure, human resources, and other systems in place to support new patients transitioning from adolescent care. Regions, such as Dar es Salaam, Mbeya, and Mwanza, that are expected to have the most transition-eligible adolescents may face the greatest challenges ensuring continuity of care and providing sufficient support to transitioning adolescents.

Given the projected number of young people who will be eligible for and actually transitioning from adolescent to adult HIV care, there is an urgent need for the National AIDS Control Programme to finalize, disseminate, and train healthcare providers on its transitioning guidance. This guidance should consider regional and gender differences; while the majority of those who will become eligible to transition are female, a significant minority (between 35% and 45%, depending on the scenario and year) are male.

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