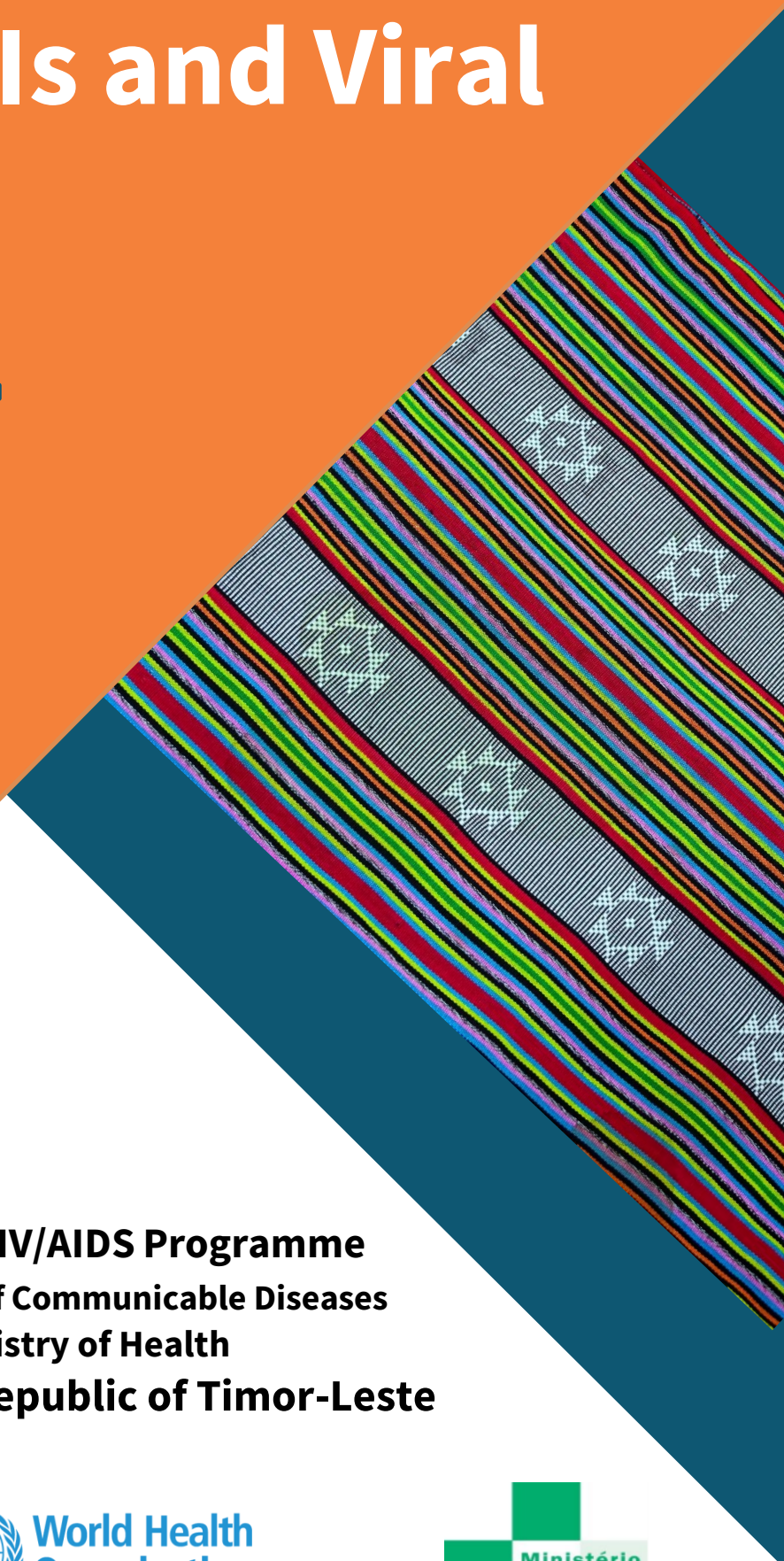
National Strategic Plan for HIV, STIs and Viral Hepatitis

2022–2026

Timor-Leste



National HIV/AIDS Programme

Department of Communicable Diseases

Ministry of Health

Democratic Republic of Timor-Leste

World Health Organization

Timor-Leste

Ministério da Saúde

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National HIV/AIDS Programme
Department of Communicable Diseases
Ministry of Health
Democratic Republic of Timor-Leste

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Message from the Hon'ble Minister of Health

Foreword

dr. Odete Maria Freitas Belo, MPH
Minister of Health
Democratic Republic of Timor-Leste
Dili

I am very pleased to note that National AIDS Programme has developed the National Strategic Plan for HIV, STIs and Viral Hepatitis 2022–2026, Timor-Leste, with the technical support of WHO.

The Ministry of Health considers HIV/AIDS, viral hepatitis (HBV/HCV) and other STIs as serious public health concerns and directs its efforts to reduce risk behaviours, provide appropriate treatment and mitigate overall transmission in the country. Yet, despite variable burden across these three eliminable diseases, resources remain limited and there is no funding support for the national viral hepatitis programme. Hence, the MoH will adopt a multi-sector approach with UN agencies, nongovernmental organizations and government bodies as stakeholders in moving forward with an integrated national action plan. Strengthening of linkages and integration needed across these areas, especially, for synergies and efficiencies towards primary health and universal health care in line with 2025 (Mid-Point) and 2030 (End) elimination targets for the three disease areas.

The National Strategic Plan (NSP) has a grand vison to achieve elimination of HIV, other STIs and viral hepatitis in Timor-Leste by preventing transmission, detecting cases and ensuring that everyone living with these diseases has access to uninterrupted, affordable and effective treatment, without medical or social costs. This action-oriented strategic plan aims to increase awareness and promote health services widely among the general population, while investing strategically in effective outreach and pre-vention interventions in key population networks, where transmission is most likely.

I look forward to the successful implementation of the NSP.

dr. Odete Maria Freitas Belo

Minister of Health

Message from WHO Representative

Foreword

Dr. Arvind Mathur

WHO Representative to Timor-Leste

World Health Organization

Dili

I am proud to present the First Integrated National Strategic Plan for HIV, STIs and Viral Hepatitis 2022–2026, Timor-Leste. Human immunodeficiency virus (HIV), viral hepatitis and sexually transmitted infections (STIs) are recognized as important public health problems in the country. Despite paucity of adequate data on disease burden, overlap in important areas in terms of modes of transmission, affected populations and control measures calls for an integrated response.

The Ministry of Health, Timor-Leste, has decided to develop an integrated National Strategic Plan (NSP) for HIV/AIDS, STIs and viral hepatitis, 2022–2026 with WHO technical assistance to combat these three diseases effectively. NSP has been made possible through a series of consultations and careful consideration by bringing together implementation experience in each disease area, and defining an integrated approach with specific steps and targets over the five-year period till 2026.

A mid-term review (MTR) of the HIV/STI programme conducted in 2019 reported that “prevention is not keeping pace with the epidemic”, which is largely concentrated among key populations (KP) and is starting to spread among other groups. It called for interrupting transmission with effective KP interventions by saturating coverage with essential HIV/STI services, including building trust and boosting outreach/prevention at the local levels. The recommendations have been taken forward to inform the integrated approach in this costed NSP. Health care services will be strengthened across the overlapping disease areas to improve screening, diagnosis, treatment and immunization capacity.

I am confident that the costed integrated NSP will assist in building the programme on primary health care services in Timor-Leste by strengthening existing health care service provisions. The services, with disease-specific methods and targets, developed and offered in a holistic manner across disease areas will ensure optimal detection of coinfections and treatment outcomes. Further, capacity-building, logistics and supply management, monitoring and surveillance will be reinforced and fully integrated thereby helping combat these three diseases effectively.

Dr. Arvind Mathur

WHO Representative

Acknowledgements

The Ministry of Health, Democratic Republic of Timor-Leste gratefully acknowledges the contributions from the National AIDS Programme, WHO, The Global Fund, and National HIV, Hepatitis and STI Technical Advisory Group (TAG) for their valuable support and contributions in revising the First Integrated National Strategic Plan (NSP) for HIV, STIs and Viral Hepatitis 2022–2026. The final NSP were reviewed by the TAG, WHO SEARO HIV Unit, WHO Country Office and NAP Team lead by Mr Bernardino da Cruz.

The Ministry of Health gratefully acknowledges the financial support and the continued technical support from the World Health Organization (WHO).

We would like to offer sincere thanks to Dr Richard Steen, Dr Sushena Paul, Dr Neil Thalagala, and Dr Lincoln Choudhury, experts engaged by WHO for development of the integrated HHS NSP 2022-26. The NSP was finalized by Mr Bernardino da Cruz, NAP Manager, and Dr Debashish Kundu, Technical Officer, Communicable Diseases, WHO, Timor-leste.

Finally, we would like to thank Dr Arvind Mathur, WHO Representative to Timor-Leste for overall guidance and support.

Acronyms and Abbreviations

AMR	antimicrobial resistance
ART	antiretroviral therapy
CHCs	community health centres
CCS	community systems strengthening
DIC	drop-in-centres
FSW	female sex worker
GP	general population
HIV	human immunodeficiency virus
HPV	human papillomavirus
HSS	health systems strengthening
KP	key population
MSM	men who have sex with men
MSW	male sex worker
NH	national hospital
PLHIV	people living with HIV
PrEP	pre-exposure prophylaxis
PEP	post-exposure prophylaxis
PPIs	priority programme indicators
PSE	population size estimates
RH	referral hospital
STIs	sexually transmitted infections
MTR	mid-term review
NSP	national strategic plan
SCM	syndromic case management
TAP	trusted access platforms
TG	transgender persons
TPT	TB preventive treatment
TSU	technical support unit
UHC	universal health coverage
VL	viral load

Background and rationale

Human immunodeficiency virus (HIV), viral hepatitis and sexually transmitted infections (STIs) are recognized as important public health problems in Timor-Leste. While data on disease burden are incomplete, overlap in important areas in terms of modes of transmission, affected populations and control measures calls for an integrated response.

In order to combat these three diseases, the Ministério da Saúde (Ministry of Health), Timor-Leste, decided to develop an integrated national strategic plan (NSP) for HIV/AIDS, STIs and viral hepatitis, 2022–2026 after series of consultations and careful consideration. The NSP brings together implementation experience in each disease area, and aims to define an integrated approach with specific steps and targets over the five-year period.

The national HIV/AIDS and STI programme (NAP) under the Ministry of Health (MoH) started in 2003 and is functional in all 13 municipalities and Oecusse Special Administrative Region. The response is guided by the current National Strategic Plan (NSP) for HIV/AIDS and STIs of Timor-Leste 2017–2021, which ends this year. The response to hepatitis is guided by the Strategy for Prevention, Control and Treatment of Viral Hepatitis in Timor-Leste 2015, which has also come to an end.

A mid-term review (MTR) of the HIV/STI programme conducted in 2019 provides relevant data and recommendations for an integrated response that also includes viral hepatitis and tuberculosis (TB). The MTR reported that "prevention is not keeping pace with the epidemic", which is largely concentrated among key populations (KP) and is starting to spread among other groups. The top-line recommendations from the review were to interrupt transmission with effective KP interventions by saturating coverage with essential HIV/STI services, building trust and boosting outreach/prevention; improving quality and streamlining linkages between counselling and testing, treatment initiation, adherence support and viral load (VL) testing; and strengthening data-guided programming including data use at the local level. These recommendations have been taken forward to inform the integrated approach across the three disease areas promoted in this NSP.

Current gaps and opportunities have been identified to inform this plan. HIV prevention programme coverage, for example, remains a major challenge. In 2019–2020, programme coverage among female sex worker (FSW), men who have sex with men (MSM), including male sex worker (MSW), and transgender persons (TG) was estimated to be only 65%, 30% and 32%, respectively (among these, 65% FSW, 32% MSM and 70% TG received only HIV testing services). Yet, during the same year, higher numbers of KP were reached when NAP conducted HBV/HCV testing and offered hepatitis B virus (HBV) vaccination. This experience demonstrates the feasibility of reaching KP with an integrated package of HIV/STI/hepatitis services.

This recent experience with hepatitis screening and vaccination also supports the emphasis on strengthening essential hepatitis services within the integrated NSP to meet the 2030 HBV/HCV elimination targets.

HBV prevalence is relatively high, yet screening, vaccination, treatment, and surveillance are all underdeveloped due to the absence of funded programme activities. Similarly, STIs, apart from HIV, have received little attention in the past, despite higher and rising prevalence. Opportunities exist to improve control and reach the 2030 STI elimination targets by pursuing an integrated response, particularly with regard to KP screening and ANC (triple EMTCT).

Currently in Timor, syndromic case management (SCM) is being practiced. The HIV Sentinel Surveillance Plus 2018–2019 revealed that the syphilis prevalence among antenatal care (ANC) attendees increased from 1.05% (in 2013) to 1.7% (2019); and among STIs clinic attendees, increased from 1.08% in 2013 to 8.3% in 2019. Strengthening STI diagnosis and treatment by introducing low-cost etiological diagnostics (RPR, TPHA, etc.) has been previously recommended. STI services need strengthening across all municipalities for the general population (GP) as well as in sites where KP programme will be operational, with a reliable monitoring system and adequate budget.

Available data show clear evidence of risk behaviours as well as poor access to prevention and health services, particularly among KPs. Currently, Timor-Leste is striving to ensure that health systems maintain essential health services as they respond to the COVID-19 pandemic. In 2021, WHO conducted the second round of the national pulse survey on continuity of essential health services during the pandemic. The second round of national pulse survey and rapid assessment on the continuity of essential services informed that about 5–25% disruption in antiretroviral therapy (ART) delivery among people living with HIV (PLHIVs), including hepatitis B vaccination among KP and PLHIVs.

Population size estimates conducted in 2019–2020 estimated 5365 FSW, 5778 MSM, 2633 MSW and 2070 TG. With a small but focused effort in a few key geographic areas up to 80% of KPs could be reached with prevention efforts and services – 84% of the KPs are from the five municipalities where programme is implemented, of which Dili has 68%. Strategically adding Liquica and Ermera would increase coverage to 92%.

Policy statement and guiding principles

The MoH considers HIV/AIDS, viral hepatitis (HBV/HCV) and other STIs as serious public health concerns and directs its efforts to reduce risk behaviours, provide appropriate treatment and mitigate overall transmission in the country. Yet, despite variable burden across these three eliminable diseases, resources remain limited and there is no funding support for the national viral hepatitis programme. Therefore, in moving forward with an integrated NAP, the MoH will adopt a multi-sector approach with UN agencies, non-governmental organizations (NGOs) and government bodies as stakeholders. Strengthening of linkages and integration needed across these areas, especially, for synergies and efficiencies towards primary health and universal health care in line with 2025 (Mid-Point) and 2030 (End) elimination targets for the three disease areas.

The guiding principles of the integrated NSP are:

- Human rights-based approach –everyone has the right to information, diagnosis, treatment and care
- Equitable access
- Inclusion and universal access
- Evidence-informed planning and programming
- Sustainability, decentralised services for universal access
- Professionalism.

Vision

To achieve elimination of HIV, other STIs and viral hepatitis in Timor-Leste by preventing transmission, detecting cases and ensuring that everyone living with these diseases has access to uninterrupted, affordable and effective treatment, without medical or social costs.

High-level goals

- Prevent new infections of HIV, hepatitis B and C, and other STIs
- Reduce deaths and improve the health of people living with disease
- Eliminate HIV, viral hepatitis and other STIs as major public health threats.

High-level impact targets

- Reach intermediate targets for HIV/STI/hepatitis (based on 2030 global elimination targets)
- Reach triple elimination of mother-to-child transmission (EMTCT) by 2026.

NSP objectives

- Scale up prevention, care and treatment for KPs ensuring an enabling environment and trusted access platform for services
- Improve prevention and access to care for GP and special groups, including pregnant women, antenatal mothers and their partners, youth and uniformed services
- Ensure reliable data to guide the response.

Priority NSP outcome targets

- Achieve 90% KP targets for integrated HIV/STI/Hep services for saturation coverage, high uptake and retention
- Ensure 95% facilities provide access to essential HIV/STI/Hep services for all
- Achieve 90% reporting targets from public sector health facilities including ANC and those providing services for KP.

Strategic approach

In order to achieve these objectives for HIV, viral hepatitis and other STIs, this integrated NSP follows a strategic approach to interrupt transmission in the community, while effectively detecting and treating existing infections (and achieving full HBV and human papillomavirus (HPV) immunization coverage for intended population groups). This includes three main areas of focus for interventions and services at community and health care facilities serving:

- Targeted interventions with KPs to interrupt transmission
- Services for all through community health centres (CHCs) accessible to the GP, including ANC/MCH, youth, prisoners, etc.
- Reliable data to guide the response at local, district and national levels.

HIV, other STIs, and viral hepatitis B and C are similar in their modes of transmission and often present as coinfections, which enhances transmission and exacerbates disease progression. It is more effective and efficient to address these infections together since prevention efforts address similar risk behaviours, and health services aim to reach similar populations with screening, immunization and related services.

This action-oriented strategic plan aims to increase awareness and promote health services widely among the GP, while investing strategically in effective outreach and prevention interventions in KP networks, where transmission is most likely. Table 1 outlines a high-level NSP logical framework based on objectives of the proposed NSP activities and expected outcomes.

Table 1 Logical framework of NSP

Objectives	Pillar	NSAP activities	Expected outcomes
Scale up prevention, care and treatment for KP ensuring an enabling environment and trusted access platforms for services	1: Prevention to stop transmission of HIV, Hepatitis and STI	Build trusted access platforms for KP with continuous hotspot presence through outreach and regular medical check-ups and increasing strategically the number of KP DIC and clinics	Increased numbers of KP who are reached by peer educators, follow prevention advice, and access screening, immunisation and treatment services without stigma or discrimination
	4: Creating an enabling environment for HIV, Hepatitis and STI service delivery and utilisation	KP groups to be trained on community-led response in creating EE which includes structural interventions, stakeholder mapping and monitoring, documenting and addressing S&D, violence, legal literacy etc.	
Improve prevention and access to care for general population and special populations including pregnant women, youth, uniformed services	2. HIV, Hepatitis and STI testing and access to testing, treatment and care	Strengthen health services to provide optimal screening, immunisation, diagnostic and treatment services	Increased awareness of HIV/ STI/ hepatitis. Anyone with symptoms or risk is able to access screening, immunisation and treatment services without stigma or discrimination
	3. EMTCT of HIV, Hepatitis and syphilis	Plan, set timeline with targets for triple EMTCT	
Ensure reliable data to guide the response	5. Strategic information management to better understand the HIV, Hepatitis and STI situation	Use routine reporting data to monitor progress of both community-based interventions and clinical services	Reliable data reviewed monthly on programme performance – coverage, uptake and utilisation of services, as well as disease

Preventing sexual transmission by increasing condom use and improving access to health services for regular screening, immunization and prevention support are key expected outcomes. Community-based interventions will thus prioritise KPs, while also reaching young people and uniformed services who may share similar risks.

Health care services will be strengthened across the overlapping disease areas to improve screening, diagnosis, treatment and immunization capacity. These services, with disease-specific methods and targets,

will be developed and offered in a holistic manner across disease areas to ensure optimal detection of coinfections and treatment outcomes. Capacity-building, logistics and supply management, monitoring and surveillance will be reinforced and fully integrated.

