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Ending Tuberculosis through prevention: Zimbabwe's PEPFAR Tuberculosis preventive treatment scale-up journey (2016–2024)

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Abstract

Background: Tuberculosis (TB) is the leading cause of death among people living with HIV (PLHIV). Globally in 2023, an estimated 161,000 PLHIV died of TB. TB preventive treatment (TPT) can reduce TB mortality yet scale up remains a challenge. We documented Zimbabwe's experience in scaling TPT among PLHIV.

Methodology: We analyzed routine aggregate data from the President Emergency Plan for AIDS Relief (PEPEFAR) database, Data for Accountability Transparency and Impact Monitoring (DATIM). We conducted a desk review of national guidelines, reports, training manuals, policy and strategic plans. Program reports were reviewed to understand scale up best practices, successes and challenges.

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Author contributions

The authors confirm contribution to the paper as follows: analysis and interpretation of results: T. Maphosa, H.J. Cham, C. Marisa, R. Bulaya-Tembo, S. Shah, J. Ershova. Draft manuscript preparation: T. Maphosa, H.J. Cham, C. Marisa, A. Peterson, R. Bulaya-Tembo, S. Shah, J. Ershova. All authors reviewed the results and approved the final version of the manuscript.

Declaration of conflicting interests

Authors affirm that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

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Results: TPT coverage (cumulative number completed TPT divided by PLHIV on ART) increased from <1% (144/950,235) in 2018 to 101% (1,040,460/1,029,583) in 2024, in PEPFAR supported health facilities. Adults had a higher TPT coverage of 102% (1,006,544/990,818) than children 87% (33,916/38,765). TPT completion (number started TPT divided number completing TPT) was significantly higher among adults, 99.2% compared to children, 97.9%, difference 1.2 percentage points (CI 0.98–1.50, $p < 0.01$). Key interventions resulting in improved TPT coverage and completion, included removal of the 3-months waiting period for PLHIV to initiate TPT, introduction of shorter regimens, pharmacovigilance, implementation monitoring, stakeholder engagement, and communication of updated policies.

Conclusion: We report a significant increase in TPT coverage and completion rates. We observed lower TPT coverage and completion among children compared to adults. TPT scale-up lessons from Zimbabwe can inform TPT expansion in countries of similar context.

Keywords

Tuberculosis; prevention; HIV; people living with HIV

Background

Tuberculosis (TB) is the leading cause of death among people living with HIV (PLHIV).[1] Globally, every year approximately 1.2 million die from TB.[2] PLHIV have a higher risk of falling sick and dying from TB.[3,4,5] The combination of antiretroviral therapy (ART) and TB preventive treatment (TPT) is effective in reducing TB-associated morbidity and mortality.[5,6,7] Tremendous progress has been made in scaling up TPT since 2012. Worldwide, from 2018 through 2022, 11.3 million PLHIV received TPT, versus a target of 6 million PLHIV receiving TPT.[1]

In Zimbabwe, the HIV and TB co-infection rate is 51%, HIV-positive TB incidence is 125 per 100,000 population, and overall HIV prevalence is 11%.[1,8] Zimbabwe is listed among HIV-associated TB high-burden countries. Among TB patients in Zimbabwe, 80% faced catastrophic expenditure, and 26% expected to die[1]; this underscores an urgent need to curb TB morbidity and mortality. The World Health Organization (WHO) recommends TPT for populations at high risk of developing TB, including children <5 years of age, PLHIV, and household contacts of TB patients.

In 2012 Zimbabwe rolled out TPT using 6 months of daily isoniazid (6H). The first Zimbabwe Population-based HIV Impact Assessment (ZIMPHIA 2016) estimated TPT coverage among PLHIV aged 15 and older at 13%.[9] In 2018, during a United Nations High-Level Meeting (UNHLM) on TB, Zimbabwe with support from the President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GF), committed to a target of new 473,117 TPT completions from 2019 to 2022.[10,11] As a result of this commitment, in 2019, the Ministry of Health and Child Care (MOHCC) with support from PEPFAR and GF initiated a TPT scale up program. A subsequent ZIMPHIA conducted in 2020 reported TPT uptake among PLHIV aged ≥15 years to be 37%.[11] In 2022 the MOHCC updated TPT guidelines to include a 3-months

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regimen of weekly rifapentine plus isoniazid (3HP) and a 3-months regimen of daily isoniazid plus rifampicin (3HR).

