

# Integrating 3HP-based Tuberculosis Preventive Treatment (TPT) into Zimbabwe's Fast Track HIV model

Dr Clorata Gwanzura

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# Background

Zimbabwe was moved from the world's top 30 list of countries heavily burdened by TB in 2021.

It now has a double burden of TB/HIV and MDR-TB.

- TB estimated incidence of 193 /100,000 population in 2020
- TB/HIV co- infection rate of 53% (***Global TB Report, 2022***)
- Zimbabwe has been providing TB Preventive Therapy (TPT) for PLHIV since the pilots in 2010
- Isoniazid was the mainstay of TPT in line with global guidance until the introduction of new and shorter TB regimens



# 3HP in Zimbabwe

- 3HP (three months of once weekly rifapentine and isoniazid) was adopted as a preferred TPT regimen in 2019
- This new guidance was incorporated in the national documents in 2019
- The introduction of 3HP in the health system started with the implementation of the 3HP Scale Up Feasibility Study that the MoHCC conducted with support from IMPAACT4TB through CHAI in 2020 - 2022.
- The country has successfully scaled up 3HP as the preferred regimen of choice on with consumption increasing to reach the regimen - split targets of 30% INH and 70% 3HP by Dec 2023
- 3HP has been well received by recipients of care, and representatives of PLHIV who feel that the convenience it provides promotes compliance and adherence.

# Study Goal and Objectives

## **Goal:**

To improve TB preventive treatment (TPT) coverage amongst PLHIV in less-intensive differentiated treatment models, ICAP partnered with MoHCC, HRSA, CDC and ZNNP+ to assess integration of TPT into Fast Track (FT) models.

## **Objective:**

To explore the feasibility and acceptability of integrating 3HP into the FT model without adding additional HF visits.