The programme will build on primary health care services in Timor-Leste by strengthening existing health care service provision. Screening targets for pregnant women will be reached by strengthening ANC services. Screening coverage among KPs will be strengthened and expanded by offering *regular medical checkups* (RMC) quarterly, with routine offer of screening for HIV, STIs and hepatitis. These RMC visits will be actively promoted through peer outreach, and progress tracked with improved programmatic monitoring.

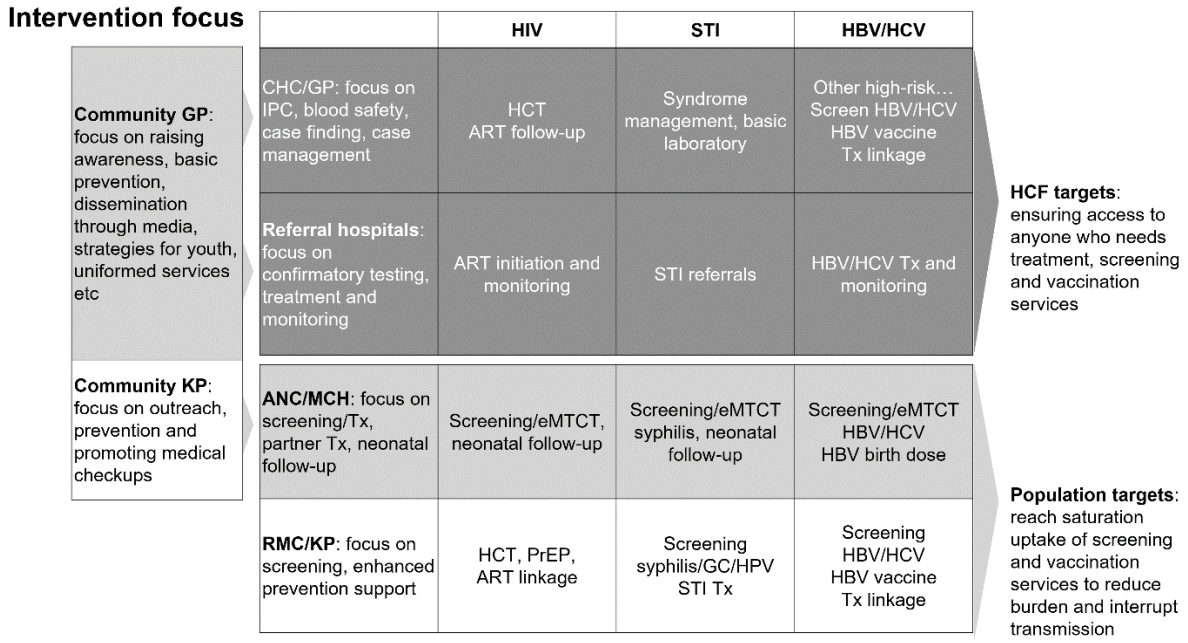
Routine offer of HIV testing at six-monthly intervals will be included as part of RMC screening, thus addressing current gaps in HIV testing coverage among KPs. Immediate linkage to ART and related services will be facilitated for those who test positive. Additional HIV-specific services to be strengthened include HIV self-testing (HIVST), pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) as per the protocols.

STI screening will also be extended to KPs at quarterly RMC visits, with syphilis tests at six-monthly intervals, and expanded for other STIs including gonorrhoea. This will enable Timor-Leste to progress towards global elimination targets for both syphilis and gonorrhoea (90% reduction by 2030), and to monitor antimicrobial resistance (AMR). STI screening at RMC also offers opportunities for improving control of other STIs including HPV.

For hepatitis B and C, the programme will adopt and advance screening, diagnostic, treatment and immunization services as specified in HBV and HCV guidelines. Hepatitis screening and HBV immunization will also be routinely offered to KPs as part of quarterly RMC. This will allow Timor-Leste to move to triple (HIV/syphilis/HBV) EMTCT in addition to slowing transmission and providing care to those in need.

The NSP supports the implementation of this strategic response with focus addressing the GP, KP, health care facilities, ANC/MCH services and referral hospitals (RHs). Table 2 provides an overview of this strategic response.

Table 2 Overview of strategic response by primary areas of intervention



NSP priority activities, interventions and services

Overlapping interventions and services for HIV, viral hepatitis and other STIs will be strengthened along these six main areas of focus – two addressing the response at community level and four involving strengthened health care facilities and services.

Strengthening community-based interventions

The community systems strengthening (CSS) prioritises reaching KP[1] (in large numbers as the most effective means of maintaining low prevalence in Timor-Leste. It also includes services for youth and uniformed services as well as relevant messages for the GP. These services cut across disease areas, aiming to prevent sexual and injection-related transmission by raising awareness and promoting appropriate health services.

For KP, the NSP addresses gaps and weaknesses in current programming as recommended in the 2019 HIV mid-term review.[2] It is informed by findings from recent mapping and programme data, and builds on recent guidance on building 'trusted access platforms' (TAP) for KP.[3]

The main areas of CSS proposed for KP are to:

- Build **trusted access platforms**: by adapting programme design, standards and monitoring plans for community and clinic-based interventions

[1] Sex workers, men who have sex with men (MSM), transgender persons, people who inject drugs (PWID), prisoners

[2] Report on MTR – 2019 (conducted by National AIDS/STI programme and MoH – TL.

[3] Key population trusted access platforms: considerations in planning and budgeting for a key population platform to deliver scaled, quality HIV prevention and treatment services and for addressing critical enablers. 2020. Developed for the Global HIV Prevention Coalition with WHO, UNAIDS and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

- Engage community with **continuous hotspot presence**: with effective peer education, safe spaces and structural interventions, condoms and other prevention commodities
- Promote and provide **regular medical check-ups**: Quarterly medical check-ups offering a range of disease-specific screening and treatment services.

More details on the TAP approach to strengthening KP programming is included in Annex 1.

Expected outcomes of these CSS investments are improved prevention behaviour and increased access to health care services by KP. Drop-in-centres (DICs)[4] are an integral part of community mobilization and CSS. They are considered as safe space for the community and offer safety, security and confidentiality to the community.[5] Refer to Annex 5 for scope of DIC and considerations for budgeting. Community-based interventions will be closely linked to health care services (DIC clinics) to ensure optimal access, uptake and utilisation of prevention, screening, immunization, diagnostic and treatment services. KP will be encouraged to be actively involve, as peer educators, outreach workers and community members, in building, strengthening and promoting TAPs. More effective and trusted peer outreach interventions will strengthen prevention, while regular medical checkups at DIC clinics will ensure access to the needed clinical services provided by competent and non-judgmental health care providers. These services will not be just KP friendly, but KP owned where the representatives of KP will be responsible for implementing, managing and monitoring. Client satisfaction will be one of the key aspects to ensure services are being utilized. This addresses two main gaps in KP programming – high levels of risk behaviour and poor access to services (Table 3).

Table 3 NSP activities, community systems strengthening components and priority actions

NSP activities	Key CSS components	Priority actions
Trusted access platform for KP with continuous hotspot presence and promotion of regular medical checkups (RMC)	Effective peer outreach and interventions with continuous hotspot presence using microplanning toolkit	Participatory hotspot mapping conducted
		Peer outreach organized with recommended PE:KP ratio (<1:60) and supported by regular supervision with outreach supervisor/outreach worker: PE ratio <1:10
		Safe spaces (DIC) identified with attention to structural interventions/critical enablers addressing stigma, discrimination, violence and ensuring access to other social entitlements
Health services strengthened to provide optimal screening, immunization, diagnostic	Increased awareness of HIV/STI/hepatitis. Anyone with symptoms or risk is able to access screening, immunization, diagnostic	Clinical sites for KP RMC at DIC, staffed, supplied and promoted through peer outreach in communities
		Special health services for youth, uniformed services and prisoners strengthened and promoted for those at risk

[4] https://www.who.int/hiv/pub/sti/sex_worker_implementation/swit_chpt3.pdf?ua=1

[5] KP Trusted Access Platform, Global HIV Prevention Coalition, WHO, UNAIDS, GFATM, BMGF, USAID, NSWP, FHI, Frontline AIDS.

and treatment services for all	and treatment services without stigma or discrimination as per national programme operational guidelines	Clinicians trained to provide friendly, non-judgmental services for KP following RMC protocol, and for other vulnerable populations through health care services
		Modalities of clinical services developed along with KP team; fixed clinic, outreach clinic, mobile clinic, etc.
Use of routine reporting to monitor progress of both community-based interventions and clinical services	Reliable data reviewed monthly on programme performance –coverage, uptake and utilization of services, as well as disease trends; community-led monitoring (CLM) to be instituted	Monitoring peer outreach against KP size estimates to estimate outreach coverage and uptake
		Routine monitoring of clinical services to capture data on uptake and utilisation of those services by KP (RMC), migrants, youth, etc., including disease trends from screening data
		KP programme monitoring (individual tracking) to be set-up and linked to DHIS2

The current KP programming needs to be expanded and strengthened to accomplish the above. Available data show that reach is very low compared to population size estimates (PSE), and that only limited services are offered.

The integrated approach of the NSP is to build a TAP that will reach high numbers of KP (saturation coverage) and promote RMC with screening and related services for HIV, STIs and viral hepatitis. Table 4 shows aims and targets for scaling up these interventions. As >70% of all the KPs are from Dili (specially MSW and TG), it will be important to saturate Dili in the first two years, then increase the coverage in other four municipalities by year 3 and, if possible, increase to two others in year 4.

Beginning in Dili, microplanning with individual tracking will be used to strengthen outreach and promote RMC services at the existing DIC. This will be expanded to other KP hotspot areas with 2–3 DIC clinics to saturate Dili by end of second year, and to other four municipalities (current programme districts) by year 3 and two new districts by year 4 to give a coverage of >90%. Annex 3 describes the strategic approach and recommendations and Annex 4 presents the targets for the incremental increase from 2022 to 2026.

There are also important data gaps to address. Monitoring is currently limited to counting numbers of KP provided with a basic service package and accessing HIV testing. Reach indicators do not capture priority programme indicators (PPIs), uptake and frequency of outreach contacts and clinic visits, and don't relate to population size estimates (PSE). It is thus impossible to determine the proportion of KP who have been reached, are receiving prevention support and accessing clinic services. Microplanning with individual tracking and regular review of PPIs will improve monitoring and use of routine programme data to strengthen outreach (Refer to Annex 4.1 for PPI and targets).

Table 4 Targets for scale up of community-based outreach interventions with KP

Community KP: focus on high-impact targeted interventions to prevent sexual transmission

- **Aims** (incremental progress)
  - Start with hotspots in Dili currently reached and served by DIC
  - Strengthen outreach with microplanning to regularly reach all KP, support prevention and promote RMC
  - Expand model to cover Dili in medium term
  - Expand to priority municipalities by end of NSP

Targets	Year 1	Year 2/3	Year 5
Peer outreach strengthened with ratios/training	Dili only (currently mapped hotspots)	Dili expanded to all hotspots + 4 municipalities	Dili + 6 municipalities
Microplanning implemented and supported	Dili only (currently mapped hotspots)	Dili expanded to all hotspots + 4 municipalities	Dili + 6 municipalities
% KP contact at least once by PE	50% Dili only	80% Dili	>90%
% KP in monthly contact with PE	50% Dili only	80% Dili	>90%
% KP receiving condoms to meet need	50% Dili only	80% Dili	>90%

x

Strengthening health care services

The health systems strengthening (HSS) part of the NSP aims to provide a full range of services. The health care facility-based interventions proposed are described here by disease area and promoted and delivered as an integrated package of services (Table 5).

Table 5 NSP activities, HSS components and priority actions

NSP activities	**Key HSS components**	**Priority actions**
TAP for KP with continuous hotspot presence and RMCs	RMC for KP (sex workers, MSM and prisoners); plus comprehensive package of services provided	Services organized in locations (DIC clinics) with many KP to offer quarterly RMC including: • quarterly screening, syndrome case management for symptomatic STIs • six-monthly laboratory screening for HIV, syphilis, gonorrhoea, hepatitis B and C, TB screening • HBV vaccine for those eligible • PrEP for those eligible • Referral services
		Prison health services strengthened to offer quarterly RMC including: • quarterly screening for STI symptoms • six-monthly laboratory screening for HIV, syphilis, gonorrhoea, chlamydia and hepatitis • HBV vaccine for those eligible
Health services strengthened to provide optimal screening, immunization, diagnostic	Optimized screening, immunization, diagnostic and treatment services accessible to all according to need	MCH services strengthened to expand and strengthen screening and vaccination coverage: • routine screening at first ANC visit for HIV, syphilis and hepatitis • HBV vaccine birth dose

and treatment services for all		Youth-friendly services strengthened to provide recommended screening, vaccination, diagnostic and treatment for those at risk or with symptoms: • routine screening for STI symptoms • laboratory screening for HIV, syphilis, gonorrhoea and hepatitis based on symptoms or risk • HBV vaccine for those eligible
		Uniformed health services strengthened to provide recommended screening, vaccination, diagnostic and treatment for those at risk or with symptoms: • routine screening for STI symptoms • laboratory screening for HIV, syphilis, gonorrhoea and hepatitis • HBV vaccine for those eligible
Use of routine reporting to monitor progress of both community-based interventions and clinical services	Reliable data reviewed monthly on programme performance – coverage, uptake and utilisation of services, as well as disease trends	Monitoring RMC attendance against KP population size estimates to track uptake and utilisation of clinic services as per required PPI
		Monitoring disease trends: • prevalence of HIV, syphilis, gonorrhoea, chlamydia, HBV and HCV among those screened • case reports of new infections not identified by screening

RMC for KP

Baseline data show very low uptake and utilisation of clinical services compared to PSE, and only a very limited range of services offered.

An integral part of building TAPs for KP is providing RMC with integrated screening and related services for HIV, STIs and viral hepatitis (see next section for more detail on these services).

Table 6 shows aims and targets for scaling up these services. Beginning with the existing DIC in Dili, RMC services will be developed with a full-time clinician (nurse/doctor) and laboratory support from the national hospital (NH). These services will be replicated in 2–3 additional sites in Dili over the medium term by end of year 2, then to existing municipalities and two new municipalities by the end of this NSP. The targets as given in Table 6 show that with a coverage of >70% in Dili, the programme will be able to have an overall coverage of >50% in year 1 and 80% in year 3 (Refer to Table 3 in Annex 6).

Table 6 Targets for scale up of RMC services for KP at DIC

	HIV	STI	HBV/HCV
RMC/KP: focus on screening, enhanced prevention support	HCT, PrEP initiation/ monitoring ART linkage	Screening syphilis GC? other STIs? STI Tx	Screening HBV/HCV HBV vaccine Tx linkage

- **Aims** (incremental progress)
  - Introduce RMC in existing Dili DIC, develop model (with links to NH lab)
  - Increase clinic uptake and quarterly RMC visits
  - Open 2-3 new DIC offering RMC services in Dili
  - Expand to remaining priority municipalities by end of NSP

Targets	Year 1	Year 2/3	Year 5
DIC providing RMC	1 in Dili only (existing DIC)	3-4 Dili + 4 municipalities	9-10 nationwide
% KP accessed RMC at least once	50% Dili only	80% Dili	>90%
% KP accessed RMC last quarter	50% Dili only	80% Dili	>90%
Quarterly RMC screening data monitored positivity rates/trends (GC, syphilis, HIV, HBV, HCV)	1 in Dili only (existing DIC)	3-4 Dili only	9-10 nationwide

x

Triple EMTCT through ANC/MCH services

EMTCT is one of the high-level targets of this NSP. The baseline data illustrate the challenge:

- Only 51.8% of pregnant women (19 129/36 895) currently access ANC
- Of those attending ANC, only 65% (12 513) were screened for HIV
- Of those attending ANC, only 32% (6178) were screened for syphilis
- Of those attending ANC, only 33% (6316) were screened for HBV
- Positivity rates for those screened were 1.0% (HBV), 0.8% (syphilis), 0.06% (HIV)
- No data on positives treated, newborn management or HBV vaccination (birth dose).

In order to close these gaps, several actions in collaboration with MCH programme are needed:

- Reach 95% ANC coverage
- Expand screening to all sites providing ANC services, and ensure > 95% triple screening.

Table 7 shows aims and targets of this NSP. These include introducing triple screening at all CHCs, where ANC services are provided. This will involve training, ensuring necessary supplies and monitoring. Data will also be reviewed to assess whether ANC services with screening should be expanded to select health posts in order to close the ANC gap. Lastly, cascade analysis will be strengthened to ensure effective treatment, newborn management and HBV birth dose as well as ANC attendance and screening targets.

Table 7 Targets for scale up of ANC/MCH services for EMTCT

	HIV	STI	HBV/HCV
ANC/MCH: focus on screening, neonatal follow-up	Screening/PMTCT, neonatal follow-up	Screening/PMTCT syphilis, other STIs? neonatal follow-up	Screening HBV/HCV? Newborn HBV birth dose

- **Aims** (incremental progress)
  - Introduce triple eMTCT
  - Ensure HIV/syphilis/hepatitis screening at all ANC (CHC)
  - Expand ANC screening to select health posts (#?)
  - Close gaps in eMTCT cascade indicators

Targets	Year 1	Year 2/3	Year 5
CHC with triple screening	72	72	72
Health posts with triple screening	20	50	72
% pregnant women attending ANC	70%	80%	85%
% pregnant women screened syphilis/HIV/HBV/HCV	70%	80%	85%
% positive mothers treated, newborns correctly managed	70%	80%	90%

Tuberculosis and HIV

TB is the leading cause of death among PLHIV. Although the number of TB deaths among PLHIV in South-East Asia has seen a 74% reduction from 76 100 in 2010 to 19 600 in 2019, less than one-third of the estimated number of people coinfected with HIV and TB were reported to be receiving both HIV and TB treatment in 2019. *a*The global End TB Strategy gives priority to collaborative activities to jointly address TB and HIV through integrated people-centred care. This includes systematic screening for TB symptoms among PLHIV, TB preventive treatment, HIV testing of all people diagnosed with or presumed to be having TB, timely initiation of ART for people with TB, WHO-approved chemoprophylaxis and the treatment of drug-susceptible and drug-resistant TB. The regional strategic plan towards ending TB in the WHO South-East Asia Region 2021–2025 is in line with the global targets of the End TB Strategy, which calls upon Member States to achieve an 80% reduction in the TB incidence rate by 2030 (compared with the 2015 baseline), 90% reduction in TB deaths by 2030 (compared with 2015) and 100% TB-affected families to be protected from facing catastrophic costs due to disease from 2020 onwards.