In this paper, we share Zimbabwe's experience scaling up TPT among PLHIV to achieve the End TB targets. We describe the results of the TPT scale up within the PEPFAR program in Zimbabwe. Furthermore, we describe the policy framework, challenges, outcomes, and lessons learnt. Our experiences can benefit other countries as they scale up TPT.

Methods

Zimbabwe has 63 districts; of these, PEPFAR supports 44 districts referred to as direct service delivery (DSD) districts, accounting for 1,200 out of 1,638 (73%) health facilities and >80% of PLHIVon ART. For this manuscript, we analyzed TPT initiation and completion among adults and children on ART in DSD districts. Health facilities reported aggregated TPT monthly data into the MOHCC's District Health Information Software 2 (DHIS2) national reporting system. PEPFAR IPs validated the data reported in DHIS2 and then reported semi-annually into PEPFAR's Data for Accountability, Transparency, Impact Monitoring (DATIM) database. Aggregate DATIM data from 1 October 2018 through 30 September 2024 were imported into Microsoft Excel to calculate the proportions of clients initiating and completing TPT, disaggregated by age and sex, and assess quarterly trends over the specified period. We used PEPFAR definitions of quarter (Q) as follows: Q1 October–December, Q2 January–March, Q3 April–June and Q4 July–September. We defined adults are persons ≥15 years old, while children are <15 years old.

We calculated TPT coverage by dividing number of PLHIVon ARTwho completed TPT (numerator) by the total number of PLHIV currently on ART at the end of the reporting period, defined by PEPFAR as TX_CURR (denominator).

We conducted a desk review of program documents in use from 2012 to 2024. These included MOHCC guidelines, standard operating procedures (SOPs), reports, training manuals, policy documents, and strategic plans. We reviewed technical guidance from key stakeholders, including the WHO, PEPFAR, and GF, to understand the context and scientific evidence behind the country's TPT guidance. Reports from PEPFAR implementing partners (IPs) were reviewed to understand best practices, successes, and challenges faced during scale-up.

Ethics clearance

This project was reviewed in accordance with CDC human research protection procedures and was determined to be non-research.

Results

TPT initiation and completion

Following PEPFAR and GF's investments in advocacy and communication, human resources for health (HRH), procurement of TPT medicines, supply chain and distribution, TPT initiation and completion significantly increased. Through PEPFAR IPs, human

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resources for health (HRH), specifically nurses and lay cadres were hired, trained and strategically placed in PEPFAR supported health facilities to drive TPT scale up. The HRH activities included screening PLHIV for TPT eligibility, initiating, adherence support, defaulter tracking and tracing, and updating TPT files and registers.

The removal of the 3-months waiting period in the national guidelines in June 2019 ensured quick TPT initiation of eligible clients. If a patient was on ART for less than 3 months, he/she was considered ineligible for TPT inevitably delaying ART initiation among newly diagnosed HIV infected clients. Between 2012 (when TPT was rolled out nationally) and 2018 (when PEPFAR support for TPT began), 373,819 PLHIV on ART started TPT in Zimbabwe. PLHIV on ART who completed TPT in PEPFAR supported districts before 2018 Q4 were included in this analysis. TPT completion rate during that period (2012–2018) was not routinely documented. Within the PEPFAR program, the TPT coverage among PLHIV on ART increased from <1% (144/958,737) in 2018 Q4 to 101% (1,040,460/1,029,583) by Q4 2024 (Figure 1). At the end of Q4 2024 adults had a higher coverage of 102% (1,006,514/990,818) when compared to children, 87% (33,916/38,765). The highest number of PLHIV completing TPT (166,837) was reported in Q2 2022 (Figure 2). From October 1, 2019, to September 30, 2022, 653,176 PLHIV completed TPT exceeding the UNHLM target of 473,117. When reporting on TPT completion rate started in Q2 2020, it increased from 84% to 99.6% by Q4 2024. Reporting TPT completion disaggregated by age later started in 2023. During 2023–2024, cumulative TPT completion rate for children and adults was 97.9% (11,376/11,615) and 99.2% (375,542/378,629), with a significant difference of 1.3 percentage points (CI 0.98–1.50, $p < 0.01$). Cumulative TPT completion rate between men and women was similar, 98.6%.