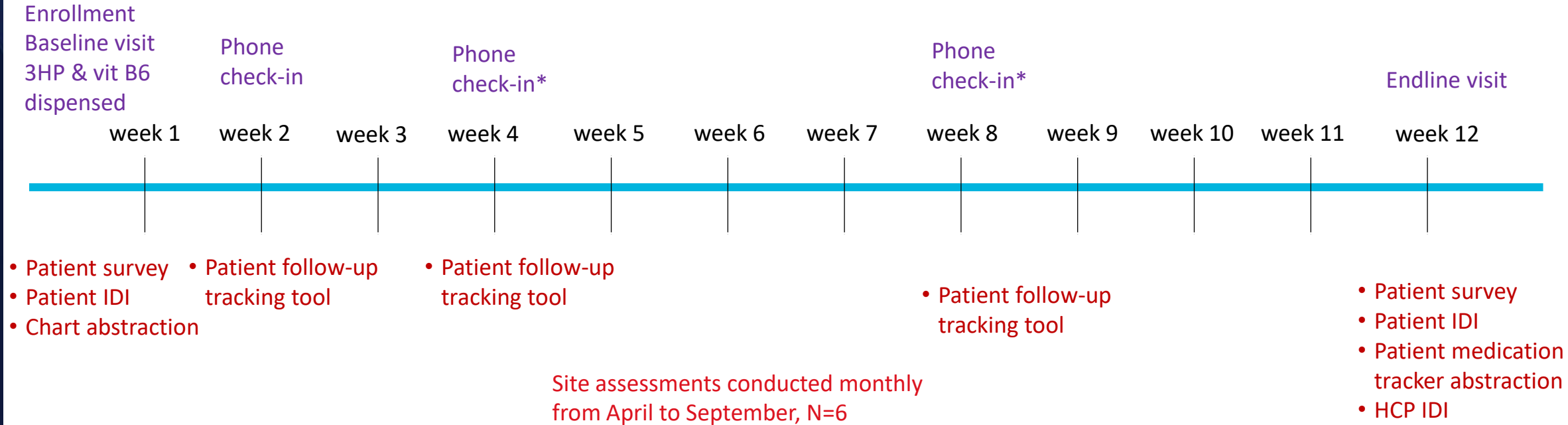
# Zimbabwe's Fast Track Model

- Facility-based individual model for adults established on ART (“stable patients”)
  - Patients come to HF quarterly to collect medication from pharmacy/dispensing point
  - Annual clinical examination + labs
- Approximately **19%** of people on ART in Zimbabwe are enrolled in FT
- The pilot was designed to align TPT with the routine FT visit and dispensing schedule
  - Recruited PLHIV attending routine FT visit
  - Utilized mobile phone follow up and counseling instead of additional visits



# Timeline

Patients, N=50  
Healthcare Providers, N=11  
1 Urban Health Facility



The pilot was conducted between April-June 2021 and followed up through September 2021

# Toolkit

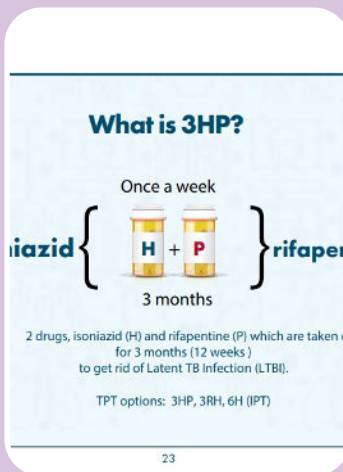


Rifapentine Regimen (3HP)

DRUG / REGIMEN	DOSE	MAXIMUM DOSE
Rifapentine with Isoniazid	Weeks to 2 months (2RH)	
	Isoniazid 15 mg/kg = 105 mg 44-55 kg = 165 mg 56-67 kg = 195 mg 78-90 kg = 225 mg 91-103 kg = 255 mg 104-116 kg = 285 mg 117-130 kg = 315 mg	Isoniazid: 500 mg Rifapentine: 300 mg
Rifampicin with Isoniazid	daily for 2 months (2RI)	
Isoniazid: 150 mg Rifampicin: 600 mg	Isoniazid: 10 mg/kg Rifampicin: 15 mg/kg	

Common drug-drug interactions:

INTERACTION	RECOMMENDATION	REFERENCE
Sulfonamides	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Anticoagulants	Increased risk of bleeding. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Antiepileptics	Decreased effectiveness. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Antibiotics	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Antifungals	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Antivirals	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Cardiovascular drugs	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Chemotherapy	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Diuretics	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Immunosuppressants	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Insulin	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Oral contraceptives	Decreased effectiveness. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010
Other drugs	Increased risk of toxicity. Monitor for adverse effects.	WHO Guidelines for the Treatment of Tuberculosis, 2010



Week 2 remote check in

Day	Second call message		Third call message	
	Day	Outcomes & initial	Day	Outcomes & initial
Day 1				
Day 2				
Day 3				
Day 4				
Day 5				
Day 6				
Day 7				
Day 8				
Day 9				
Day 10				
Day 11				
Day 12				
Day 13				
Day 14				
Day 15				
Day 16				
Day 17				
Day 18				
Day 19				
Day 20				

Home Visit: out of  
H1. Client not found  
H2. Client gone without  
H3. Client refused  
H4a. Client found;  
H4b. Client found;  
H4c. Client found;  
H4d. Family member  
H4e. Family member  
H4f. Other (Specify)

Clinical algorithm based on national guidelines used by HCP to assess patients for 3HP eligibility; initiate 3HP; and monitor for adherence, side effects and TB symptoms.

Pocket card used by HCP to deliver messages encouraging 3HP initiation and adherence and advising about side effects.

Illustrated flipchart used by community referral facilitators to educate PLHIV about 3HP and provide adherence counseling.

Dosage chart that allow HCP to determine the appropriate dose of isoniazid and rifampentine by weight.

3HP Patient Management Tool used by ROC to note their adherence and refer to side effects.