The Regional TB Strategy has the goal that ≥90% of PLHIV newly enrolled in care will receive treatment for latent TB. There are opportunities for programme collaboration, such as joint planning, surveillance and financing. Common approaches to address the inequalities that drive both HIV and TB are also important to prevent and manage HIV-associated TB. This includes the use of new points-of-care diagnostics and innovative treatment, e.g. newer short course therapy for TB preventive treatment (TPT). Summary of key TB-HIV collaboration is given below:

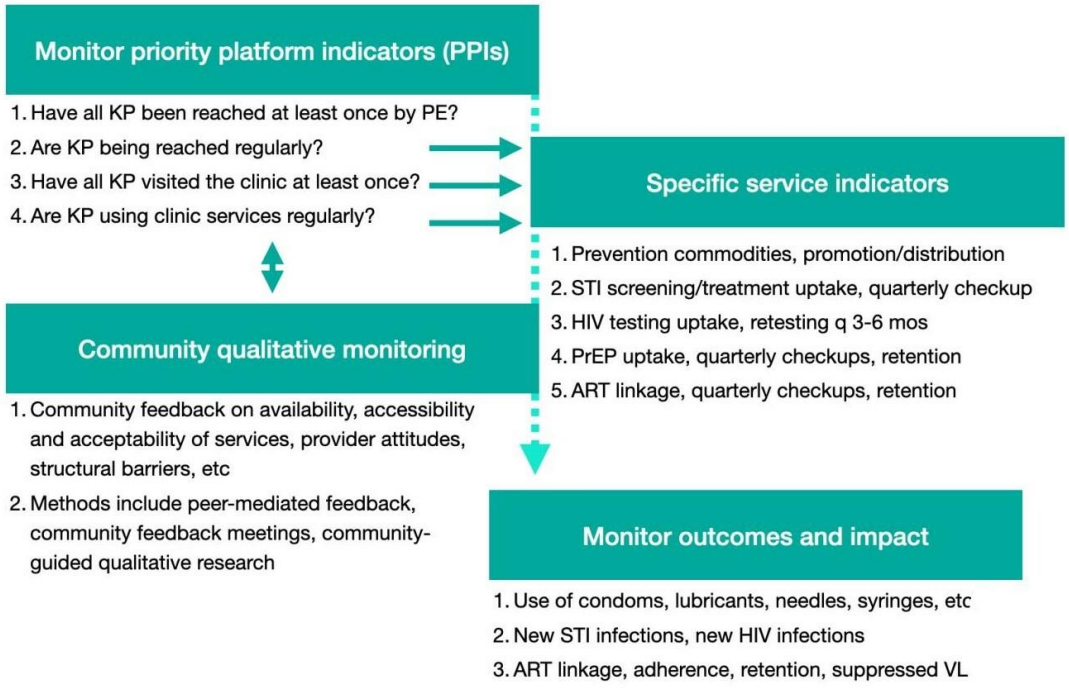
- Implement systematic screening for TB symptoms among PLHIV and provide TPT (particularly with short regimens)
- Undertake, with national TB programmes, HIV testing of all people diagnosed or presumed to be having TB
- Implement timely initiation of ART and WHO-recommended chemoprophylaxis for people with TB coinfection.

Human-rights based approach to address stigma and discrimination

Guidance on Trusted Access Platform (TAP) endorsed by GFATM and UNAIDS globally, and in the region by WHO SEARO, addresses issues of stigma, discrimination and resulting poor access to services for KP. Informed by experience from successful community-led KP programmes within and outside the region. TAP merges a highly systematic approach to KP outreach (microplanning) with KP health services offered and promoted as Regular Medical Checkups (RMC). Advantages of TAP include high uptake and continued use of community-based and clinical services. Stigma and discrimination are addressed in multiple ways beginning with the central role of KP communities in design and implementation. Frequent community outreach builds trust and encourages participation while MC services are organized to prioritise KP needs.

Since both the community (microplanning-guided outreach) and health services (RMC) components of the trusted access platform are organized systematically, clear targets are set and monitored regularly with routine programme data. Priority programme indicators (PPIs) continuously measure uptake and continued utilisation of both community (peer outreach contacts) and health facility (clinic visits and service provision). These will be reviewed monthly to guide microplanning adjustments and quarterly to monitor progress. Community-led monitoring will overlap with PI review and provide additional community input on quality and acceptability of services (Fig. 1).

Figure 1 PPIs and other indicators in TAP



Universal access to integrated HIV/STI/hepatitis services (PHC)

Apart from population-oriented services (ANC for pregnant women and RMC for KP), integrated services for HIV, STIs and viral hepatitis need to be available and readily accessible to anyone who may need them. Under this integrated NSP, primary care services will be strengthened.

Baseline data are limited, but most CHCs are believed to have capacity for basic HIV, STI and HBV/HCV screening, and HBV vaccination. Strengthening this service provision will entail training and logistics to ensure capacity and uninterrupted supply of necessary supplies, reagents, vaccines and medications.

Table 8 summarizes aims and targets to ensure availability of essential integrated services at CHC level.

Table 8 Targets for scale up of essential HIV/STI/Hep services at primary care (CHC) level

	HIV	STI	HBV/HCV
CHC/GP: focus on IPC, blood safety, case finding, case management	HCT ART follow-up	Syndrome management, basic laboratory testing	Other high-risk… Screen HBV/HCV HBV vaccine Tx linkage

- **Aims** (incremental progress)
  - Ensure availability of essential screening tests, vaccination and related services at CHC

Targets	Year 1	Year 2/3	Year 5 (73 CHC)
CHC with essential HIV/STI/Hep testing/vaccination services	25%	55%	100%
HIV testing, 3xRT confirmation, with self-testing option	25%	55%	100%
Syndrome case management, microscopy, syphilis serology	25%	55%	100%
Dual HIV syphilis RT	25%	55%	100%
HBV and HCV screening	25%	55%	100%

Table 9 Target for scale up of essential HIV/STI/Hep services at RH level

	HIV	STI	HBV/HCV
Referral hospitals: focus on confirmatory testing, treatment and monitoring	ART initiation and monitoring	STI referrals from HCF and ANC	HBV/HCV treatment and monitoring

- **Aims** (incremental progress)
  - Ensure confirmatory testing where indicated
  - Conduct testing required to guide case management of patients with HIV, HBV, HCV
  - Provide GC culture/AMR (mainly for KP screening)

Targets	Year 1	Year 2/3	Year 5
Confirmatory testing conducted HIV, HBV, HCV	NH, 5 RH	NH, 5 RH	NH, 5 RH
Case management (HIV) according to national guidelines	NH, 5 RH	NH, 5 RH	NH, 5 RH
Case management (HBV, HCV) according to national guidelines	NH	NH, 5 RH	NH, 5 RH
GC culture	NH	NH, 5 RH	NH, 5 RH

Essential laboratory support and advanced case management

Effective case management of HIV and viral hepatitis often requires support beyond primary care level. National and referral hospitals (RHs) should be upgraded to provide confirmation of positive screening tests and advanced diagnostic and treatment support. NH blood bank should be strengthened to ensure blood safety.

Few baseline data exist on confirmatory testing and case management for PLHIV or detected with STI or viral hepatitis. Table 9 summarizes aims and targets for expanding the services, including gonorrhoea culture/AMR, progressively from national to RH levels.

Disease-specific considerations

The components of the integrated service package to be strengthened are summarized below by disease area with available 2019 baseline data and 2026 NSP targets.

Human immunodeficiency virus (HIV)

The intervention approach for HIV is informed by global guidance and lessons learnt from implementing previous HIV strategic plans. It starts with a strong prevention response focusing on KPs, where transmission is most likely, as well as youth and migrant populations, while ensuring high levels of awareness and promotion of health services among the GP. The prevention response is fully integrated for HIV, STI and hepatitis. Linkage to high-quality ART services with high retention rates will be sustained (Table 10).

Table 10 HIV service strengthening

Health service	Baseline	NSP Target
HIV testing services: Both voluntary counselling and testing (VCT) and provider-initiated testing and counselling (PITC) will be available at all health care facilities. HIV testing at all health care facilities providing ANC/MCH services	Facilities: HIV test is available in CHC 72, DIC KP: 5, RH 5, NH 1 and NH lab 1, blood bank 1	• By 2026, reach > 95% ANC HIV screening; all facilities mentioned in baseline is continuing and four more KP clinics added and priority Health Posts (e.g., in border districts) initiated HCT. Target for Health Posts to be set
HIV confirmatory testing, VL testing and other related diagnostics will be provided at referral hospitals and the national hospital, with communication, logistics and referral systems optimized to support case management across different levels of the health system	Baseline: 100% of all positive HIV-screening tests were confirmed Baseline: 42% of all eligible patients on ART have VL testing at least once a year	• By 2026, 100% of positive HIV screening tests are checked by confirmatory testing • By 2026, 100% of all eligible patients on ART have VL testing at least once or twice per year

ART and related services – linkage to care, retention, etc.	Baseline: 89.5% PLHIV know their status, 56.7% on ART and 32% had suppressed VL test	• By 2026, cascade targets 95-95-95
PEP and PrEP	Baseline: Not yet available	• PrEP added as part of comprehensive service package for KP; PEP available in HCF for post exposure and post rape to the survivor as per GBV guideline

Sexually transmitted infections (STIs)

Current status: There are few reliable data on the incidence and prevalence of STIs in Timor-Leste. Limited screening programmes for KP, as well as for several important curable STIs apart from syphilis, are areas that should be strengthened.

Proposed interventions: The intervention approach for STIs is informed by global guidance and STI elimination targets,[6] and builds on previous experience in Timor-Leste. The prevention response is fully integrated for HIV, STI and hepatitis, focusing on KP where transmission is most likely, while ensuring high levels of awareness and promotion of services among the GP. Case management and screening will be strengthened by strengthening laboratory capacity to detect *N. gonorrhoeae* (NG) by culture permitting AMR monitoring. The health services, which will be strengthened to improve STI prevention and control, is given in Table 11.

Table 11 STI service strengthening

Health service	Baseline	NSP Target
Syphilis screening: at all health care facilities providing ANC/MCH services	Syphilis screening during ANC in 72 CHCs; 32.3% of registered ANC cases screened for syphilis	• By 2026, reach high level of ANC screening > 95%
STI screening for KP: Syphilis and gonorrhea at facilities providing 6-monthly at RMCs (together with HIV testing and hepatitis screening)	Syphilis screening 2844/13367 (21%); no RMC, no GC culture	• By 2026, > 95% of KP screened for syphilis each year • By 2026, > 95% of KP screened for gonorrhea each year
Syphilis confirmatory tests and titres: at RHs and NH laboratory, with communication, logistics and referral systems optimized to support case management provided at different levels of the health system	Baseline: Assumed 0%	• By 2026, 100% of reactive syphilis screening tests (from RMC) confirmed with titres

[6] 90% reduction of syphilis and gonorrhoea incidence by 2030.

STI case management	Baseline: Estimate of effective STI case management?(assumed 0%)	• By 2026, 100% of all STI are treated; syndromic cases symptoms resolved and etiologic cases cured

Hepatitis B virus (HBV)

Current status: The majority of public sector health facilities offer serological testing (HBsAg) for HBV, but treatment remains challenging. Hepatitis B immunization is included in the routine infant immunization schedule, a birth dose of hepatitis B vaccine is offered, and coverage of 3-dose hepatitis B vaccine remains at 98% or higher with almost 99% coverage of hepatitis B vaccine for newborns (MoH, 2018). All donated blood units (100% voluntary blood donors) are screened for hepatitis B and C as well as for HIV and syphilis. The health system identifies injection safety as a priority and provides RUP syringes for prevention.

Proposed interventions: The intervention approach for HBV is informed by global guidance and recently developed national guideline. The prevention response is fully integrated for HIV, STI and hepatitis, focusing on KP where transmission potential is highest, while ensuring high levels of awareness and promotion of health services among the GP (Table 12).

Table 12 HBV service strengthening

Health service	Baseline	NSP Target
HBV screening capacity: rapid testing for hepatitis B in all health facilities that provide HIV testing	Baseline: In 2021 CHC 72, DIC KP: 5, RH 5, NH and NH lab 1, blood bank 1	• By 2026, all existing HCFs continued and priority health posts (in border municipalities) during baseline initiated HBV testing
HBV screening pregnant women: at all HCFs providing ANC/MCH services	Baseline (2021): 52% of registered ANC attendees	• By 2026, 100% of pregnant women are screened for HBV each year
Timely HBV birth dose: at all sites assisting childbirth	Baseline (2021): 84% of newborns received HBV vaccine birth dose	• By 2026, 100% of newborns receive timely HBV birth dose
Immunoglobulin for newborns of HBV positive mothers (at birth): at all sites assisting childbirth	Baseline (2021): assumed 0%	• By 2026, 100% of newborns born to HBV positive mothers receive Ig at birth
HBV screening for KP: 6-monthly with HIV/STI at DIC during RMC	Baseline (2019): 1633/13367 = 12%	• By 2026, >95% KP screened for HBV; 100% of negatives received 3 doses HBV vaccine

HBV confirmatory testing, HBV VL testing, anti-HBs-antibody, HBeAg, anti-HBe: at 5 RHs	Baseline (2021): assumed 0% of all positive HBV screening tests were confirmed	• By 2026, 100% of positive HBV screening tests are checked by confirmatory testing
HBV treatment	Baseline (2021): estimate of HBV treatment (1 facility, i.e., NH providing, assumed no patients treated for HBV)	• By 2026, 6 HCF (5 RH and 1 NH) providing HBV treatment

Hepatitis C virus (HCV)

Current status: Hepatitis C screening by anti-HCV antibody test is available only in NH and blood bank in Dili. It is not routinely offered to ANC attendees. No information received on the confirmatory HCV RNA testing and treatment for hepatitis C. All donated blood units (100% voluntary blood donors) are screened for hepatitis B and C, HIV and syphilis.

Proposed interventions: The intervention approach for HCV is informed by global guidance and recently developed national guideline. The prevention response is fully integrated for HIV, STI and hepatitis, focusing on KP, where transmission is most likely, while ensuring high levels of awareness and promotion of health services among the GP (Table 13).

Table 13 HCV service strengthening

Health service	Baseline	NSP Target
HCV screening capacity: rapid testing in all health facilities where HIV testing is available	Baseline: In (2021) "0" CHC with HCV screening capacity	• By 2026, all RH and NH have HCV screening capacity
HCV screening pregnant women: at all HCFs providing ANC/MCH services	Baseline: In (2021), x% of pregnant women screened for HCV - data not available – assumed 0%	• By 2026, 100% of pregnant women are screened for HCV each year
HCV screening for KP: 6-monthly as with HIV/STI at RMC?	Baseline: Unknown (assumed 0%)	• By 2026, >95% KP are screened for HCV each year
HCV confirmatory testing, HCV VL testing, HBc IgG, HBc IgM at 5 RHs	Baseline: In (2021), Of all positive HCV screening tests were confirmed – assumed 0%	• By 2026, 100% of positive HCV screening tests are checked by confirmatory testing
HCV treatment	Baseline: In (2021), (No. of facilities providing HCV treatment, No. of patients treated) – assumed 0%	• By 2026, at least all RH and NH providing HCV treatment

Monitoring progress (Reliable data to guide the response)

Progress will be monitored using routine programme data from different levels integrated into the DHIS2. Data from health facilities and community-based programmes will be regularly reviewed and used to improve programming. CHC and hospitals will conduct case-based reporting as well as report any screening and immunization services provided.

Together, these routine programme data will provide information needed to guide progress towards NSP targets. For example, using routine data from different sources, cascade analysis of ANC data (ANC attendance, screening, treatment and newborn management) will guide progress towards triple EMTCT.

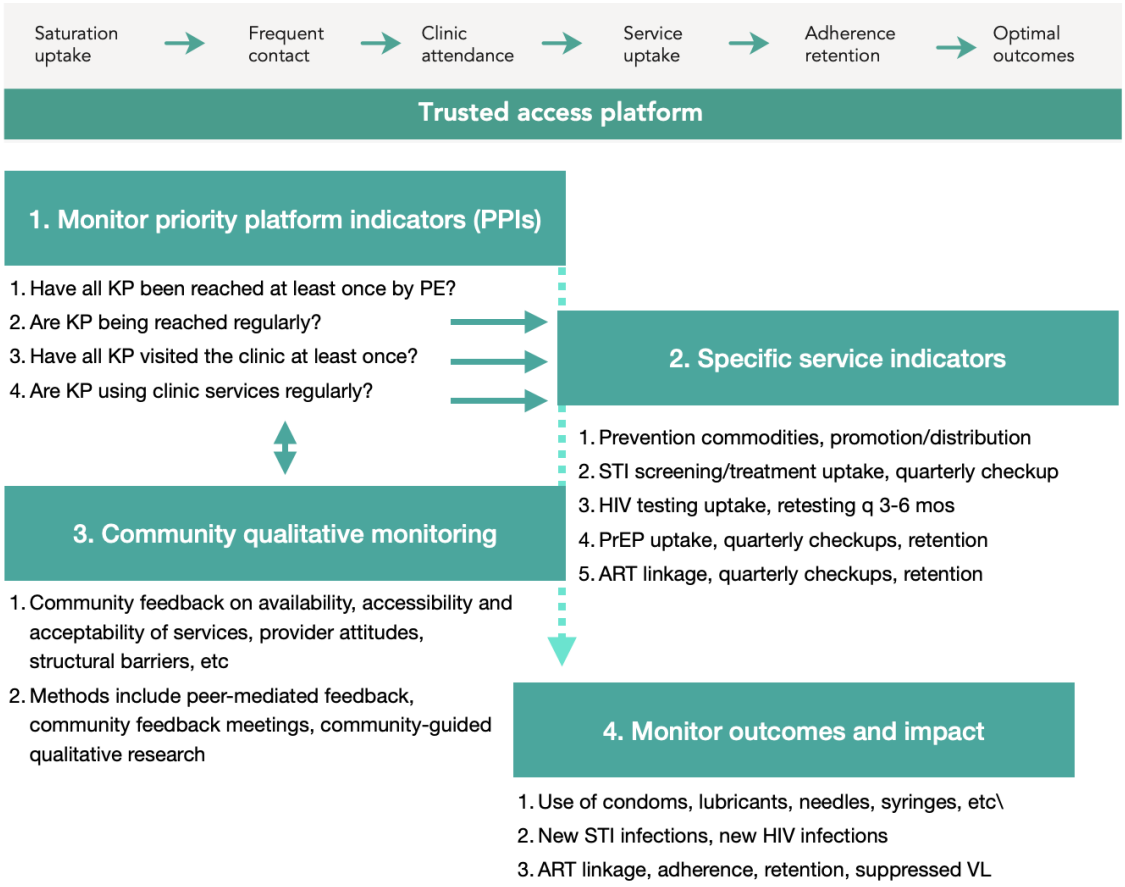
Similarly, for KP, universal reporting from community outreach and routine clinic visits (outreach contacts, clinic visits, condom distribution and RMC screening data) forms the basis for HIV/STI/hepatitis strategic information (to include reporting on HIV, syphilis and GC screening every 6 months, screening for HBV, and vaccination for negatives). This will be expanded and improved by building capacity of clinical and community outreach staff.

Regular review of such routine data is essential for programme improvement. Progress is reviewed at least monthly by programme staff who can then identify problems and take action to resolve them. Monthly dashboard review of PPIs, for example, is an essential part of implementing microplanning with KP (Fig 2). Similar reviews should be conducted by ANC staff in monitoring progress towards EMTCT targets. Together with case-based reporting, a complete picture across disease areas emerges – from populations at risk in communities to management of identified cases at health care facilities.

Expected outcomes include reliable data on HIV/STI/hepatitis across the country, with additional aetiologic and AMR data from higher-level hospitals. To achieve this, the M&E system will be upgraded to incorporate PPI, RMC and ANC data, with methods and tools in place to ensure a reliable flow information into DHIS, and output of maximum usefulness to the programme (Refer to Annex 4.1– 4.3).