Overall, in Q4 2024, women and children <15 yo accounted for 60.2% (619,384/1,029,583) and 4% (38,765/1,029,583) of PLHIV on ART in PEPFAR supported DSD districts. Children accounted for 3.3% (33,916/1,040,460) of those completing TPT from Q2 2018 through Q4 2024. Women accounted for 62% (411,358/664,825) of those completing TPT from Q2 2022 (when data TPT data was disaggregated by sex started) through to Q4 2024.

Policy and guidance

With PEPFAR support a bottleneck analysis was done in March 2019. One bottleneck identified was a waiting period of at least 3 months of ART before TPT eligibility.[12] This waiting period resulted in missed opportunities with many clients not initiating TPT despite returning for ART resupply. Attending clinicians were not actively looking for clients to initiate on TPT. A literature review at the time revealed that there was no scientific evidence to support the 3-months waiting period. The 2018 WHO guidelines on treatment of latent TB infection recommended that TPT be offered to PLHIV, including those on ART, regardless of their degree of immunosuppression.[13] After discussions between the Zimbabwe PEPFAR team and MOHCC new guidance was issued in June 2019 rescinding the waiting period, allowing eligible clients to start ART and TPT on the same day when feasible.[14] Simultaneously, the Permanent Secretary of Health issued a directive asking health facilities to implement the new guidance, helping to speed up the roll-out.[15]

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Isoniazid (INH) is known to cause peripheral neuropathy, which can be prevented by administering supplemental pyridoxine.[16] WHO does not recommend routine supplementation with pyridoxine for individuals who are otherwise healthy and receive INH at the dose recommended for TPT.[17] Out of an abundance of caution, the MOHCC guidance recommended routine supplementation with pyridoxine for all PLHIV taking INH.[12] This meant clinicians had to prescribe isoniazid and pyridoxine simultaneously. During supportive supervision visits by PEPFAR IPs, it was noted that in the absence of pyridoxine due to supply chain challenges, patients were not initiated on TPT creating another bottleneck. Further engagement with the MOHCC was conducted, and as a result in 2023 national guidelines recommended unavailability of pyridoxine should not be a barrier to initiate 3HP or 3HR.[18,19]

Advocacy and communication

Zimbabwe started TPT rollout in 2012 using 6H. In 2015 there was an increase in the number of patients presenting with severe hepatotoxicity after initiating 6H. Investigations showed isolated cases among patients with CD4 >500cells/μl who had been on ART for >3 years. Consequently, clinicians exhibited reluctance to initiate TPT, while patients demonstrated hesitancy to commence treatment, particularly if they perceived their health status as satisfactory. In 2019, when PEPFAR started accelerating TPT rollout, clinician and patient confidence in the benefits of TPT was low. Through PEPFAR IPs, advocacy and communication were done through radio, television, print, and social media campaigns to change provider and patient perspectives on the benefits of TPT. Critically, advocacy meetings were held with physicians and pediatricians to get their buy-in to lead the policy and guideline development process. As a result, clinician and patient perceptions of TPT started to change, as shown by the increased uptake and completion rate.

Rollout of shorter TPT regimens

Assessment of the feasibility and acceptability of the rollout of shorter regimens like 3HP and 3HR was conducted and concluded in 2021; subsequent scale-up started in 2022. Roll out of the shorter regimens further increased patient enrolment by availing more TPT choices and improved adherence by reducing the pill burden and length of time required to complete treatment. The country phased out 6H while phasing in 3HP, allowing for learning and adjustment and reducing 6H wastage from non-use. During the 3HP learning phase, single-dose formulations were used because the fixed-dose combination (FDC) was unavailable in the market. Despite the unavailability of the FDC and the high pill burden, completion of the 3HP regimen was higher than that of 6H, possibly indicating that the length of treatment had more bearing on completion.

TPT stock management

During the early years of TPT rollout (2015–2019) rates of completion were low due to medication stock out, clients choosing to opt out, and suboptimal adherence. National guidance recommended patients receive 1 month of INH supply at initiation then 2 months' supply at the second visit, and finally, 3 months' supply at the third visit. This led to risks of patients not getting resupplies when stock disruptions occurred. To address this challenge in 2019 guidelines recommended patients only start TPT when there was adequate stock to

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ensure treatment completion. At the time of initiating TPT, enough medication for the entire treatment period was set aside and stored in the pharmacy, referred to as “kitting”, while 3 months was prescribed and dispensed. Despite kitting, some clients still did not complete TPT primarily due to adverse events, developing active TB disease while on TPT, and being lost to follow-up.