HCP and SMS logs used to record 3HP delivery and outgoing SMS messages.

## Job Aids

## M&E Tools

# Pre-pilot views of study participants on TB, TPT and 3HP through Fast Track

- **Knowledge of TB**
  - Most participants had little to moderate understanding of TB
  - Knowledge was mostly regarding TB symptoms; less knowledge regarding diagnosis and treatment
  - Aware of risk of TB
- **Knowledge of TPT**
  - Most participants had never heard of TPT
  - The few that had taken TPT in the past did not remember much about the treatment
- **3HP in Fast Track**
  - Despite low understanding and knowledge of TB and TPT, most participants thought 3HP through FT is a good idea and a convenient/helpful method of TPT delivery
  - Participants were confident in their ability to adhere to 3HP with support of HCPs
  - Concerns about drug interactions, ability to remember once weekly dosing, pill burden on 3HP days
  - Need support in order to adhere, including nutritional support, adherence support, informational support



# Completion rates during the pilot period

88%

44 participants **completed 3HP** within 12 weeks

- 4 participants completed within 13 weeks
- 1 participant completed within 16 weeks
- 1 stopped at 8 weeks due to jaundice

100%

week 2 remote check ins completed

100%

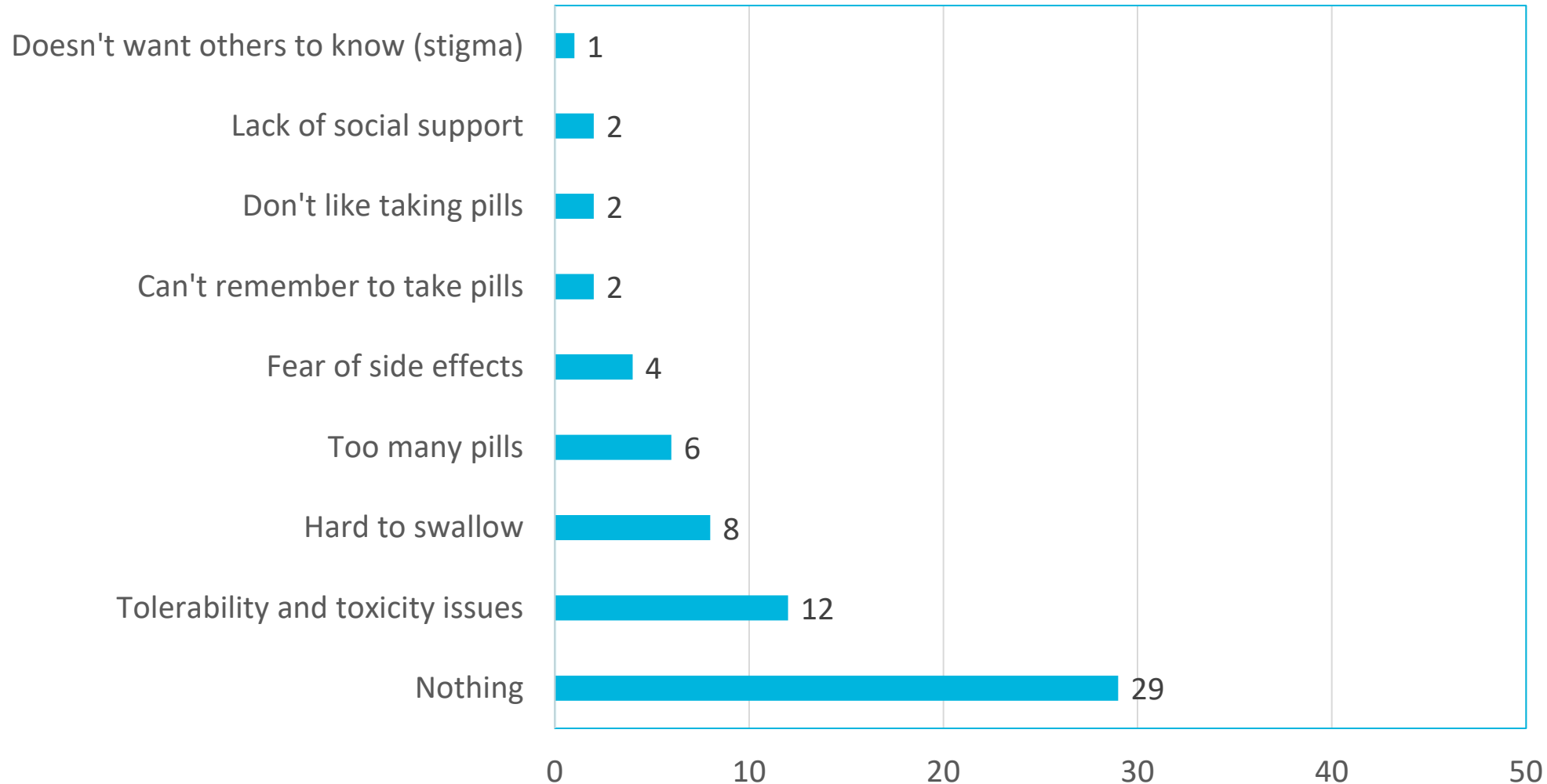
month 1 remote check ins completed

100%

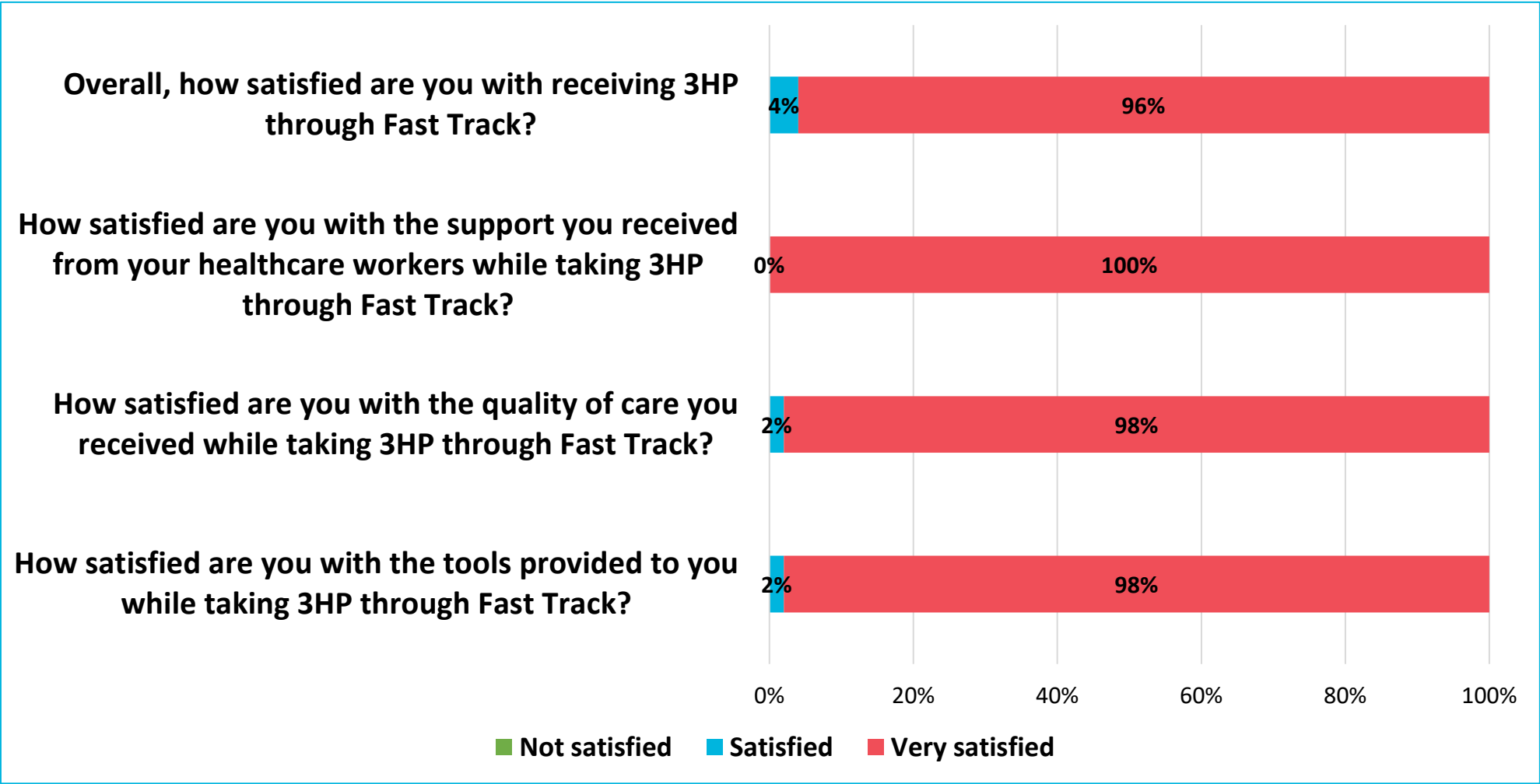
month 2 remote check ins completed

# ART & 3HP Adherence Challenges

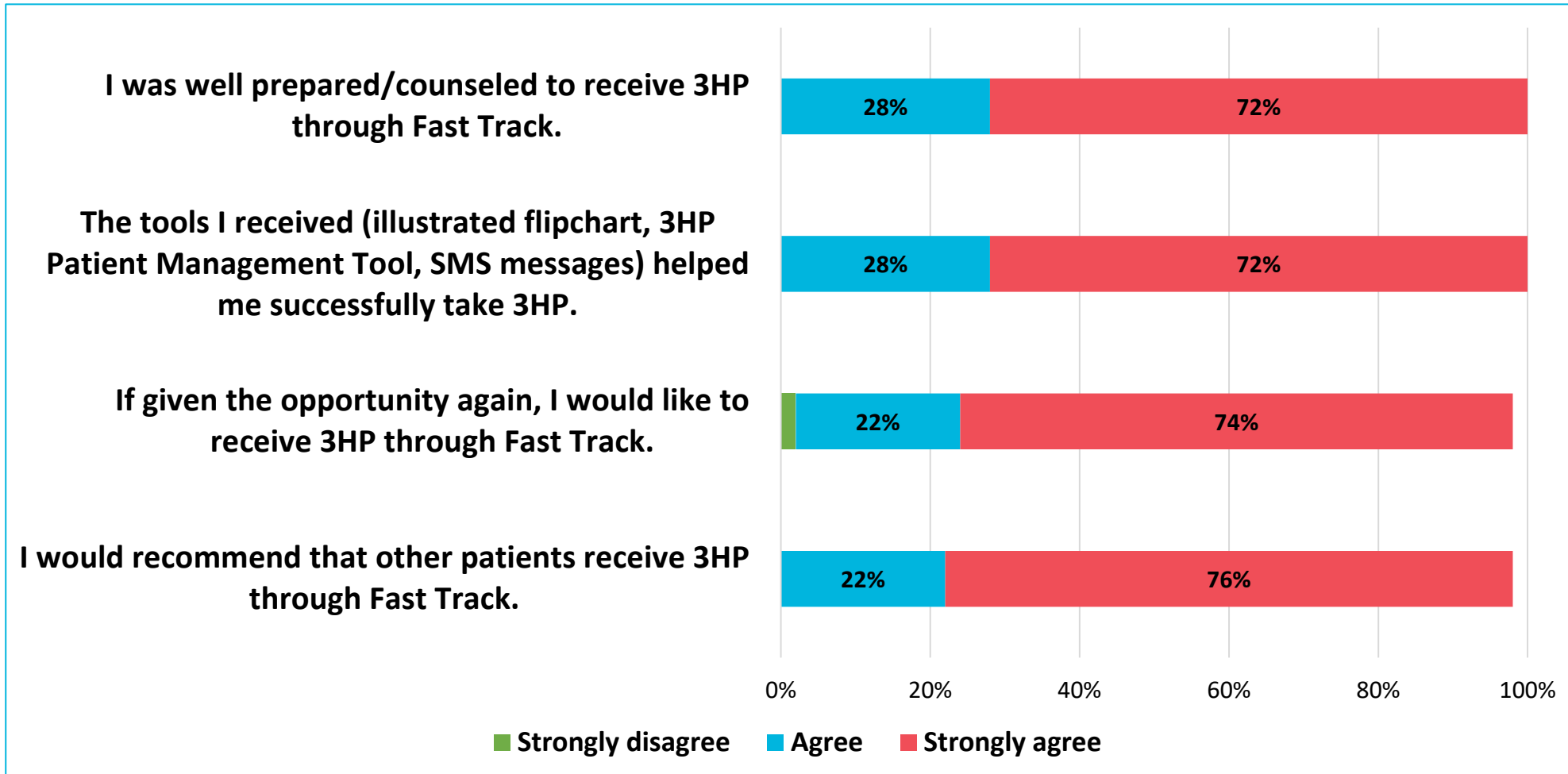
What has made it difficult or challenging for you to take 3HP?