All trainings of staff will include sessions on reporting requirements, and expected outcomes for reporting will step up by stage as services are improved. Routine reporting of HIV, STI and hepatitis case management and screening data will be strengthened with capacity-building and supervision to ensure complete and timely data. With most sites reporting, data from different sources – ANC screening, KP screening, and case management – will be triangulated to show progress across population groups and changes in transmission dynamics.

Figure 2 Roadmap/ priority areas of focus/surveillance and monitoring



Health and community systems strengthening

The NSP includes attention to operational steps for effective and efficient implementation. This starts with the direction and support provided by the national programme to scaling up and strengthening interventions and services A national technical support unit (TSU) will be responsible for setting standards, building capacity, and conducting regular supervision and monitoring to ensure progress of both community-based interventions and clinical services. This support will cover clinical service provision, outreach to KP, laboratory strengthening and routine reporting. Details of the TSU is described under the section on capacity-building. Figures 3 and 4 take into consideration the programme management and technical support and budget considerations for strengthening the programme.

Figure 3 Programme management and support at national level

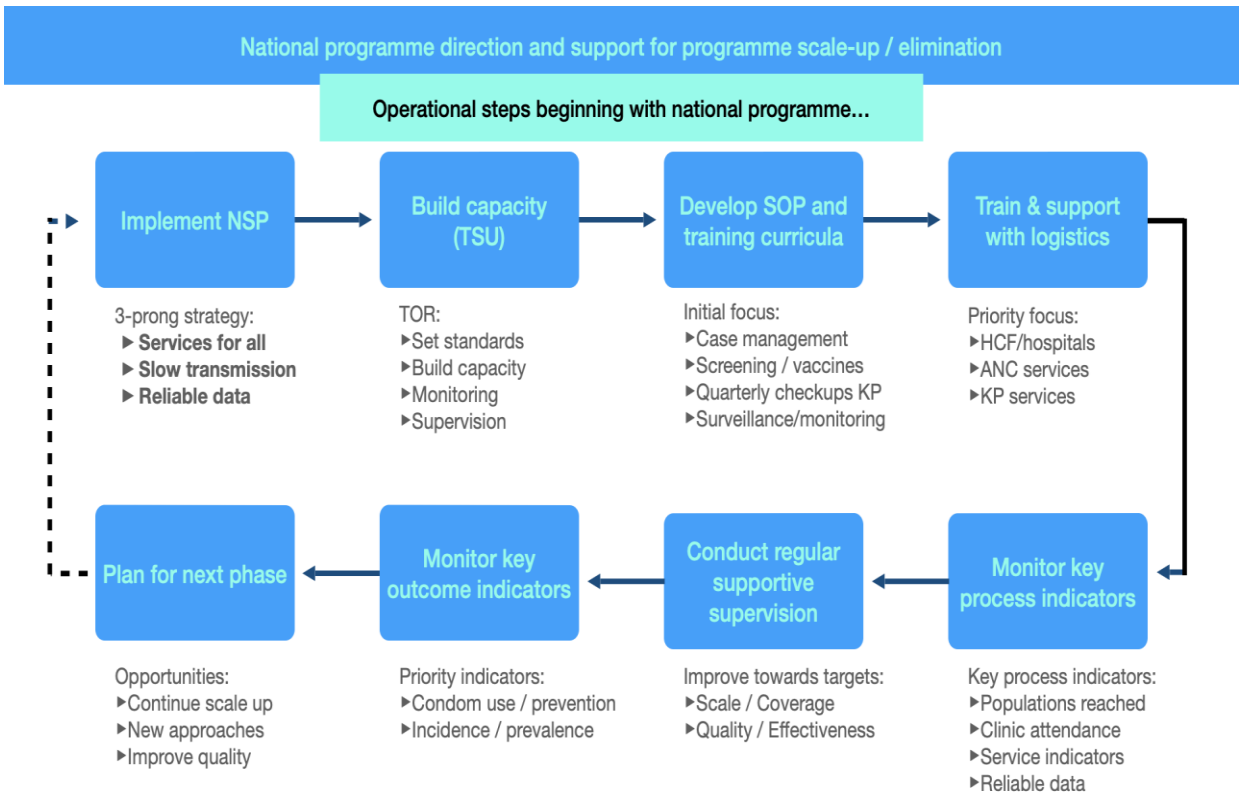
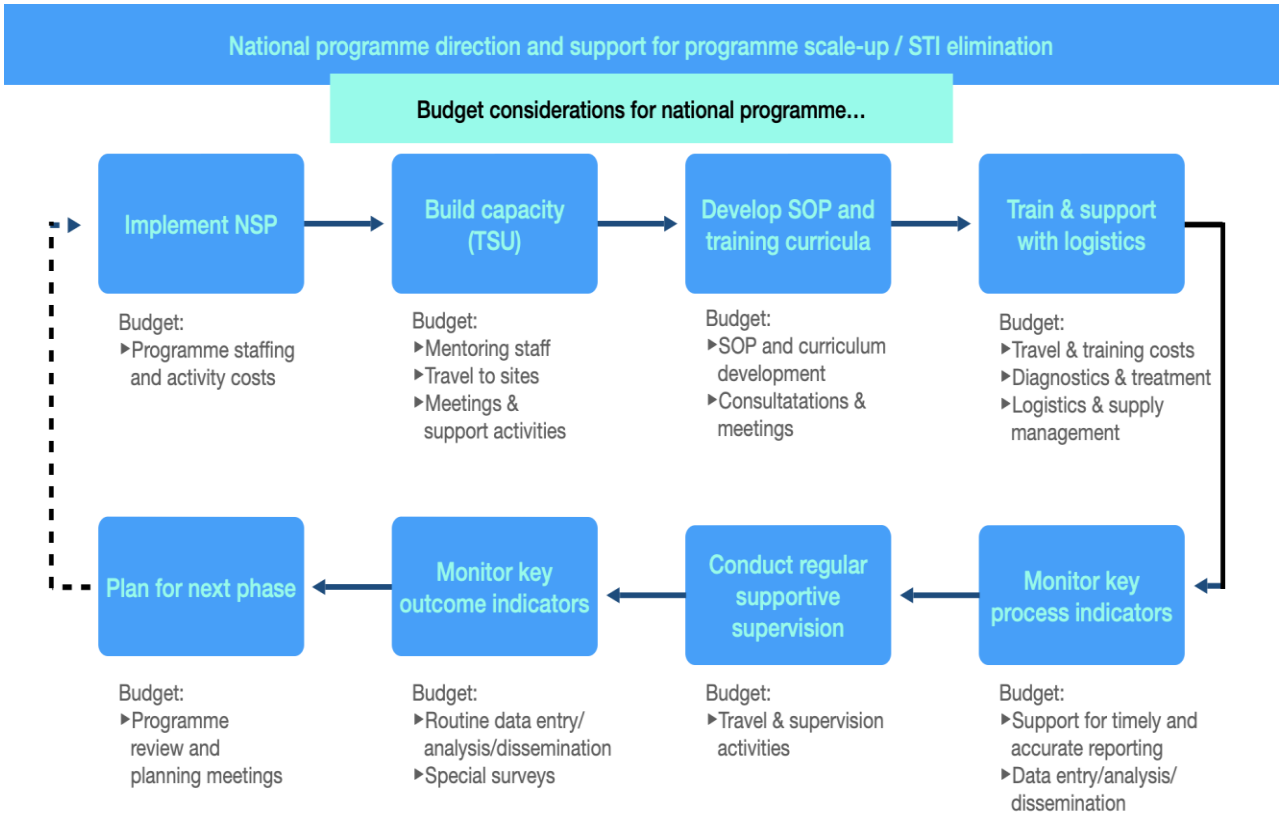


Figure 4 Budget considerations



Operations research for consideration

Operations research (OR) helps in identifying and yielding solutions to the problems that the programme is confronted with. OR provides the information that will enable implementors, managers, administrators and policy makers to prioritize the problems and learn how to address them; thus improving the quality of services and scale-up.

There is no single set of methods (qualitative or quantitative or mixed) and approaches to conduct OR. Defining the problem is the first most critical step and the methods and approaches for conducting the OR can be developed based on the problem statement. Often OR can diagnose a problem, test new solutions to address a problem, or evaluate the interventions, and determine if the intervention is cost effective. Ideally, OR builds on, and helps clarify issues arising from, routine programme monitoring. Gaps and weaknesses are identified by closely monitoring programme data, while OR can help in finding solutions to the identified problems.

Given the context of the country and programme, NAC can identify and prioritize the areas of OR. Some of the priority areas of OR can be on:

- Addressing KP programme coverage: Diagnosing the problem for low coverage and develop/design a proof-of-concept, e. g., implementing microplanning, mobilizing community, improving ART adherence, determining ART resistance (if any)
- Designing interventions for EMTCT for HIV, hepatitis and STIs, how to improve HBV vaccination, how to mobilize for RMC, designing and delivering HBV for newborn and other special populations (KP, HCP, etc.)
- Addressing gaps in information (data) or capacity, OR can focus on determining STI (GC and CT) prevalence, AMR, etc.

These are only a few examples.

Depending on the research problem/question, the OR will not only identify the problem, but will lead to possible solutions. Therefore, data/information obtained from OR need to be analysed and interpreted along with the programme data. For example, to understand the issues on low programme coverage and ways to improve, one has to examine the data from OR as well as the microplanning data from the outreach. Depending on the problem, the solutions also vary widely from capacity-building, adequate manpower (adequate PE: KP ratio) to programme implementation issues (e.g., HBV vaccination for newborn, microplanning), resource availability, etc.

Capacity-building

The Integrated National Strategic Action Plan (2022–2026) for Timor-Leste brings out a different paradigm in programme delivery, keeping in mind the eliminations agenda by 2030. This will require a shift from the existing mode of routine capacity-building (CB). It is important to note the CB plan must include all the KP and non-KP staff to make it realistic and applicable.

Global experience shows many countries that have re-defined their approach and targets, set-up a TSU that provides training and supportive supervision based on the routine monitoring parameters.

CB will be required for KP and non-KP staff that include doctors, nurses, counsellors, peer educators, outreach supervisors, KP programme managers, etc. It is expected that the KP team, in turn, will build the capacity of their community, leading to community empowerment and organizational development.

A centralized capacity-building unit or TSU can be based at the national programme level with a lead for TSU. The lead, could be supported by three disease-specific support. Each disease will have its CB team. The team will be responsible for their approach to CB and monitoring. CB will include classroom training and thorough on-the-job training as well as field exposures and discussion.

Ethics of working with special population (marginalized groups like KP, PLHIV, etc.) will be core to all curriculum. The CB plan needs to be tailor made, e. g. the clinic staff at DIC clinic or KP clinic need to be aware of KP specific issues like RMC, whereas those at CHC will need to have capacities build on issues pertaining to GP. Whatever be the CB programme, it needs to build sensitivity among service providers so that there is zero discrimination and zero stigma.

CB for KP programme will be designed separately. This is mainly because the approach to the KP programme is different. This community CB will eventually lead to improving the programme coverage and strengthening the community systems, community-led monitoring, etc. The TSU team will provide on-going support though supportive supervision and hand-holding support to the programme staff on various topics including microplanning, PPI, monitoring formats, etc. In addition to these, community CB is often fast-tracked when an approach of “community to community capacity-building” approaches are used. Given the changing paradigm in the programmatic approach, especially in the KP programme, the existing draft operational guidelines (OG) need to be updated and finalized. The entire KP team needs to be trained on the revised OG. Capacity-building is never a one-time activity, but an activity that takes into account changes and therefore, addresses all emerging needs among all human resource.

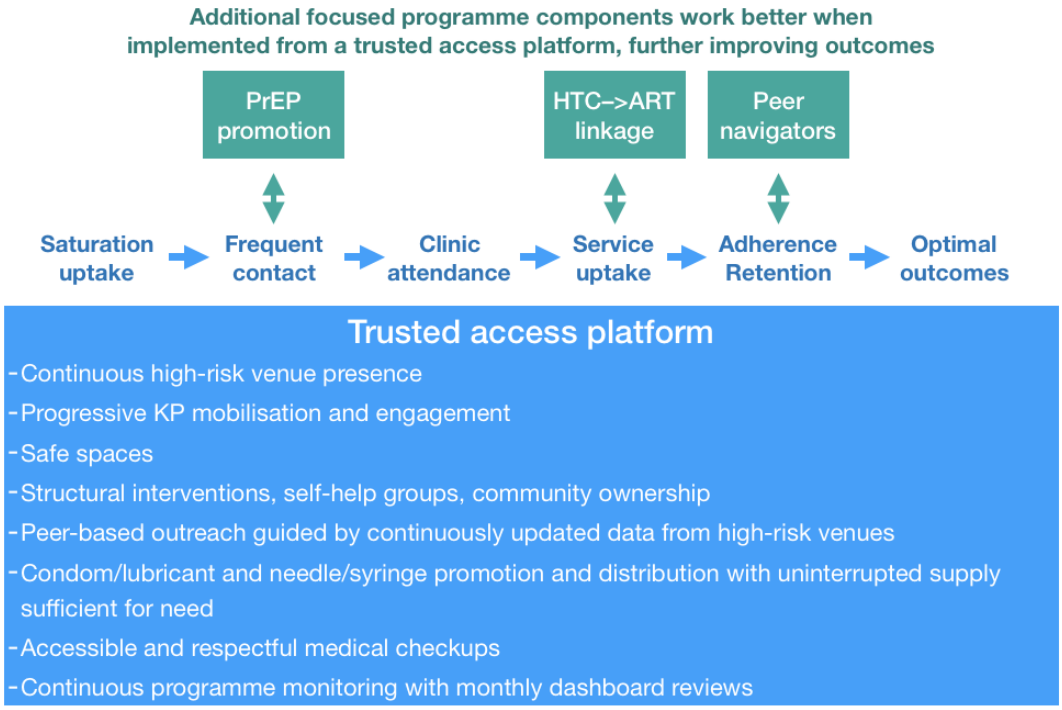
Annexures

Annex 1. Trusted access platform for key populations

A 'trusted access platform' (TAP) is a foundation on which effective KP programmes are built to provide a range of services. TAP also describes a way of working with KP to establish trust and improve access to services, involving close collaboration on programme design, implementation, monitoring, and addressing critical enablers. It may be implemented by CBOs or NGOs with support from government, but derive their effectiveness mainly from active KP engagement and participation.

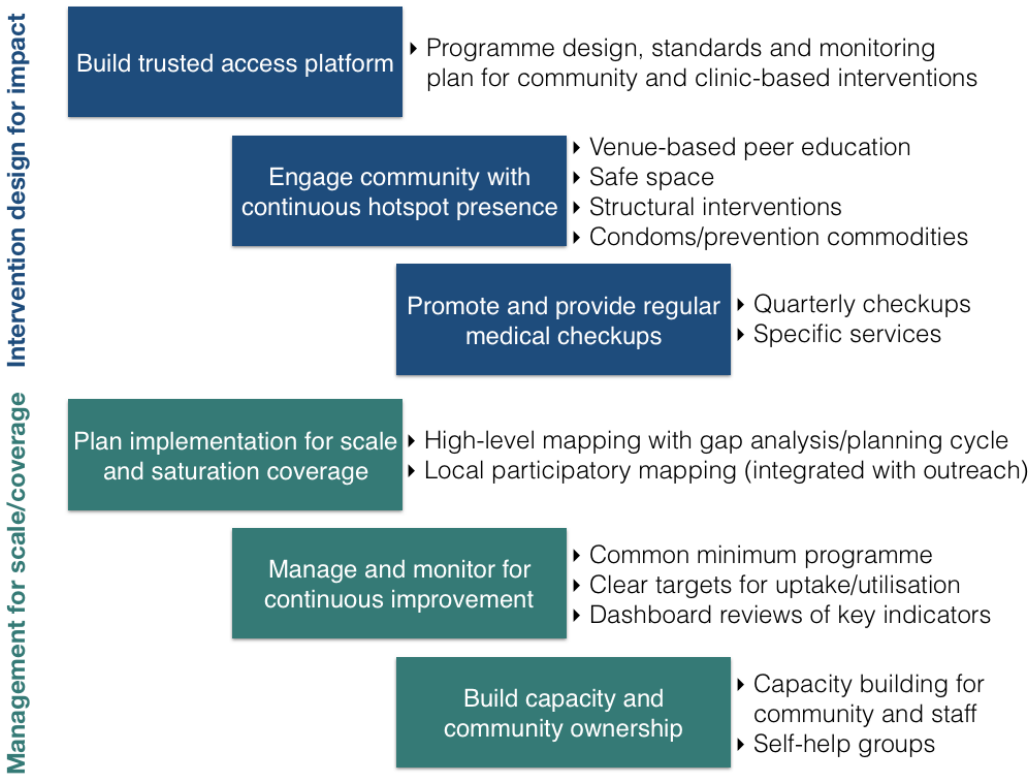
As a platform, coordinated community and clinic-based efforts combine to build trust, reach KP in high numbers, and encourage their uptake, retention and active participation in programmes. A TAP thus has several advantages over narrowly-designed programmes. When the services are offered on top of a TAP that maintains a continuous presence in communities and promotes regular medical checkups (highlighted in blue in Fig. 1), high 'saturation' levels of uptake and retention are feasible. The resulting increased efficiency and tighter confidentiality further build community trust and participation in programmes, and foster community cohesion.

Figure 1. Trusted access platform as foundation for multiple interventions/services



Specific services (highlighted in green in Fig. 1) are more easily and effectively offered and promoted from a TAP. Moreover, routine programme data from well-designed community-based platforms are reliable, and easy to interpret, as they come from defined locations with targets based on local population size estimates. Continuous monitoring of process and outcome data shows progress towards targets, and permits timely problem identification and solutions.

Figure 2. Trusted access platform as foundation for multiple interventions/services



With a TAP, KP programmes conduct peer interventions with continuous presence at high-risk venues, with structural interventions, condom/lubricant (and needle/syringe, if required in future) promotion and distribution based on need, and regular medical checkups (highlighted in blue in Fig. 2). Management support (highlighted in green in Fig. 2A) builds on regular programme mapping and population size estimates at high-risk venues, continuous monitoring of programme data, regular dashboard reviews of PPIs and CB for community and staff.

Importantly, such intervention platforms work best when there is strong community mobilization and engagement, which is integral to the implementation process. Experience from several communities that have organized themselves successfully to confront HIV/STI epidemics, demonstrate the feasibility of community empowerment, its importance in building TAPs, and important synergies that arise from active community participation.

Annex 2. KP programme outreach and DIC clinic activities

Activities at DIC clinic	Frequency	Remarks
Outreach	Meeting all at least once a month	
Condom distribution – 90% of the demand	TBD (once in 15 days)	
Clinic visit for STI screening using speculum and proctoscopy	Once a quarter	
Syphilis screening	Once in 6 months	
HIV testing	Once in 6 months	Those not on PrEP; else once in 3 months
GC screening	Once in 6 months	TBD
HBV and HCV screening and HBV vaccination	Once followed by HBV vaccine (3 doses) as per schedule	
Daily oral PrEP	Once a quarter	Only for those on PrEP
Referral for other issues including pregnancy		This could be of any health service required by the KP, which the KP clinic will not be providing (e.g., pregnancy, family planning, etc.)