Pharmacovigilance

The occurrence of isolated cases of hepatotoxicity among patients initiated on 6H in 2015 slowed TPT scaleup. The PEPFAR program made significant investments to improve pharmacovigilance. This included training and mentoring health workers on screening and management of adverse drug reactions (ADR), regular support and supervision to health facilities, and assistance in collecting and submitting completed ADR forms to the Medicines Control Authority of Zimbabwe (MCAZ) when a site reported ADR cases. As a result, patients were screened and educated on how to recognize and report ADRs at each visit. MCAZ conducted regular reviews of ADR reports and guided the appropriate responses to the few cases reported.

Monitoring and evaluation (M&E) reporting

In 2012, at the start of TPT rollout, standard facility-level registers documenting clients TPT initiation and completion did not exist. Health facilities improvised registers for data collection and reporting. MOHCC convened a national M&E technical working group to develop standard reporting tools. During the same meeting PEPFAR and MOHCC harmonized TPT-related variable definitions and frequency of reporting to avoid duplication. Subsequently, patient-level data collection tools were revised to match the national TPT reporting needs. In 2021, standard data collection and reporting tools were printed and distributed to all health facilities.

Health facilities reported aggregate TPT data monthly into the MOHCC’s district health information software 2 (DHIS2). Data verification for completeness and accuracy before reporting was done by health facility staff with technical assistance from PEPFAR IPs. PEPFAR then used the aggregate DHIS2 data to report to DATIM semiannually. MOHCC managers and PEPFAR IPs used DATIM data to monitor TPT performance and intervene when support was needed. No site specific or district level annual TPT targets were set. Performance for each site was gauged by progress made towards achieving universal TPT coverage among those receiving ART at the health facility.

Discussion

After PEPFAR’s commitment and support for the TPT program in 2019, TPT uptake significantly improved in Zimbabwe. Key interventions which accounted for the significant success included human resources for health, training and mentoring of health workers, consistent stakeholder collaboration and engagement, providing clear policies and guidance, advocacy and awareness, the rollout of shorter TPT regimens, and pharmacovigilance and monitoring of implementation. By September 2024, 1,040,460 PLHIV had completed TPT, representing 101% PLHIVon ART in PEPFAR supported health facilities. TPT coverage

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exceeding 100% likely reflects data quality issues, including a few clients repeating TPT after completing a prior course more than 3 years ago. Additionally, some clients may have initiated TPT in CSD and completed it in DSD, resulting in inclusion in the numerator but not in the TX_CURR denominator.

Developing and disseminating messages to improve care-giver knowledge and address stigma, fears, and preferences associated with TPT may help to improve uptake among children.[20,21] We reported a significantly higher TPTcompletion rate among adults compared to children. During early TPT implementation, pediatric formulations posed significant challenges. Isoniazid 150 mg tablets for children were frequently out of stock compared to adult 300 mg tablets, and before child-friendly fixed-dose combinations were available, children on 3HP often required 5–12 tablets weekly based on weight. These supply gaps and high pill burden likely contributed to reduced uptake and completion of TPT among children.

Clear strategic guidance and its impact on programming cannot be overstated. The challenges during the early phases related to policy bottlenecks, medicines supply and distribution, lack of confidence among health workers, and limited knowledge among the beneficiaries were overcome through dialogue with the MOHCC and other stakeholders, resulting in favorable policy changes. In addition to providing clear guidance, careful attention is needed to ensure that guidelines are implemented with fidelity and achieve the intended outcomes. Experience from Kenya's rapid TPT scale up showed that success is dependent on high level ministry of health (MOH) commitment and creating favorable policy environments to support implementation.[22]

The importance of recognizing and managing adverse drug reactions in a timely and appropriate manner is key to instilling confidence in interventions such as TPT. Planning for and including pharmacovigilance must be an integral part of TPT implementation. Our program significantly invested in health worker training in pharmacovigilance, which we expected to increase the number of adverse events reported. Despite the health worker training and the rollout of a pro-active pharmacovigilance system, there was a decline in the number of clients reported to have adverse events, which we attribute to improved tolerance of TPT regimens or underreporting. Our finding of low adverse events are similar to those from Kenya and Uganda.[22,23] Furthermore, rollout of shorter TPT regimens with better tolerance might have contributed to the improved TPT uptake and completion we observed.