# Views on 3HP through Fast Track



# Views on 3HP through Fast Track cont.



Strongly disagree (n=1); participant who had to stop participating due to jaundice

# Patient participant quotes

“What helped me was the fact that I knew the benefits of taking 3HP and I also knew that it prevents against TB so that encouraged me to take it.”

-Male, <30 years old

“What helped me most is Fast Track... because I could collect my medication fast; I got my ARVs and 3HP at the same time. I did not collect the medication at different serving points.”

- Female, <30 years old

“What I think is helpful is the way health care providers talk to the patient as they will be giving education on 3HP... they take time to explain the use of the pill... Then they follow up on you trying to understand if you are taking your medication well.”

- Female, ≥30 years old

“The medication tracker was most helpful because I would tick it soon after taking my medication... It worked as a reminder so I would take my medication.”

- Male, ≥30 years old

“What I found most helpful is that... you will realize that your body will become much stronger and also the adherence support you get from healthcare providers motivates you to want to stay healthy.”

- Female, ≥30 years old

# Healthcare providers

- All providers reported that it is 'very important' (n=9; 82%) or 'important' (n=2; 18%) to scale up TPT for HIV-positive people in Zimbabwe and that the shorter 3HP regimen led to high rates of adherence
- All providers acknowledged that the integration of 3HP into the FT model was a success
- Benefits of integration included:
  - reducing provider workload
  - decongesting the health facility

"...since we are continuing with the DSD models and the Fast Track I think this will actually blend very well because... it will be easy to introduce 3HP to our clients."

- Female, Nurse

"when someone on Fast Track comes for their ART drug pick-up we then also give him 3HP to take for three months, that way the patient doesn't keep visiting the clinic like someone on IPT. So for 3HP, someone on Fast Track gets ART for three months and also 3HP for three months... It de-congests the clinic. It also reduces workload."

- Female, Linkage facilitator/health officer

# Conclusion

- Using the FT model to deliver 3HP was feasible and acceptable to adults on ART
- Some toxicity and tolerability challenges were reported but 98% of participants completed 3HP
- No participants wished for additional health facility visits
- All participants appreciated the efficiency of phone-based counseling.

**Scaling up 3HP for PLHIV in the FT model has the potential to expand TPT coverage in Zimbabwe.**

# Acknowledgements

- Study investigators
- MoHCC
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- BMGF
- Advisory Group
- ICAP Zimbabwe and the OpCon Team







Thank you!