Annex 3. KP programme baseline (using existing programme data) and overall targets

Who	What	When	Priority programme indicators						
Population	**PSE (in 5 municipalities)**		**Outreach uptake: No. of KP reached through peer-based outreach (cumulative)**	**Frequency: No. of KP reached through peer-based outreach at least once a month**	**Basic service package monthly (includes condom, outreach)**	**Clinic uptake (RMC): No. of KP visited clinic at least once**	**Clinic frequency: No. of KP visited quarterly for RMC**	**HTC cumulative**	**HTC 6 monthly**
FSW	5365 (4668)	Baseline	Available (21%)	Calculated using uptake data (<10%)	Available (<10%)	No RMC; no data	No RMC; no data available	Available	
		Target	95%	85–90% (calculated based on # receive BSP)	85--90% (use OR frequency)	95%	80–90%	95%	95%
MSM & MSW	8411 (6823)	Baseline	Available (15%)	Calculated using uptake data (<10%)	<10%	No RMC; no data available		Available	
		Target	95%	85–90%	Use OR frequency PPI	95%	80–90%	95%	95%
TG	2070 (1874)	Baseline	Available (7%)	Calculated using uptake data (<10%)	<10%	No RMC; no data available		Available	
		Target	95%	85–90%	Use OR frequency PPI	95%	80–90%	95%	95%

Annex 4. Setting the targets

PSE in Dili and four other municipalities, where the programme is being implemented, are considered to set the targets. As > 70% of all the KPs are from Dili (specially MSW and TG), the idea is to saturate Dili in first two years, then saturate the other four municipalities by year 3, and, if possible, increase to two other new municipalities in year 4. Thus, the following steps are critical to consider:

- Important for the field operation to consider saturating the larger hotspots in Dili by year 1
- Microplanning should start with larger hotspots to maximize reach (cumulative) and frequency of the coverage (in defined time)
- **Strategic approach for saturating FSW population**
    - Total No. of FSW in Dili = 3503, and No. in 5 municipalities = 4668; i.e., 75% of total FSW are in Dili
    - Hotspots having >10 FSW constitute 80% of the total hotspots
    - These 80% hotspots cover 94% of the FSW in Dili.
- Recommendation: Y1 FSW programme should target larger hotspots (> 10 FSW), which will make it easy to reach >75% SE
- Strategic approach for saturating MSM and MSW population
    - Total No. of MSM and MSW combined in Dili = 5648; in 5 municipalities = 6823; i.e., 83% of total MSM and MSW in Dili
    - 82% of the MSM hotspots have >15 MSM
    - 90% of the MSW congregates in hotspots predominantly in three sub-municipality of Dili, Cristo Rei, Dom Alexio, and Vera Cruz
- Recommendation: Year 1 programme should target hotspots that have > 15 MSM and for MSW, 3 sub-municipalities to be saturated
- Strategic approach for saturating TG population
    - Total TG population in Dili = 1650; in 5 municipalities = 1876
    - > 85% TG are in Dili
    - Most of the TG hotspots have < 20

    Recommendation: The programme should target all hotspots in Dili in the first year.

Annex 4.1 KP (FSW) target – Incremental increase in coverage (Outreach, Condoms, RMC)

	Y1	Y2 n (% SE)	Y3 (% SE)	Y4 (% SE)	Y5 (% SE)	Remarks
Microplanning implemented and supported	75% hotspots in Dili (≥ 11 FSW)	80% hotpots (in Dili)	80–90% (100% Dili & 4 other sites)	≥ 90% (add new sites Liquica, Ermera added)	>90%)	Liquica SE = 755 Ermera SE = 470 (highest No. of KP after 5 covered municipalities)
% FSW contact at least once by PE	2800 (60% of SE in 5 sites & 80% SE Dili)	3260 (70%)	80%	90%	95%	Cumulative No. of FSW met once a month
% FSW in monthly contact with PE (repeat contact)	2200–2334 (approx. 50%)	60%	70%	80%	90%	To consider only those who are met at least once a month
% FSW visited the clinic at least once in a quarter for RMC (including all screening)	60%	70%	80%	90%	95%	
% FSW undergoing RMC quarterly	50%	60%	70%	80%	90%	
% FSW undergoing screening test for STI, HIV and Hep Bas per required frequency	60%	70%	80%	90%	95%	
% FSW receiving condom	2400 (50%)	60%	70%	80%	85%	Same as earlier outreach frequency
No. of DIC providing RMC (as defined and referral as required)	1 DIC	2–3 DIC in Dili	7 (Dili + 3–4 other current municipalities	9–10 (adding new municipalities	9–10	To decide: 1. If DIC clinic will be common for all KP or to be separated by KP type 2. Mode of service delivery in other

						sites to be de-fined (could be fixed day, fixed time or outreach or fixed clinic)

Annex 4.2 MSM and MSW target – Incremental increase in coverage (Outreach, condoms, RMC)

	Y1 n (% SE)	Y2 n (% SE)	Y3 (% SE)	Y4 (% SE)	Y5 (% SE)	Remarks
Microplanning implemented and supported	70% hotspots in Dili (> 15 MSM, MSW)	80% hotpots (in Dili)	80–90% (other 4 sites)	> 90% (new sites Liquica, Ermera added)	>90%	PSE in Liquica SE = 755 Ermera SE = 470
% MSM/MSW contacted at least once by PE	4700 (approx. 70% of SE in 5 sites; >80% SE in Dili)	5500 (80%)	85%	90%	>90%	MSM and MSW are separate groups
% MSM/MSW in monthly contact with PE (repeat contact	4500 (approx. 65%)	75%	80%	90%	>90%	To consider only those who are met at least once a month
% of MSM/MSW visited the clinic at least once for RMC	60%	70%	80%	90%	95%	
% MSM/MSW undergoing RMC quarterly	50%	60%	70%	80%	90%	
% undergoing screening test as per required frequency	60%	70%	80%	90%	95%	
% KP receiving condom	2400 (50%)	60%	70%	80%	85%	Same as earlier outreach frequency
No. of DIC providing RMC (as defined and referral as required)	1 common	2--3 (overall in Dili)	7 (overall including Dili + 3--4 other current municipalities	9--10 (adding new municipalities	9--10	To decide: 1. If DIC clinic will be common for all KP or to be separated by KP type 2. Mode of service delivery in other sites to be defined (could be fixed day, fixed time or outreach or fixed clinic)

Annex 4.3 TG target – Incremental increase in coverage (Outreach, condoms, RMC)

	Y1 n (% SE)	Y2 n (% SE)	Y3 (% SE)	Y4 (% SE)	Y5 (% SE)	Remarks
Microplanning implemented and supported	80% hotspots in Dili (< 20)	90% hotpots (in Dili)	95% (other sites)	> 95% (5+2 new sites Liquica, Ermera added)	>95% (7 sites)	PSE in Liquica = 755 Ermera = 470
% KP contacted at least once by PE	1350 (>70% of SE in 5 sites and 80% SE in Dili)	1500 (90%in Dili >75% overall)	85%	90%	>90%	MSM and MSW are separate groups
% KP in monthly contact with PE (repeat contact)	1200 (approx. 65% of SE overall and >70% in Dili)	80% in Dili	85%	90%	>90%	To consider only those who are met at least once a month
% TG visited the clinic at least once for RMC	60%	70%	80%	90%	95%	
% TG undergoing RMC quarterly	50%	60%	70%	80%	90%	
% Undergoing screening test as per required frequency	60%	70%	80%	90%	95%	
% KP receiving condom	1200 (50%)	80%	85%	90%	>90%	Same as repeat contact or frequency

No. of DIC providing RMC (as defined and referral as required)	1 common	2–3 (overall in Dili)	7 (Overall including Dili + 3-4 other current municipalities	9–10 (adding new municipalities	9–10	To decide: 1. If DIC clinic will be common for all KP or to be separated by KP type 2. Mode of service delivery in other sites to be defined (could be fixed day, fixed time or outreach or fixed clinic)

Annex 5. Scope of drop-in-centre and considerations for budget

Drop-in-centres (DIC) also known as “safe space or resting place” are essentially community spaces where community members can meet, relax, interact among them, discuss their priorities, and conduct activities of their needs. DICs are a platform for mobilizing community, where community members develop a strong sense of “social bonding.”

Community staff from the project can also have discussions about project or any other activities. However, this should not be mistaken with the “project office.” Most importantly, it is a place that offers safety and security to the community so that a cohesive community is built and their collective voices are heard.

Community takes the lead in the process of setting up, managing and monitoring the DIC. They discuss and decide on the location, timing of operation, rules and regulations, what amenities to be provided, etc. This is a place where communities frequent on their own volition, without any compulsion. This place should be attractive for the communities to come and spend time.

In many places, community prefers to have basic clinical services and counselling within the DIC premise. The clinic and counselling can be either separated with a partition or can operate from different floors in the same building. Most importantly, local community decides on what services to be provided, how DIC will operate and when.

Following are some of the amenities that can be provided:

- A place (with mattresses, pillows, fans and lights) to rest and relax with peers
- Washroom facility (> than 1 depending on the number) with running water, soap, etc.
- A television
- Computer with internet access
- A meeting space/room (if required) with basic furniture
- A clinic providing basic services (including basic testing) with clinic furniture
- A counselling room that offers privacy.

DIC need to have minimal non-community staff. It is usually managed by the ‘community staff.’ Key personnel who run the DIC are:

- DIC coordinator/s (community representatives)
- Cleaners for DIC and clinic (can be also members from the community)
- DIC clinic nurse (full-time)

- DIC doctor (part-time)
- DIC and clinic management committee.

Budget can consist of the following:

- Venue rent, refurbishments, furnishings, amenities, furniture for clinic and counselling room, other utilities, electricity, internet, communication costs, snacks
- Staffing for DIC and clinic including counselling and testing as mentioned above
- Equipment as required by the clinic for providing basic services including RMC, etc.
- Supplies that are not provided by the government, e.g., condoms, lubricants, STI or other medicines (basic medicine), cleaning material
- Waste disposal
- Cost for other amenities, if community prefers (indoor games, mattresses, cushions for relaxation, etc.)
- Activity cost depending on the community requirements, e.g., meeting costs, cultural activities, any small group activity, e.g. aerobics, dance, music, etc.

The list of items provided above is developed based on experiences of DICs established in various countries among different groups. The idea is to have a "space" for the community that will be their "own." However, before finalizing it is better to provide the local community "exposure" (virtual interactions) to different community groups who run DIC to understand its purpose. This will also enable them decide on: a) what amenities to have in the DIC; b) what activities they can conduct in the DIC; and c) how they would manage and monitor these.

Annex 6. National HIV/AIDS and STI programme monitoring and evaluation plan

National HIV/AIDS and STI Programme

Monitoring and Evaluation Plan

Addendum to National Strategic Plan for HIV/AIDS and STIs

2022–2026

Ministry of Health, Timor-Leste

Background

This programme monitoring and evaluation (M&E) plan has been prepared through a national consultative process for the National HIV/AIDS Programme of Timor-Leste as part of the implementation of the National Strategic Plan for HIV/AIDS and STIs 2022–2026. It was modified to include the indicators from the Performance Framework of The Global Fund grant 2021–2023.

The M&E plan intends to measure programmatic results at impact, outcome, output, process and input levels through a list of agreed national indicators to provide the basis for accountability and informed decision-making at both programme and policy levels. For a comprehensive understanding of the context, this M&E plan provides an analysis of the HIV/AIDS situation of Timor-Leste and background of national HIV/AIDS programme, its goal, objectives and service delivery areas. The plan then describes how the M&E system should be run with the following details:

a. List of nationally agreed indicators, their definitions and measurement methods
b. Process of routine data collection, validations, analysis and reporting
c. Surveillance, special studies
d. Evaluation and reviews
e. Data quality assurance mechanisms and related supportive supervision
f. It also includes a plan for M&E coordination, and an M&E capacity-building work plan describing the planned M&E activities for each year including the strengthening measures to improve the M&E system identified through the M&E system or data quality assessments.

Monitoring involves the collection and aggregation of information across sites and in certain time. It serves to inform programme managers and other stakeholders if activities are implemented as planned, and questions if and where existing efforts need to be modified. Process monitoring is derived from programme-based data on inputs, processes, outputs, outcome and impact.

Evaluation involves the assessment of the worth or contribution of a programme through a detailed analysis of programme progress, output, outcomes or impacts. Outcome and impact evaluation in Timor-Leste, as in other developing countries, will go beyond the surveillance indicators, such as the prevalence and incidence of HIV and STIs, and associated risk behaviours, and focus on the achievements towards the goal, system efficiency, quality of service and client satisfaction.

HIV/AIDS Epidemic: Timor-Leste is one of the newly independent countries that gained its independence in 1999. It has a well-developed health system with last mile reach up to the village or 'Suco'. Dili, the capital, is the largest town and the district of Dili is also the largest in terms of population. The country has 65 sub-districts, 452 Villages (Suko) and 2,233 sub-villages (aldeias). It is

divided into 12 municipalities namely, Aileu, Ainaro, Baucau, Bobonaro, Cova-Lima, Dili, Ermera, Lautém, Liquiçá, Manatuto, Manufahi, Viqueque and the special administrative region of Oecusse. Timor-Leste is one of the least developed countries. The relevant socio-demographic data are presented in Table 1. The country was identified as a risk for transmission of HIV/AIDS and STIs. The first case of HIV was detected in 2003. The current HIV statistics are presented in Table 2.

Table 1. Socio-demographic profile of Timor-Leste

Indicator	Value (Reference)
Population (2019)	1.29 million [https://data.worldbank.org/country/timor-leste?view=chart]
Life expectancy at birth (2019)	69.46 years [https://data.worldbank.org/country/timor-leste?view=chart]
Adult literacy rate (2018)	68% [https://data.worldbank.org/country/timor-leste?view=chart]
Below poverty line (2014)	41.8% [https://data.worldbank.org/country/timor-leste?view=chart]
Infant mortality rate (2019)	38.7[https://data.unicef.org/country/tls/]
Under 5 mortality (2019)	44.2 [https://data.unicef.org/country/tls/]
Maternal mortality ratio (2017)	142 [https://data.unicef.org/country/tls/]

Table 2. Current HIV statistics in Timor-Leste

Indicator/Criteria	Value (Year)
Total population	11 83 643 (2016, Census TL)
General population	
HIV prevalence among ANC (Pregnant Women)	0.3% [0.2–0.5%] (2018–19, HSS Plus)
Have heard about HIV	Male -66%, Female - 47% (DHS, 2016)
Knowledge about condom can prevent HIV	Male - 52%, Female - 29% (DHS, 2016)
Knowledge of Mother to Child Transmission of HIV	Male - 42%, Female - 29% (DHS, 2016)

Comprehensive knowledge of HIV	Male - 16%, Female - 10% (DHS, 2016)
Percentage of adult male with more than one partner in the last 12 months	3% (DHS, 2016)
Condom use percentage among adult male with more than one partner	24% (DHS, 2016)
No. of partners over a lifetime for adult male	2.5 (DHS, 2016)
Percentage of adult female with more than one partner in the last 12 months	< 1% (DHS, 2016)
No. of partners over the lifetime for adult female	1.8 (DHS, 2016)
Condom-use percentage among adult female with more than one partner	6% (DHS, 2016)
Key population	
HIV prevalence among FSWs (Female Sex Workers)	1.19% (2018–19, HSS plus)
HIV prevalence among MSMs (Men having sex with men)	1.1% (2018–19, HSS plus))
HIV prevalence among TG	2.55% (2018–19, HSS plus)
HIV prevalence among uniformed personnel	0.7% (2018–19, HSS plus)
HIV prevalence among STI clinic attendees	3.1% [1.8–4.3] (2018–19, HSS plus)
HIV prevalence among sputum positive TB cases	1.1% (2018–19, HSS plus)
Estimated MSMs	6450 (Hot spot mapping, 2020)

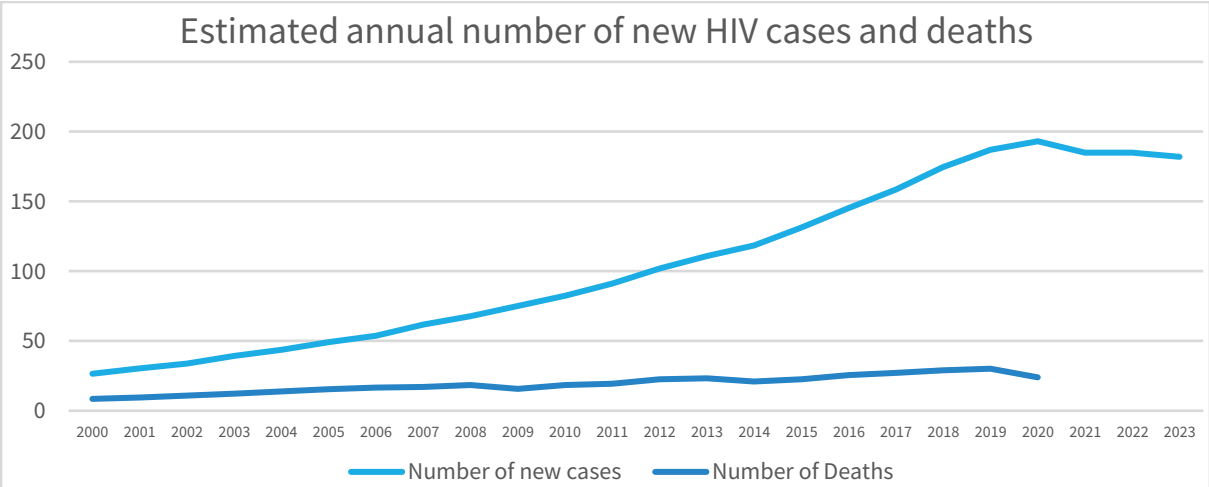
No. of partners in the last month	2.8(HSS plus, 2018–19)
Percentage of men reporting the use of a condom the last time they had anal sex with a non-regular partner	36.68% (HSS plus, 2018–19)
Estimated FSWs	5365 (Hot spot mapping, 2020)
No. of clients in a week	3 (HSS plus, 2018–19)
Condom-use in last sex with client	70% (HSS plus, 2018–19)
Estimated TGs	2070(Hotspot mapping, 2020)
Percentage of TGs reporting using a condom in their last anal sex with a non-regular male partner	42.8% (HSS plus, 2018–19)
Estimated male sex workers	2633 (Hotspot mapping, 2020)
No. of uniformed personnel	5800 (2015)
Estimated people who use drugs (PWUD)	388 [208–787] (PSE, 2015)
Estimated people who inject drugs (PWID)	53 [10–127] (PSE, 2015)
Stigma and discrimination	
People who said that would not buy fresh vegetables from a shopkeeper or vendor if they knew that person had HIV	Male-49%, Female- 68% (DHS, 2016)
People who said that children living with HIV should not be allowed to attend school with children who do not have HIV	Male-41%, Female- 61% (DHS, 2016)

Stigma index	i) being tested without consent or without knowledge that they were having an HIV test; ii)unwanted disclosure of HIV status, including unwanted disclosure by health care workers; and iii) experiencing verbal and physical abuse; iv) instances of coerced HIV testing and sterilization (tubectomy). (Stigma Index, 2017)

Hotspot mapping was done in seven municipalities. As per the hotspot mapping report of 2020, about 20% of the FSWs, 27% of the MSMs, 28% of the TGs and 24% of the MSWs visit more than one hotspot in their respective sites. HIV estimation report 2019–20 indicates gradual flattening to the declining number of new infections in the country.