During implementation we noted an improvement in TPT completion rates attributed to patient education, adherence support by health workers, synchronization of ARV and TPT resupply dates, and kitting of the TPT medicines. During Q4 2020 we observed a decline in TPT completion from 93.0% in Q2 2020 to 83.9%, which we attribute to the COVID-19 pandemic when there was supply chain disruptions and patients could not get the medication. Similar challenges were noted in Uganda where TPT uptake slowed down during COVID-19 pandemic.[24]

Collecting and reporting quality data is critical to monitoring and measuring the effectiveness and impact of any intervention. Collaboration between PEPFAR and MOHCC

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resulted in standard TPT data collection and reporting tools. Although reporting frequency during the acceleration would have been shortened from semi-annually to quarterly or monthly for effective performance monitoring, PEPFAR recognized the importance of minimizing the reporting burden among health workers. Therefore, we adhered to the national reporting schedule, which contributed to improved documentation quality and reporting.

The strengths of our analysis include a large sample size from a national database; therefore, our experiences can be used to inform TPT programs in other countries. One of the limitations was that we had no objective ways to measure TPT adherence and completion. Completion was documented as it was self-reported by the clients. Although TB notification data are routinely collected, it would not be easy to attribute any changes in TB notification to the increase in TPT coverage because other factors such as concurrent ART scale up and improved TB case detection.

Conclusion

We documented the successful scale-up of TPT among PLHIV in PEPFAR supported health facilities in Zimbabwe. We observed lower TPT coverage and completion among children comparedto adults. Our experience demonstrates that creating favorable policies and implementation environment, advocacy and communication, improved supply chain management, improved documentation using standard registers and roll out of shorter regimens can result in improved TPT uptake and completion. As countries achieve high TPT coverage, focus will be on initiating new ART clients on TPT and sustaining the gains made in TB prevention.

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Data Availability Statement

Data for this manuscript is publicly available on PEPFAR Panorama Spotlight website https://data.pepfar.gov/datasets.

Appendix

List of abbreviations

1HP	1-month Isoniazid Plus Rifapentine
3HP	3-months Isoniazid Plus Rifapentine

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3HR	3-months Isoniazid Plus Rifampicin
4R	4-months Rifampicin
ART	Antiretroviral Treatment
CDC	Centers for Disease Control and Prevention
CSD	Centrally supported districts
DATIM	Data for Accountability, Transparency, Impact Monitoring
DHIS2	District Health Information Software 2
DSD	Directly Supported Districts
E-HR	Electronic Health Record
HIV	Human Immunodeficiency Virus
IPT	Isoniazid Preventive Treatment
MDR-TB	Multidrug-Resistant TB
MOH	Ministry of Health
MOHCC	Ministry of Health and Child Care
PEPFAR	U.S. President’s Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
RR-TB	Rifampicin-Resistant TB
TB	Tuberculosis
TPT	TB Preventive Therapy
UNHLM	United Nations High Level Meeting
USAID	United States Agency for Aid and International Development
WHO	World Health Organization
ZIMPHIA	Zimbabwe Population-based HIV Impact Assessment.

References

1. WHO. Global tuberculosis report 2023. WHO, 2023.
2. WHO. Global Tuberculosis report. WHO, 2024.
3. Shah GH, Ewetola R, Etheredge G, et al. Risk factors for TB/HIV coinfection and consequences for patient outcomes: evidence from 241 clinics in the democratic republic of Congo. Int J Environ Res Publ Health 2021; 18(10): 5165.
4. Yang Q, Han J, Shen J, et al. Diagnosis and treatment oftuberculosis in adults with HIV. Medicine (Baltim) 2022; 101(35): e30405.