The midterm review report 2018–19 highlighted the need for improving the quality of care, which is to contribute to the improvement in HIV testing including voluntary testing, treatment initiation, treatment adherence, VL testing and improving coverage of behaviour change tools, treatment cascade, weak recording and reporting systems, and lack of risk behaviour-related information on HIV testing. Hence, broadening the scope from narrow donor-focused needs to meeting the needs of the NSP and improving utilization of data including data use at the local level are required.

The HIV estimation of 2019–20 shows that the number of new infections is stabilizing and is expected to stabilize or decline over the next few years. The estimation of trends was in the same line with the number of new infections.



COVID-19: The COVID-19 related travel restrictions and use of hospitals for its support have adversely affected the service delivery for the PLHIVs. People who tested varied in the last three years; in 2018, 46 099 tests were done due to implementation improvement. These testing numbers were

further increased to 50 516 in 2019 and then dropped to 46 325 in 2020. Similarly, people who tested positively varied in the last three years. In 2018 there were 148 PLHIV identified, due to implementation improvement, which increased to 237 people in 2019 and then dropped to 202 new PLHIV in 2020. In 2018 there were only 78 new PLHIVs put on ART. Due to implementation improvement, new PLHIVs put on ART increased to 156 in 2019, and the level was stagnant at the 155 new PLHIVs who were put on ART in 2020. A total of 447 PLHIVs (34%) dropped out from ART treatment until 2020.

NSP 2022–2026

NSP 2022–2026, will focus on advancing the country's progress towards meeting the 90-90-90, by 2023 and 95-95-95 by 2026. The NSP will be focused on reducing the estimated number of new infections and deaths to double-digit and MTCT elimination. During this period, the programme will move to a single system of DHIS2 based system for all HIV-related programme monitoring and surveillance.

Indicators

(Proposed indicators, which will be deliberated during the NSP preparation and finalized).

Table 3. Indicators and targets

Indicator	Target population	Indicator	2019	2020	2023	2026	Source
Impact	All	Estimated HIV incidence per 1000 population	0.15	0.15	0.12	0.9	HIV estimation
Impact	All	Estimated % children newly infected with HIV from mother-to-child transmission among women living with HIV delivered in the past 12 months				4%	HIV estimation
Impact	All	% beneficiaries/patients satisfied with the services provided: Prevention, testing and treatment					New indicator- HSS plus*
Impact	PLHIV	% PLHIVs and on ART who are virologically suppressed		32%	70%	90%	N = programme, D= HIV estimation

Outcome	PLHIV	% PLHIVs who know their HIV status at the end of the reporting period		89%	94%	96%	N = programme, D = HIV estimation
Outcome	FSW	% FSW reporting using a condom in their last sex with client	70%		80%	90%	HSS plus
Outcome	TG	% TG reporting using a condom in their last anal sex with a non-regular male partner	42.8%		60%	80%	HSS plus
Outcome	MSM	% MSM reporting the use of a condom in their last anal sex with a non-regular partner					HSS plus
Outcome	PLHIV	% PLHIVs reporting experiences of HIV-related discrimination in healthcare settings					HSS plus
Coverage	Pregnant women	% pregnant women with known HIV status	36%		67%	95%	Routine
Coverage	Pregnant women	% HIV-positive women who received ART during pregnancy and/or labour and delivery	63%		95%	100%	Routine
Coverage	All	% people newly diagnosed with HIV initiated on ART	92% (2018)		100%	100%	Programme
Coverage	All	% people on ART among all PLHIVs at the end of the reporting period		56%	80%	90%	Programme
Coverage	All	Population coverage for HIV messaging- consistent condom use can prevent HIV (15–49)	Women-29%, Men-57% (2016)		Women - 80%, Men-80%		DHS
Coverage	MSM	% MSM reached with HIV prevention programmes - defined package of services		29%	100%	100%	Programme
Coverage	TG	% TG reached with HIV prevention programmes-defined package of services		27%	100%	100%	Programme

Coverage	FSW	% FSW reached with HIV prevention programmes- defined package of services		37%	100%	100%	Programme
Coverage	MSM	% MSM received an HIV test during the reporting period and know their results		54%	100%	100%	Programme
Coverage	TG	% TG received an HIV test during the reporting period and know their results		22%	100%	100%	Programme
Coverage	FSW	% FSW received an HIV test during the reporting period and know their results		52%	100%	100%	Programme
Coverage	MSM	% eligible MSM initiated oral antiretroviral PrEP during the reporting period		0			Programme
	TG	% eligible TG initiated oral antiretroviral PrEP during the reporting period		0			Programme

Target setting note for 2026

The 2026 targets are suggested keeping the broader programme goals of three zeros, and MTCT elimination. For example, one of the impact indicators for MTCT elimination is HIV MTCT rate <5% among breast-feeding countries. As breast-feeding is practiced among HIV positive women in Timor-Leste, an appropriate target is suggested at 4% level by 2026. Similarly, one of the key process indicators towards EMTCT is coverage of HIV and/or syphilis testing of pregnant women of ≥95%. The suggested indicator values can be modelled using the spectrum software to project the epidemic in 2026 in due course of time.

Indicator definitions:

Table 4. Indicator definition and source

Indicator	**Indicator definition** **N= Numerator, D = Denominator**	**Source of indicator definition**
Estimated HIV incidence per 1000 population	N = Estimated No. of people newly infected with HIV during the reporting period	HIV indicator guidance sheet (August

	D = Total No. of uninfected population (or person-years exposed) X 1000	2020), The Global Fund
Estimated % children newly infected with HIV from mother-to-child transmission among women living with HIV delivered in the past 12 months	N = Estimated No. of children newly infected with HIV via mother-to-child transmission among women living with HIV delivered in the past 12 months D =Total estimated No. of HIV-infected pregnant women D = Estimated No. of women living with HIV delivered in the past 12 months	HIV indicator guidance sheet (August 2020), The Global Fund
% beneficiaries/patients satisfied with the services provided: (Prevention, testing and treatment)	N = No. of beneficiaries satisfied D = No. of beneficiaries availing any HIV service as reported in HSS plus	New indicator
% PLHIVs on ART who are virologically suppressed	N = No. of PLHIVs on ART for at least 6 months and with at least one routine VL test result who have virological suppression (<1000 copies/mL) during the reporting period D = No. of PLHIVs on ART for at least 6 months with at least one routine VL result in a medical or lab record during the reporting period	HIV indicator guidance sheet (August 2020), The Global Fund
% PLHIVs who know their HIV status at the end of the reporting period	N = No. of PLHIVs who know their HIV status D = Estimated No. of PLHIVs	HIV indicator guidance sheet (August 2020), The Global Fund
FSW: Condom use in last sex with client	N = No. of FSW reported using a condom with their last paying client D = No. of sex workers who reported having commercial sex in the last 12 months	HIV indicator guidance sheet (August 2020) The Global Fund
TG: % TG reporting using a condom in their last anal sex with a non-regular male partner	N = No. of TG reported using a condom at last sexual intercourse or anal sex in the last 6 months D = No. of TG surveyed who reported having sexual intercourse or anal sex in the last 6 months	HIV indicator guidance sheet (August 2020), The Global Fund
Men: % men reporting the use of a condom in the last time they had anal sex with a non-regular partner	N = No. of MSM reported a condom was used in the last time they had anal sex with a non-regular partner in the last 6 months D = No. of MSM reported having had anal sex with a male partner in the last 6 months	HIV indicator guidance sheet (August 2020), The Global Fund

% PLHIV who reported experiences of HIV-related discrimination in health care settings	N = No. of respondents who responded in the affirmative ("Yes") to at least one of the seven items per question D = No. of survey respondents	HIV Indicator guidance sheet (August 2020), The Global Fund
% pregnant women with known HIV status	N = No. of pregnant women attending ANCs and/or giving birth at a facility who were tested for HIV during pregnancy, at labour and/or delivery, or those who already knew they were HIV-positive at the first ANC visit D = Estimated No. of pregnant women who gave birth in the past 12 months	HIV indicator guidance sheet (August 2020),The Global Fund
% HIV-positive women who received ART during pregnancy and/or labour and delivery	N = No. of HIV positive pregnant women who delivered during the reporting period and received ART during pregnancy and/or labour and delivery D = Estimated No. of HIV positive pregnant women who delivered during the reporting period	HIV indicator guidance sheet (August 2020), The Global Fund
% people newly diagnosed with HIV initiated on ART	N = No. of people newly diagnosed with HIV and started ART during the reporting period D = No. of people newly diagnosed with HIV during the reporting period	HIV indicator guidance sheet (August 2020), The Global Fund
% people on ART among all PLHIVs at the end of the reporting period	N = No. of people on ART at the end of the reporting period D = Estimated No. of people living with HIV	HIV indicator guidance sheet (August 2020), The Global Fund
Population coverage for HIV messaging-consistent condom use can prevent HIV (15–49)	N = No. of people who correctly answered HIV can be prevented by consistent condom use D = No. of respondents for the question in DHS	DHS
% MSM reached with HIV prevention programmes - defined package of services	N = No. of MSM who have received a defined package of HIV prevention services D = Estimated No. of MSM in the targeted area	HIV indicator guidance sheet (August 2020), The Global Fund
% TG reached with HIV prevention programmes - defined package of services	N = No. of TG who have received a defined package of HIV prevention services D = Estimated No. of TG in the targeted area	HIV indicator guidance sheet (August 2020), The Global Fund
% sex workers reached with HIV prevention programmes -	N = No. of sex workers who have received a defined package of HIV prevention services	HIV indicator guidance sheet (August

defined package of services	D = Estimated No. of sex workers in the targeted area	2020), The Global Fund
% MSM received an HIV test during the reporting period and know their results	N = No. of MSM who have been tested for HIV during the reporting period and who know their results D = Estimated No. of MSM in the targeted areas	HIV indicator guidance sheet (August 2020), The Global Fund
% TG received an HIV test during the reporting period and know their results	N = No. of TG who have been tested for HIV during the reporting period and who know their results D = Estimated No. of TG in the targeted areas	HIV indicator guidance sheet (August 2020), The Global Fund
% sex workers received an HIV test during the reporting period and know their results	N = No. of sex workers who have been tested for HIV during the reporting period and who know their results D = Estimated No. of sex workers in the targeted areas	HIV indicator guidance sheet (August 2020), The Global Fund
% eligible MSM initiated oral antiretroviral PrEP during the reporting period	N = No. of eligible MSM who initiated oral PrEP during the reporting period D = No. of eligible MSM who were newly offered PrEP during the reporting period	HIV indicator guidance sheet (August 2020), The Global Fund
% eligible TG initiated oral antiretroviral PrEP during the reporting period	N = No. of eligible TG who initiated oral PrEP during the reporting period D = No. of eligible TG who were newly offered PrEP during the reporting period	HIV indicator guidance sheet (August 2020), The Global Fund

Routine data collection, analysis and reporting

This section describes existing systems in place and plans to develop systems to collect data for measuring impact/outcome indicators and programmatic coverage indicators. It also includes mapping of relevant data flows and plans for the dissemination and use of information products. Monitoring and evaluation are crucial parts of the Timor-Leste National HIV/AIDS Programme, and part of programme design, implementation and management. Information gathered from M&E is fed back into the programme planning and implementation process to improve programme relevance and effectiveness. For monitoring purposes, input, process and output data are collected, analysed, and reported to inform managers of implementing agencies, Ministry of Health, National AIDS Commission, Country Coordination Mechanism, The Global Fund and other stakeholders on the progress of activities, and to flag implementation issues.

One system, one software for HIV/AIDS and STI: Data collection using DHIS2

The Ministry of Health provides the necessary framework and technical assistance to implementing units and partners to upgrade standards in data collection, analysis and use where necessary. Implementing units and partners are to use the DHIS2 for data collection systems by enhancing the case reporting system for comprehensive individual health and risk tracking system.

a) Common standards across the HIV service sites with a single unique ID for service delivery for individuals
b) Free listing of age at the entry points
c) Free listing of sex
d) Free listing of risk behaviour – collected through Tablet/ CAPI or through a confidential ballot system, providers engaged in HIV testing need to capture the above information after informed consent for every client. The ART and the KP sites collect the behaviour information at the entry and every quarter basis including adherence to the prevention and treatment information
e) Common geographic entities as per the DHIS2 for the actual location
f) Mobility package for prevention and treatment services to be integrated to allow flexibility for the patients and will
g) Daily update of the services
h) Monthly push back- sharing of information from the central repository to the service units and districts to validate the information, freezing of information monthly.

Advancing data analytics and use: Currently, the office of HMIS, which directly reports to the Director-General, Ministry of Health, captures health data using the recently revised monthly reporting forms (nine in number) including that for STI, HIV/AIDS and pharmacy. Integrated disease surveillance system (IDSS) collects information on epidemic-prone diseases and outbreak response. Advancing the learnings from the integrated disease surveillance system for tracking the changes over the previous three months and the same month of the previous three years will be deployed to monitor the progress in HIV tests, HIV positivity, finding out the potential high-risk geographic areas and population groups. Behaviour change and treatment adherence for the last three quarters will be tracked for everyone enrolled for services. Local-level data use using simple standardized Graphs- Charts- Maps will be instituted towards the realization of “Know your epidemic" at the service delivery and municipality levels.

The National HIV/AIDS Programme is partially integrated into the existing HMIS system and the programme works towards further strengthening the routine HMIS system for collection and analysis of STI and HIV/AIDS data. It has provided details with the recording and reporting system that is to be followed by districts and sub-districts. A monthly system of data collection and analysis will be followed. DHIS2 enabled system will collect data from the service delivery sites. The districts will play the role for validation of data using general trend observation using moving average or case reporting and ensuring completeness of data before approving for the national central team to accept the information. Disease surveillance is the responsibility of the Department of Communicable Disease Control (within the Directorate of Public Health), which oversees the HMIS system.

M&E information systems infrastructure

All health service delivery points such as CHCs, district and sub-district hospitals, referral hospitals and a NH keep a patient register and record services provided such as STI checkup and treatment, voluntary counselling and testing for HIV, prevention of MTCT, and ART. At the central level, the HMIS department and surveillance department maintain computerized database systems as well as paper-based back-ups. With the DHIS2 system, all the service provider units will be equipped with computerized systems for data collection and reporting.

District HIV/AIDS coordinators have computers for entry, storage and reporting of relevant data. Sub-recipient NGOs also maintain outreach forms and target group register to collect and store necessary data related to most at-risk groups. Sub recipient NGOs also have computers at the field and central level for data entry, storage and reporting. The HIV/AIDS unit at the central level collects and keeps necessary data in hardcopy and computer.

HIV/AIDS unit at the central level is connected to a central data server, v-sat and Internet. The Ministry of Health is working on setting up an Information and Communication Technology (ICT) network to interconnect the districts and different units of the Ministry for information sharing, accessing and reporting to DHIS2.

Surveillance and outcome evaluations

As detailed in the section for impact and outcome indicators, the Ministry of Health will utilize the following surveillance and studies to see the progress in terms of agreed impact and outcome indicators:

a) HIV Sentinel Surveillance Plus: *Every year two years based on consistent sites and reporting*
b) Health and Demographics Survey: *Every five years.*

An experimental design involving comparisons between groups exposed to intervention and groups un-exposed to intervention is costly to design and implement. So, these surveillance data will be used in evaluation when there is data corresponding to interventions with target groups or in target areas and observed outcomes and impacts from these surveys can plausibly be linked to the programme processes. Community and socio-political data collected through specifically designed surveys and supplemented with good qualitative data may also be used for explaining the success or failure of interventions. The MoH may hire a consultant or select an independent organization, especially the Technical Assistant Partner – WHO, to conduct outcome evaluations. However, out-

come evaluations do not necessarily need to cover all implementing units or sub-recipients in different geographic locations. Selection criteria would be based on the duration and intensity of the intervention that involves groups or target areas not covered by the national surveillance system or where surveillance data cannot or should not be used for programme evaluation.

Concurrent research

In addition to the M&E efforts mentioned above, the National HIV/AIDS Programme will also undertake necessary concurrent research (Operation research and implementation search) to address specific strategic information needs. The following Operation Research (OR) has been planned during the period of this M&E plan:

a) HIV/AIDS and risk situation assessment at the municipal and sub-district level (NAP)
b) Cross border mobility and risk assessment for HIV/AIDS (CNCS-TL, NAP and NAC, Indonesia)
c) Injection drug use in Timor-Leste and implications for HIV/AIDS transmission (HIV KP Team)
d) HIV/AIDS risks and vulnerability in transactional sex in Timor-Leste (UNFPA)
e) Technical efficiency analysis of the HIV service sites
f) Adherence to treatment and prevention
g) Municipality level data triangulation once in two years to understand the level, trend and drivers of the epidemic using the available data.

Implementation research on the HIV self-testing and PrEP demonstration project are proposed under The Global Fund , UBRAF and WHO support and will provide vital information for the NSP project. Mapping of the KP in the rest of the municipalities will be undertaken during the NSP project period before the midterm review.

A data-sharing guideline will be developed to simplify the process of data sharing with other institutions/NGOs and research institutions/individuals, along with the areas of interest for research from the NSP perspective. The national team will provide necessary ethics approval for such studies upon receipt of the request. These researches will be primarily done using the budget provided by the interested agencies/individuals. However, the final research product along with data will be shared with the national team to improve the knowledge base.

Bi-annual programme review

The MoH will conduct a participatory review of interventions, bi-annually, implemented by all implementing units and sub-recipients. Annual programme reviews will analyse different aspects of the programme implementation including:

a) Compliance with programme design including timelines
b) Achievement of programme process and output targets
c) Responsiveness to recommendations and feedback documented in monitoring activities
d) Findings from quality assurance assessments
e) Findings from the programme management team.

Part of the review will give implementing units and sub-recipients the opportunity to analyse their data and present their achievements (and constraints) for the year. Annual programme review will include minutes of issues noted and discussed as well as a "looking forward" session where commitments are made to improve certain activities or address identified weaknesses. These commitments and the Ministry of Health's activities to support them will then be reviewed in the next annual programme review along with new issues.

Mathematical models and HIV estimation

Mathematical modelling and HIV estimation and future projection exercise will be undertaken once in two years to provide important guidance on the trajectory of the epidemic and progress, primarily using spectrum suite with the help from UNAIDS and WHO. However, the country programme may also include other models like Goal, Optima and other appropriate mathematical models to analyse the epidemic and the response.

Data quality assurance mechanisms and supportive supervision

The MoH, Timor-Leste, has already set up a mechanism for assuring the quality of data and how to address delayed, incomplete or inaccurate data. A uniform DHIS2 system for all the service sites with inbuilt data validation systems will be implemented. The existing or old data systems will be developed for auto migration of relevant data. It can be noticed that necessary data for the National HIV/AIDS Programme originates from different levels and several sources. At each level, there is a system of reviewing and double-checking the data before reporting them to the next level. Any identified inaccuracy or inconsistency in the data are reported back to the data collectors at the source to double-check and make necessary corrections. Data reported at other levels are also reviewed and summarized and any inconsistencies are reviewed and rectified.

On top of this arrangement, the National HIV/AIDS Programme has set up a system for data collection, review and data quality assurance for STI and HIV/AIDS-related data. As part of this system, the district/regional HIV/AIDS coordinators will review data from CHC, hospitals, clinics and NGOs every month before reporting them to the National HIV/AIDS Programme Unit. The M&E officer of the National HIV/AIDS Programme Unit compiles and reviews all necessary data every quarter for the quarterly programmatic report.

Supportive supervision

The national HIV/AIDS Programme of the MoH will conduct the following activities to provide supportive supervision, maintain regular communication with implementing agencies, monitor progress, assist meet defined targets, identify obstacles to implementation, and opportunities for capacity-building. The Ministry of Health views programme monitoring as a capacity-building process with implementing units and sub-recipients. During every monitoring visit observations are fed back to the implementing unit and sub-recipient staff and programme managers to assist improve programme implementation. Recommendations are documented for follow-up in subsequent visits which, apart from strengthening the activities, also aim to build the capacity of the implementing units and sub-recipients to conduct their monitoring. Given the COVID-19 related restrictions, a virtual model of supportive supervision may be started with involvement of TB/HIV medical coordinators at every municipality.

Programme field visits (quarterly)

The HIV/AIDS unit of MoH is responsible for monitoring programme progress according to the approved work plan and sub-grant agreements. It will visit all implementing units such as the surveillance unit, national and regional blood banks, national and regional hospitals and laboratories, district health centres and offices, voluntary counselling and testing centres, STI centres and each sub-recipient once in every three months to review programme-related activities, participate in quality assessments, facilitate capacity-building and provide feedback. The HIV/AIDS unit is responsible for identifying and facilitating technical support and assists in implementing units and partner agencies in solving problems they may encounter in the course of programme implementation. Given the COVID-19 related restrictions, a virtual model of supportive supervision may be started with. Empowering provinces and municipalities to encourage local programme review may be encouraged till the time the travel-related restrictions are in place.

Finance and division of Global Fund staff visits (semi-annual)

Finance and division of The Global Fund staffs review implementing unit and sub-recipient budgets, vouchers, records and quarterly financial reports (QFR) during regular field visits as well as completing the Ministry of Health Finance and Administration checklist and seeking clarifications from implementing units and sub-recipients as needed.

M&E coordination and capacity-building

The National HIV/AIDS Programme will play a central role in M&E coordination at the country level. This section briefly describes the M&E coordination mechanisms, M&E partnerships and M&E assessment and review mechanisms in place and efforts for alignment and harmonization of M&E indicators, information flow and reporting timelines.

M&E coordination mechanisms

a) *National HIV/AIDS and STI programme:* It will play a central role in the coordination with relevant units for collecting, collating, storing, analyzing and reporting M&E data

b) *National AIDS Commission:* The Commission will keep an oversight of the progress of implementation of the National HIV/AIDS and STI Strategic Plan and periodically review M&E data to monitor progress at the national level

c) *Country coordinating mechanism:* It will keep an oversight of the implementation of The Global Fund grant and review progress updates against the agreed performance framework of the grant agreement

d) *M&E partnerships and technical working group:* The National HIV/AIDS and STI Programme and Sub Recipient NGOs work as members of Technical Working Groups (TWGs) formed by the country coordinating mechanism and National HIV/AIDS Programme. These TWGs provide inputs for developing performance framework, setting national M&E indicators and targets aligned to National Strategic Plan and The Global Fund Grant Agreement and developing national M&E plan.

M&E assessment and review meetings: Following are the minimum mechanisms in place for M&E assessment and review meeting

a) Quarterly review meeting of progress updates by the Country Coordinating Mechanism
b) Six monthly review meeting for national indicators by the National AIDS Commission
c) Annual Programme review with Ministry of Health, implementing agencies, country coordinating mechanism (CCM), National AIDS Commission (CNCS-TL), UN Theme Group and other stakeholders
d) M&E systems strengthening workshop every two years.

M&E capacity-building

The strategic information system capacity-building will focus on improving the content and quality of data and analytical systems through a structured and systematic approach. The NSP will implement "Low Dose High Frequency (LDHF) Training" approaches. These approaches will implement specific 'vignettes' or knowledge tests to promote evidence-based practice targeting key conditions

related to HIV. These key conditions will target improving the treatment outcomes, adherence, behaviour change and improved analytical skills of facility, district- and national-level partners. The participants will receive personalized feedback on their progress on the set of defined vignettes, whereas the (anonymized) average performance on these knowledge tests will largely drive the institution's quality index. Tests will be administered online and will also be available through smartphones. The serially administered nature of the vignettes combined with a positive incentive environment both for the institution and the individual are expected to raise the content of care quality swiftly.[7]

The HIV/AIDS unit of the MoH is responsible for the management and monitoring of the HIV/AIDS programme. Its responsibilities include management, monitoring and quality assurance of all programme activities funded by The Global Fund and other sources. The HIV/AIDS programme unit has recruited necessary technical and programmatic staff including a M&E officer and a finance officer to work closely with the unit to support implementation and management of the programme. District-level M&E activities will largely be conducted by 13 district HIV/AIDS coordinators. The capacity of the HIV/AIDS unit to manage and monitor programmes is further supported by the WHO Technical Assistance. The Division of The Global Fund provides grant management and programme support assistance to the Global Fund-supported HIV/AIDS, TB and Malaria programmes. The Division of Global Fund has recruited a senior M&E officer to provide the data verification and technical support to the M&E activities of HIV/AIDS, TB and malaria programmes.

The programme sends key staff to relevant training courses including international training and workshops whenever there are opportunities. It also has a provision for sending a couple of key staff of the national HIV/AIDS programme to long-term international course, which will build their capacity in programme management, monitoring and supervision (Table 5).

Table 5. M&E Capacity-building

Types of the monitoring system	Areas of capacity-building
Service delivery sites	• Collecting behaviour-related data • Use of DHIS2 and data validation systems. Local data analysis using maps, graphs and tables

[7] Fritsche, G. and J. Peabody (2018). "Methods to Improve Quality Performance at Scale in Lower -, and Middle-Income Countries." Journal of Global Health 8(2). Peabody, J., et al. (2011). "Financial Incentives and Measurement Physicians Improved Quality of Care in the Philippines." Health Affairs 30(4): 773-781. Peabody, J., et al. (2013). "The Importance of performance incentives on child health outcomes: results from a cluster-randomized controlled trial in the Philippines." Health Policy and Planning. Peabody, J. W., et al. (2017). "Large-Scale Evaluation of Quality of Care in 6 Countries of Eastern Europe and Central Asia Using Clinical Performance and Value Vignettes." Global Health: Science and Practice 5: 173.

Districts	• Use of DHIS2 and data validation systems. Local data analysis using maps, graphs and tables • Using data triangulation, observations on trends and localization of issues • Use of tools for KP mapping • Technical report writing
National level	Data analytics for surveillance systems, monitoring systems, data triangulation, regression and machine learning for predictive analytics

Reports and reporting

Quarterly reports: The Ministry of Health receives quarterly financial and programmatic reports from sub-recipients and prepares quarterly financial and programmatic reports for the principal recipient based on key indicators agreed in the performance framework. These reports contain standardized indicators for each service delivery areas, including key service statistics, and the work plan for the next quarter. Subsequently, the relevant information is used for programme management and documentation of the programme.

Quality of care and data report: Responding to the observations from the midterm review and further advancing the health care system with HIV care as entry point quality of care including data quality system will be established, based on principles laid down by the Donabedian model (Structure- process- outcome) for quality improvement.[8] This continuous quality improvement model is in line with the principle of the Government of Timor-Leste for decentralized and enhancing local governance systems and accountability. A review of the literature suggests the positive impact of quality improvement efforts on service quality measures.[9,10,11]Therefore, focus of the NSP on developing quality assurance mechanisms leading to accreditation and incentivizing quality through facility-level investments in capacity-building and financing are likely to result in improved quality of care by the end of the project period. The capacity-building strategy for the same is given below. The quality improvement system will be based on a three-step approach using the same tool, i.e., (i) self-reported quality index; (ii) peer review of the self-reported quality index; and (iii) central team quality index score. While the peer review scores will identify the areas for improvement, the final score by the central team will provide the national-level certification for the health facilities, which

[8] Donabedian A. Evaluating the quality of medical care. *Milbank Memorial Fund Q.* 1966;44(3)(suppl):166–206. Reprinted in *Milbank Q.* 2005;83(4):691-729.

[9] Devkaran S, O'Farrell PN. The impact of hospital accreditation on quality measures: an interrupted time series analysis. *BMC health services research* 2015; 15(1): 137.

[10] Bogh SB, Falstie-Jensen AM, Hollnagel E, Holst R, Braithwaite J, Johnsen SP. Improvement in quality of hospital care during accreditation: a nationwide stepped-wedge study. *International Journal for Quality in Health Care* 2016; 28(6): 715-20.

[11] Avia I, Hariyati RTS. Impact of hospital accreditation on quality of care: A literature review. *Enfermeria clinica* 2019; 29: 315-20.

will be an incentive for the health care facilities as special recognition. All the HIV service facilities will be eligible for the quality improvement system.

Special investigation reports: Based on the analysis of the evidence special investigations will be undertaken by the central team along with key experts to investigate any rising trend in positivity or risk behaviour or treatment update/adherence, etc. This system will not only maximize the utilization of existing data, but also strengthen the internal health system and provide evidence towards mid-course corrections.

Annual report: At the end of each fiscal year, sub-recipients and the principal recipient will prepare an annual report. This report will include:

- An analysis of the background information such as the disease context
- Programme description
- Full (aggregated) programmatic results for the reporting period
- Summary of programme income and expenditures for the reporting period
- Contextual information on the grant:

    - Key partnerships in reaching goals: relative financial and programmatic contributions
    - Success stories, lessons learned and challenges of the grant
    - Progress towards the impact on the STI and HIV/AIDS
    - Quality of services provided, perspectives of recipients, accreditation
    - Independent assessments or quality reviews of the programme (if any).

End of grant report: At the end of each phase of the sub-grant agreement, each sub-recipient will submit a closeout report to the MoH. The principal recipient will also prepare an end of grant report. These end of grant/close out reports will contain the same sections such as in an annual report, but for the whole grant period:

- An analysis of the background information such as the disease context
- Programme description
- Full (aggregated) programmatic results for the reporting period
- Summary of programme income and expenditures for the reporting period.

Dissemination of information products, programme performance report and feedback mechanisms: Upon receiving the quarterly and annual reports, the MoH will review them with programme monitors and technical advisors. Implementing units and sub-recipients will receive feedback as part of programme and technical field visits and bilateral meetings. Feedback is docu-

mented in the form of meeting minutes and trip reports. Besides structured feedback, regular communication (including telephone and email) between implementing units, sub-recipients and programme and technical monitors will be ongoing.

The MoH will periodically disseminate key monitoring findings, programme performance, lessons learned and relevant analysis and issues to its stakeholders such as partners, funding agencies, National AIDS Commission (NAC), Country Coordination Mechanism (CCM) and other national and international players. Forums for such dissemination will be CCM Quarterly meeting, NAC monthly meeting, UN Theme Group Meeting, Health AID Coordination Groups meeting, and quarterly meeting with implementing units and sub-recipients.

The programme communication matrix for disseminating major information products and monitoring and evaluation data to key stakeholders is given in Table 6.

Table 6. Programme communication matrix for disseminating major information products

Audience	Theme (What to disseminate?)	Medium (How to disseminate?)	Frequency/Timing (How often to disseminate?)	Owner/Deliverer (Who to disseminate?)
The Global Fund	Progress on agreed indicators	Quarterly reports, annual report, end of grant report, annual audit report	Quarterly and annual	Principal recipient
National Parliament	Disease status measures are taken by MoH, priority of intervention	Report to Parliament by MoH	During Parliament sessions	MoH supported by the HIV/AIDS Programme Unit and Division of The Global Fund
Aid Effectiveness Unit/Ministry of Finance/Office of the Prime Minister	Total grant value, a summary of expenditure, programme objectives, service delivery area, key achievements	Reporting format provided by AID Effectiveness Unit	Quarterly	Head of Department of Partnership Management/PMA
National AIDS Commission	Programme strategy, coverage indicators, key achievements and gaps, annual work plan	Annual report and monthly updates on key issues at NAC meetings	Yearly report and monthly updates at NAC meetings	National HIV/AIDS Programme Manager/Head of CDC

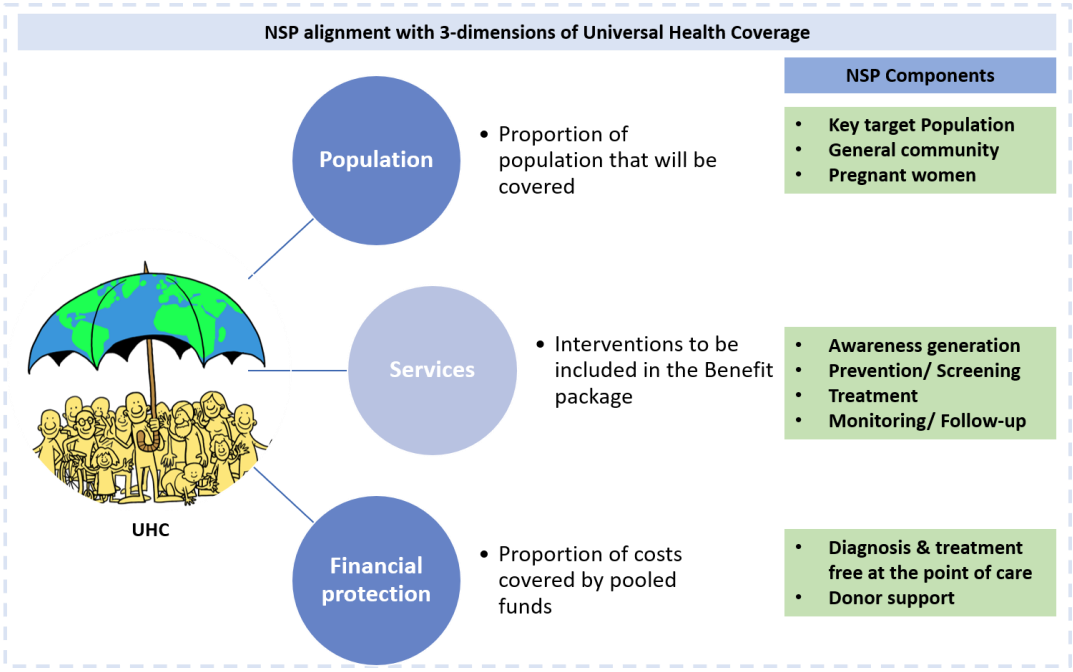
Audience	Theme (What to disseminate?)	Medium (How to disseminate?)	Frequency/Timing (How often to disseminate?)	Owner/Deliverer (Who to disseminate?)
Country Coordinating Mechanism (CCM)	Grant amount, performance indicators and deliverables and periodical progress	Presentation on progress update and disbursement requests at CCM quarterly meetings	Quarterly	National HIV/AIDS Programme Manager
UN Theme Group on HIV/AIDS	Areas of collaboration and coordination, major updates	Participation in the monthly meeting of the UN Theme Group on HIV/AIDS	Monthly	National HIV/AIDS Programme Manager/PMA
Other donors and stakeholders	Grant flow, areas covered by grant, funding gaps and overlaps	Participation in health AID coordination meeting, joint annual health sector review	Semi-annually and annually	Head of DPM/PMA
Senior Managers at MoH: Minister, Vice-Minister, Council of Directors	Key achievements, issues and progress	Programme update at Council of Directors meeting	Monthly	Director of Community Health supported by HIV/AIDS Programme Manager and Head of DPM
Other implementing units under MoH: National Blood Bank, National Laboratory, NH, Health Promotion Dept, Surveillance Dept, HMIS Dept, Finance Dept, Planning and Monitoring Dept, SAMES, Division of The Global Fund, (Human Resources and Procurement Dept, if necessary)	Quarterly work plan and achievements, targets and issues, priorities for the next quarter	Quarterly review meeting	Quarterly	Convened by Director of Community Health
Sub recipients	Overall progress, feedback on SR achievements	Copy of quarterly progress update and disbursement request, report of	Quarterly	National HIV/AIDS Programme Manager/M&E Officer of

Audience	Theme (What to disseminate?)	Medium (How to disseminate?)	Frequency/Timing (How often to disseminate?)	Owner/Deliverer (Who to disseminate?)
		quarterly verification of SR achievements		the Division of The Global Fund
District HIV/AIDS Officers	QA/QI framework, key issues and progress towards resolving key issues at the district level	Monthly review meeting with the HIV/AIDS Unit and District HIV/AIDS Officers	Monthly	National HIV/AIDS Programme Manager to convene the meeting
National HIV/AIDS Programme Unit	Weekly plan, progress and priorities	Weekly team meeting	Weekly	National HIV/AIDS Programme Manager to convene the meeting

Annex 7. NSP alignment with UHC framework

Universal health coverage (UHC) means that all people have access to the health services they need, when and where they need them, without financial hardship. It includes the full range of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care. UHC should be based on strong, people-centred primary health care. The current NSP has taken into account the three-dimensions of UHC (Fig.1) and has its focus not only on preventing and treating disease and illness, but also on helping to improve well-being and quality of life.

Figure 1. Universal health coverage – alignment with NSP



UHC features of integrated NSP:

- One of the key guiding principles of revised NSP is integration towards primary health care and universal access to right to information, screening, diagnostics, immunization, treatment and follow-up care
- Services in NSP target not only KPs/focal points, but also expand to community health care centres accessible to GP, including ANC and MCH services (triple EMTCT), services for youth, etc.
- Out of six major NSP priority interventions, two are directly addressing the response at community level, while the rest four involve strengthened health care facilities
- The CSS or community system strengthening focuses on reaching the GP with advocacy and BCC messages through peer outreach in communities

- NSP plan aims to increase awareness and promotion of health services widely among the GP, while also investing strategically in effective outreach and prevention interventions in KP networks where transmission is most likely
- NSP framework implementation aims to build over PHC services, focusing increased screening through quarterly and half-yearly RMCs for HIV testing, ART linkages, PrEP and PEP service strengthening and syphilis testing (proposed 6 monthly); while STI screening, hepatitis screening and HBV immunization (proposed quarterly)
- The revised NSP also gives provision for universal reporting for community outreach/NSP services

National Strategic Plan for HIV/AIDS/STD/HBV/HCV								
Services across the three-tiers of health care platforms								
	UHC covering primary health care					Secondary care		
STD/HIV/AIDS/HBV/HCV	**SISCa/PT/MC**	**SnF**	**HP1**	**HP2**	**CHC-1**	**CHC-2**	**CHC-3**	**RH**
Promote healthy and safe sexual behaviour and measures to address other risk factors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Condom distribution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Identification, diagnosis and treatment for STIs including contacts (syndromic approach)	Yes/ Refer	Yes/ Refer	Yes	Yes	Yes	Yes	Yes	Yes
Support and promote VCT among at-risk populations (including STI patients)	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes	Yes	Yes	Yes
Voluntary Counselling	Refer	Refer	Refer	Refer	Yes	Yes	Yes	Yes

National Strategic Plan for HIV/AIDS/STD/HBV/HCV								
Services across the three-tiers of health care platforms								
	UHC covering primary health care					Secondary care		
STD/HIV/AIDS/HBV/HCV	**SISCa/PT/MC**	**SnF**	**HP1**	**HP2**	**CHC-1**	**CHC-2**	**CHC-3**	**RH**
and Testing (VCT)								
Prevention of mother to child transmission (MTCT) (refer for delivery)	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes	Yes	Yes
VCT for all pregnant women attending ANC	Refer	Refer	Yes	Yes	Yes	Yes	Yes	Yes
VCT for all patients diagnosed with TB	Refer	Refer	Refer	Refer	Yes	Yes	Yes	Yes
Treatment of HIV patient including referral for follow up	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer

National Strategic Plan for HIV/AIDS/STD/HBV/HCV								
Services across the three-tiers of health care platforms								
	UHC covering primary health care					Secondary care		
STD/HIV/AIDS/HBV/HCV	**SISCa/PT/MC**	**SnF**	**HP1**	**HP2**	**CHC-1**	**CHC-2**	**CHC-3**	**RH**
Treatment (including secondary prevention)/referral of complications for HIV cases	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer
HBV and HCV screening and HBV vaccination and HBV/HCV for PW	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer
VCT and PITC	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer	Yes/ Refer

Annex 8. Cost of the Timor-Leste National Strategic Plan for HIV, STIs and Viral Hepatitis 2022–2026

Cost of the Timor-Leste National Strategic Plan for HIV, STIs and Viral Hepatitis 2022–2026

Submitted by:

Dr. Neil Thalagala- Cost Consultant

February 2022

Executive Summary

HIV, viral hepatitis, and STIs are considered crucial public health problems in Timor-Leste. According to the Global Burden of Disease Study 2019, 20 174 out of 459 479 disability adjusted life years of the Timor-Leste population were attributed to these three disease conditions. The Ministry of Health, Timor-Leste, is currently finalizing an integrated National Strategic Plan on HIV/AIDS, STIs, and Viral Hepatitis 2022–2026 to mitigate this problem. With a vision to finally eliminate HIV, other STIs, and viral hepatitis in the country, the Ministry strategizes health services and health systems to prevent and treat HIV, STI, and viral hepatitis infections in an integrated manner. Both key population and primary health care-based approaches are used for reaching the target population.