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5. Njagi LN, Nduba V, Mureithi MW, et al. Prevalence andpredictors of tuberculosis infection among people living with HIV in a high tuberculosis burden context. BMJ Open Respir Res 2023; 10(1): e001581.
6. Makoni A, Chemhuru M, Tshimanga M, et al. Evaluation ofthe isoniazid preventive therapy (IPT) program in Shurugwi district, Midlands province, Zimbabwe, January 2013 to August 2014. BMC Res Notes 2015; 8(1): 1–6. [PubMed: 25645429]
7. Pathmanathan I, Ahmedov S, Pevzner E, et al. TB preventivetherapy for people living with HIV: key considerations for scale-up in resource-limited settings. Int J Tubercul Lung Dis 2018; 22(6): 596–605.
8. Country factsheets. UNAIDS. 2024 [cited 27/03/2024]. Available from: https://www.unaids.org/en/regionscountries/countries/zimbabwe
9. Takamiya M, Takarinda K, Balachandra S, et al. Isoniazidpreventive therapy use among adult people living with HIVin Zimbabwe. Int J STD AIDS 2021; 32(11): 1020–1027. [PubMed: 33978529]
10. Melgar M, Nichols C, Cavanaugh JS, et al. Tuberculosispreventive treatment Scale-Up among antiretroviral therapy patients - 16 countries supported by the U.S. president's emergency plan for AIDS relief, 2017–2019. MMWR Morbidity and mortality weekly report 2020; 69(12): 329–334. [PubMed: 32214084]
11. Maphosa T, Mirkovic K, Weber RA, et al. Tuberculosis preventive treatment uptake among adults living with human immunodeficiency virus: analysis of Zimbabwe populationbased human immunodeficiency virus impact assessment 2020. Int J STD AIDS 2024; 35(8): 09564624241239186. 593–599. [PubMed: 38515336]
12. MOHCCProgram NTC (ed). Management of Latent Tuberculosis Infection among People Living with HIV and Tuberculosis contacts. MOHCC, 2012.
13. WHO. Latent tuberculosis infection: updated and consolidated guidelines for programmatic management2018. [cited 2024 12 December]. Available from: https://www.who.int/publications/i/item/9789241550239
14. MOHCC. Scale up of TB preventive therapy (TPT) for peopleliving with HIV (PLHIV) in Zimbabwe. In: ATP, (ed), 2019. MOHCC.
15. MOHCC. Circular on scale up of TB preventive treatment forpeople living with HIVin care in Zimbabwe. In: Program AaT (ed), 2019. MOHCC.
16. Badrinath M, Chen P and John S. Isoniazid toxicity. StatPearls. Treasure Island (FL): statpearls publishing\uff00cght © 2024, StatPearls Publishing LLC.; 2024.
17. . WHO. Answers to frequently asked questions on TB preventive treatment (TPT) associated with the 2020 WHO TPT guidance2021. [cited 2024 28 July]. Available from: https://www.who.int/docs/default-source/campaigns-and-initiatives/world-tb-day-2020/5-faqs-tb-preventive-treatment.pdf?sfvrsn=d633097e_2
18. MOHCC. Prevention. Testing and treatment of HIV in Zimbabwe. Ministry of Health and Child Care, 2023, ATP.
19. MOHCC. HIV prevention, testing and treatment guidelines in Zimbabwe. In: Program AaT. MOHCC, 2023.
20. Strauss M, Wademan DT, McInziba A, et al. TB preventive therapy preferences among children and adolescents. Int J Tubercul Lung Dis : The Official Journal of the International Union Against Tuberculosis and Lung Disease 2023; 27(7): 520–529.
21. An Y, Teo AKJ, Huot CY, et al. They do not have symptoms- why do they need to take medicines? Challenges in tuberculosis preventive treatment among children in Cambodia: a qualitative study. BMC Pulm Med 2023; 23(1): 83. [PubMed: 36899328]
22. Weyenga H, Karanja M, Onyango E, et al. Can isoniazidpreventive therapy be scaled up rapidly? Lessons learned in Kenya, 2014–2018. Int J Tubercul Lung Dis : The Official Journal of the International Union Against Tuberculosis and Lung Disease 2021; 25(5): 367–372.
23. Musaazi J, Sekaggya-Wiltshire C, Okoboi S, et al. Increaseduptake of tuberculosis preventive therapy (TPT) among people living with HIV following the 100-days accelerated campaign: a retrospective review of routinely collected data at six urban public health facilities in Uganda. PLoS One 2023; 18(2): e0268935.

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24. Lukoye D, Gustavson G, Namuwenge PM, et al. Tuberculosis preventive therapy among persons living with HIV, Uganda, 2016–2022. Emerg Infect Dis 2023; 29(3): 609–613. [PubMed: 36823496]

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TPT program implementation key dates:

2012: TPT rollout using 6H

2015: isolated cases of hepatotoxicity following TPT initiation; impact: slowed down roll out of TPT

2019: Removal of the 3-month waiting period to receive TPT. Prescribing 6H without B6 for eligible clients.

2019: TPT acceleration campaign; data collection tools updated and reviewed to match the needs of TPT reporting; TPT module included in the electronic register

2021: Shorter regimens (3HR and 3HP) added to treatment guidelines

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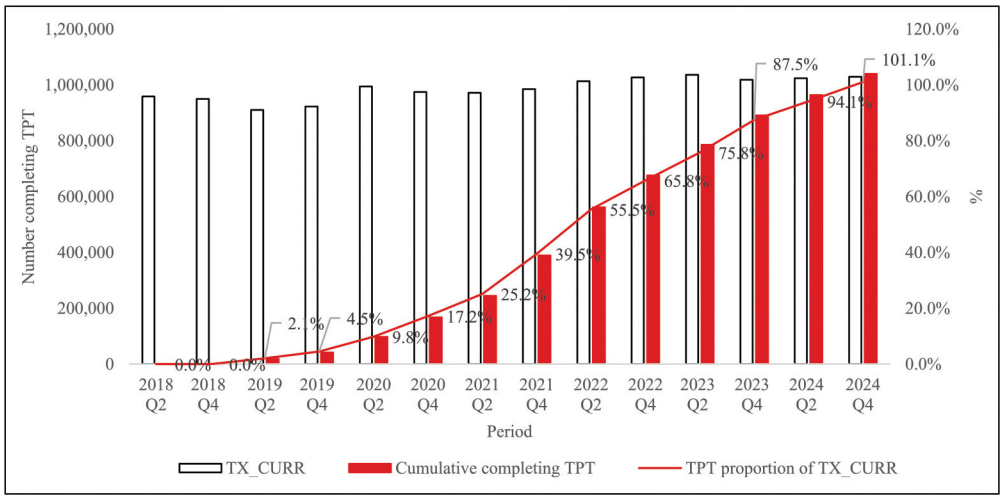


Figure 1.

Trend of cumulative number completing TPT as a proportion of PLHIV on ART (TX_CURR) by quarter at PEPFAR supported sites in Zimbabwe, 2017–2024.

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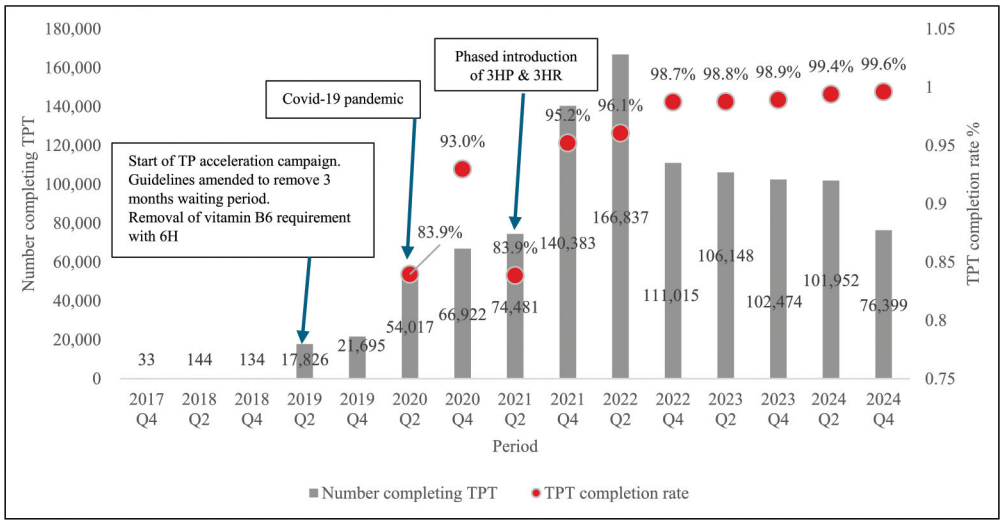


Figure 2.

Trend of TPT completions and completion rate in PEPFAR supported health facilities in Zimbabwe by quarter, 2017–2024.