The NSP has three main objectives: a) to scale up prevention, care, and treatment for key populations through trusted access platforms; b) provide preventive and curative HIV, STI and viral hepatitis care for the general population and special groups such as youth and uniformed services through the health system; and c) to improve the programme data to ensure proper guidance of the strategic plan-based responses.

This report presents the methods and findings of the cost study, which estimated the financial cost to be incurred in implementing the NSP-based interventions. An intervention framework defined by the NSP was identified. The health system strengthening actions and programme activities emanating from the strategic plan are also listed. These cost elements were then classified as: a) material supplies (Drugs, test materials, and other supplies; b) infrastructure costs; c) human resources cost; d) logistic costs; and e) programme activity costs.

The first three elements were costed using WHO's OneHealth tool, and programme activity costs were calculated using a programmed excel sheet. The treatment protocols were based on the OneHealth tool defaults, local and WHO guidelines, unit costs were obtained from local sources, OneHealth tool defaults, and international medical price guides.

The total cost of the NSP increases from US$ 2.8 million in 2022 to US$ 5.2 million in 2026 as the intervention scale-up reaches 90 to 95% in 2026. The per capita cost related to NSP implementation ranges from US$ 2.1 in 2022 to US$ 3.5 in 2026.

The largest share (40%) of the total cost of the strategy over the five-year period is attributed to the material costs that include drugs, testing materials, and other supplies used in the prevention and control of different health conditions related to HIV/AIDS, STIs, and viral hepatitis. The second-largest share (27%) was accounted for by the payments made to DIC staff. It is important to note that these cost estimates do not cover the shared human resource costs of the health staff contributing to HIV/STI and hepatitis management as the existing budgets already pay them. Hence, the human resource cost of HIV/STI and hepatitis management may be higher in the perspective of economic costs.
Infrastructure cost accounted for 16% of the total costs. These costs only focus on the capital and recurrent expenses attributable to NSP-related activities. The shared infrastructure costs that are already financed by existing budgets were not included. Logistic cost is around 8% of total costs, and programme costs account for 6% of the total costs.

1. Introduction

The Democratic Republic of Timor-Leste, commonly referred to as East Timor, is a part of maritime South-east Asia. The country covers geographical regions of the eastern half of the island of Timor, the nearby islands of Atauro and Jaco, and Oecusse. Oecusse is an exclave on the northwestern side of the island, within Indonesian West Timor. Around 13 18 442 people are estimated to inhabit country.[1] East Timor is divided into 13 districts; Dili, Manatuto, Baucau, Oecusse, Liquica, Lautern, Bobonaro, Ermera, Aileu, Covalima, Ainaro, Manufahi, and Viqueque that are situated over 5400 square miles. The districts are further divided into 65 sub-districts, 442 villages, and 2225 hamlets. The capital and the largest city of the country is known as Dili, while the second-largest city is Baucau, situated to the east of Dili.

HIV, viral hepatitis, and STIs are considered to be significant public health problems in Timor-Leste. According to the Global Burden of Disease Study 2019, out of 459 479 disability adjusted life years of the population 20 174 were attributed to these three disease conditions. [2] The Ministry of Health (MoH) is currently finalizing an integrated National Strategic Plan on HIV/AIDS, STIs, and Viral Hepatitis 2022 to 2026 to mitigate this problem. With a vision to finally eliminate HIV, other STIs, and viral hepatitis in Timor-Leste, MoH strategizes health services and health systems to prevent and treat HIV, STI, and viral hepatitis infections in an integrated manner. Both key population and primary health care-based approaches are used for reaching target population.

The NSP has three main objectives:

a) to scale up prevention, care, and treatment for key populations (KP) through trusted access platforms,
b) provide preventive and curative HIV, STI, and viral hepatitis care for the general population and special groups including pregnant women, their partners, youth and uniformed services through the health system; and
c) to ensure reliable data to guide response.

This study aimed to estimate the cost of implementing the strategic interventions arising out the three main areas of focus as follows:

a) Targeted interventions with KPs to interrupt transmission
b) Services for all through community health centres (CHCs) accessible to the genral population, including pregnant mothers, youth, armed personnel, prisoners, etc.
c) Reliable data to guide the response at local, district and national levels.

The following account presents the objectives, scope, and methods of costing the integrated NSP.

2. Objective

This study aims to estimate the financial cost related to implementing the Timor-Leste national strategic plan on HIV/AIDS, STIs, and Viral Hepatitis 2022 to 2026.

3. Scope of costing

The scope of study covers the following cost elements related to the strategic interventions:

1. The cost of materials used in preventive interventions. These include Hepatitis B vaccines, condoms, pre-exposure prophylaxis drugs, syringes, methadone used in drug substitution interventions, etc.
2. The cost of HIV, STI, and hepatitis screening materials that include test kits, and other materials used in screening

3. The costs of drugs, investigation materials, and other supplies used in the management of patients having HIV/AIDS, STIs, and hepatitis infections
4. The cost of dedicated viral hepatitis infrastructure items such as Drop in Centres that will be newly introduced to the system
5. The cost of dedicated viral hepatitis human resource employment, i.e., new staff in the technical support unit
6. The cost of logistics as a proportion of purchase costs of all material supplies used in HIV/AIDS, STIs, and hepatitis programmes
7. The cost of various programme activities identified under each strategic direction (e.g., advocacy, guideline development, training, stakeholder engagement, BCC & IEC development, monitoring and evaluation, research, etc.).

The cost of pentavalent vaccines was not included in the drugs and supply costs. Pentavalent vaccine is already incorporated in the immunization programme, and therefore it was not considered an additional incremental cost resulting from implementing the NSP. Similarly, other shared resources such as health infrastructure, health staff that are already financed by existing health programmes were not factored in the cost of NSP. For example, the cost of cold chain management, storage, salaries of routine staff who would be administering vaccines, conducting tests, and treatment were not considered incremental costs, as they are already being paid by the system and incorporated in the respective budgets. However, the human resource costs and infrastructure costs related to KP interventions are included in the scope of cost. In conclusion, the scope of the study covered only the expenditures arising out of the NSP and are not already being met by existing budgets in the system.

4. Methodology

This cost study estimated the additional financial investment that are required for implementing the proposed strategic interventions and their associated activities.

4.1 Costing process

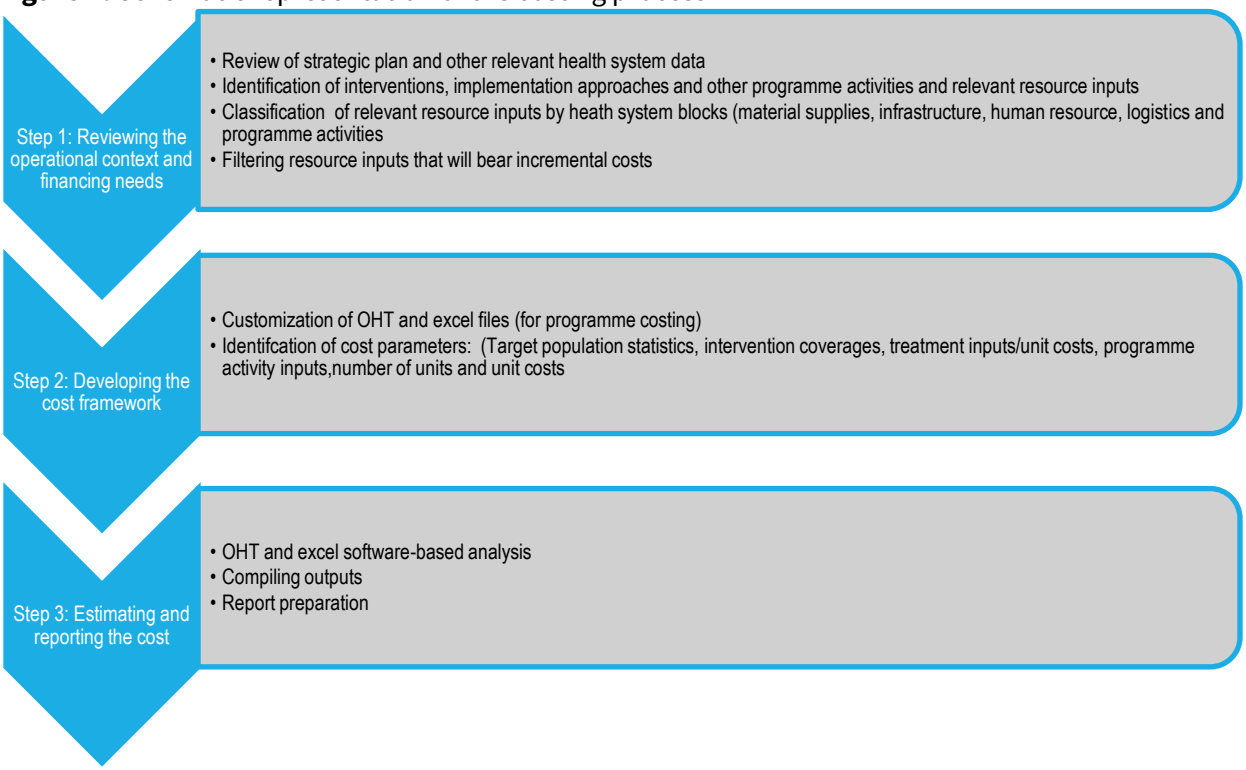
Estimation of the cost of NSP was carried out using a three-step process carried out in the following order (Fig. 1).

4.1.1 Step 1: Reviewing the operational context and financing needs

The costing process was initiated by reviewing the NSP and other relevant documents required for identifying and listing the following:

a. HIV, STIs, and viral hepatitis related health services/interventions focused by the strategic plan
b. Health system components that are involved in delivering these services/interventions
c. Intervention approaches and integration methods of proposed interventions in the health system
d. Baseline and target levels of intervention coverages, infrastructure, and human resource levels and new additions of infrastructure and human resources as proposed in the NSP
e. Programme activities that are aimed at reorienting the health system to suit and facilitate the smooth implementation of proposed strategic interventions (e.g., Public awareness programmes, technical guidance, capacity-building, M& E, research, etc.).

Figure 1. Schematic representation of the costing process



The above information was systematically collated in an excel spreadsheet, and the relevant resource inputs were identified. The resource inputs were classified as material inputs, infrastructure, human resources, logistics, and programme activities. Finally, the resource inputs that will bear incremental costs were identified.

The intervention lists used are presented in Annex 1.

4.1.2 Developing the cost framework and cost assumptions

WHO OneHealth tool (OHT) [3] and excel templates were used for estimating costs. The OHT was used for estimation of the costs of all material supplies (vaccines, drugs, investigation materials, and other supplies) required in implementing interventions related to HIV, STIs, and viral hepatitis prevention and management, programme dedicated (DIC) human resources, and infrastructure, and logistics. The excel programme was used for costing programme activities. Annex 2 contains a detailed description of OHT. A Timor-Leste-based OHT projection was configured to cost the above items.

Estimation of material costs

OHT is programmed to estimate the material costs of intervention in two steps. First, it calculates the *annual number of recipients* of the intervention. Then it calculates the *average annual unit cost* of all material items used in delivering that intervention. The annual material cost of an intervention is obtained by multiplying these two figures. Material costs of all such interventions are calculated by summing up the annual expenses of each intervention. One Health requires the user to specify all the interventions targeted and the following information related to each intervention:

a) Target population group (e.g., pregnant mothers, females 15–49 years)
b) Populations in need, or those who are eligible for the intervention (e.g., All- 100 % or % females in 15– 49 age group, who are FSW) depending on the nature of the intervention
c) Intervention coverage (e.g., % of FSW reached in respective years)
d) Treatment inputs and unit costs (number of material items used for treating a patient and their unit costs).

OHT multiplies the numbers specific to the target population size of each year, the proportion of the population in need out of the target population, and the proportion of the target population in need reached and provided by the health system to get at the number of services offered in a calendar year. Then this figure will be multiplied by the unit cost of servicing a client with a particular intervention to get at the annual material cost.

Target population and the percentage of target population members who are eligible for various interventions were defined based on the nature of each intervention, prevalence/inductance, mode of delivery, etc. The NSP identifies three distinct groups of target population:

a) Key population groups (people who inject drugs (PWID), female sex workers (FSW), people living with HIV (PLHIV), men who have sex with men (MSM), male sex workers (MSW) and transgender (TG) who will be reached through trusted access platforms using identified protocols (annex 2 of the NSP)
b) General population members reached through CHC and hospitals, antenatal mothers and newborns of HIV/STI or hepatitis positive mothers reached in antenatal clinics
c) Special populations such as blood donors, youth and armed forces.

The interventions, resource requirements, service coverages and relevant health system characteristics were separately identified for these groups. Considering the OHT analytical requirements and output formats, the intervention lists were prepared separately for different disease groups (HIV/STIs/and viral hepatitis). Interventions were disaggregated to a level that enables computation of cost estimates in different output classifications (by main focus areas target population groups, providers, mode outcome (prevention/treatment/health system development), etc. When preparing interventions framework and treatment inputs , the protocols mentioned in the NSP (annex 2 on KP interventions), OHT default interventions, local and WHO guidelines on the HIV/STI, and viral hepatitis prevention and control were used as the basis. The list of interventions is given in Annex 1.

Baseline and target intervention coverages were defined based on NSP information. Around 95% of intervention coverages for all interventions were assumed by 2026. Unit costs were obtained from OHT defaults, local sources, and international medical products guide. [4]

Estimation of infrastructure costs

OHT uses the quantity (number of items) multiplied by the unit price equation in calculating human resource costs. The infrastructure costs related to DICs, and equipment supplies to referral hospitals and CHC were considered for infrastructure costing. NSP proposed to increase KP coverages of integrated intervention package through improved trusted access platforms over a five-year period. Currently, five DICs are operating (one in Dili and four others in other municipalities). NSP proposes to increase the number of DICs by adding three new DICs in Dili, where 65% of the KP lives in the second

year, and two more DICs in Liquica and Ermera. The proposed establishment of DICs is expected to increase the number of DICs from five in year one to eight in years two and three and 10 in years four and five. The cost estimates covered the following infrastructure-related expenditures:

a) Venue rental costs of DICs
b) Utility cost of DICs (Electricity, water, communication, stationery, and IT consumables)
c) Transport costs of DICs – Vehicle hiring
d) Cost of providing medical equipment (Refrigerator/cold boxes, stethoscope/blood pressure monitors, furniture, IT equipment (a computer and a printer) to newly established DICs
e) Provision of viral load testing, CD4 machines, and Eliza machines to 6 referral hospitals (RH)
f) Cold chain equipment (Refrigerator and a cold box) to all CHCs
g) Other consumables.

Provision of equipment [Tables (10), chairs (20), examination beds (4), cupboards (10), safety bins (5), incinerators (1)] were only considered for newly added DICs as and when they are established. Other costs were annually estimated for all existing DICs. The items to be provided for CHCs and RHs were assumed to be purchased in the first year.

Above infrastructure quantities, unit costs of the above items were entered into OHT, and the respective costs were obtained.

Estimation of human resource costs

OHT uses the quantity (number of staff) x price (salary) equation in calculating human resource costs. Only the human resources involved in the DIC were considered for estimating the cost of human resources (HR). Health staff from CHCs, RH and National hospitals contributing to HIV/AIDs, STIs, and viral hepatitis care, and TSU staff are already being paid by the system, and these payments will not be affected by the NSP activities. Hence, their salary-related expenditures were not considered in the NSP cost.

In each DIC existing in respective years, expenditures required for the remuneration of a doctor (on a part time basis) , a nurse, a counsellor, and one supporting staff, and a DIC coordinator were assumed as HR costs. In addition, the cost of paying incentives for one peer supervisor (PS) per five peer educators (PE) (in a proportion for 1 PS: to 5 PE) was included in the costing. Salary amounts of these personnel were obtained from the MoH sources.

The personnel costs related to programme activities such as consultancies, training programmes are included in the programme cost calculations of the excel spreadsheet.

In addition to the above mentioned human resources, the HR costs currently born by the GF project on NAP related work also added to HR cost. It is expected that these costs will be transferred to government expenditure plans in coming years, therefore becomes an incremental costs of the NSP.

Logistics cost

Actual estimation of the logistics costs related to NSP activities would have needed the information on the entire national logistic system and proxy details for apportioning of total logistic cost to reflect the contribution to NSP related logistics. The time constraints and lack of such data did not permit actual estimation. Hence, it was decided to estimate the costs of logistic activities related to material item

supply of NSP interventions using an international guideline[5] as 20% of the purchase cost of materials. This percentage tallies with the GF programme supply related cost estimates.

Programme cost

NSP stipulates the need for several programme activities required for optimizing the existing health system for smooth implementation of proposed strategic activities. To estimate the cost of these programme activities the following approach was followed. After reviewing the NSP, the proposed programme activities were listed and classified into logical themes. Then for implementing each main programme activity, a cost assumption was defined. The main programme activities were further operationalized by identifying sub-activities required for realizing them. Then the resource types and quantities required for each sub-activity were enumerated. The unit cost of resource elements was listed. These data were organized in a cost template developed in an excel spreadsheet. The time of implementation of each activity was also identified with a time period within the 2022 to 2026 project span. The excel programme was run to estimate the costs and they were distributed among the implementation years.

The main programme activities factored into the NSP costs, which are to be carried out and/or coordinated by the technical support unit (TSU) at the national programme level, are as follows:

a) The costs related to dissemination and communication of the new integrated NSP 2022 to 2026
b) The costs of developing the technical guidelines necessary for introducing the integrated interventions belong to three conditions focused by the NSP
c) The cost of building the community awareness on the HIV/STI and hepatitis and promoting health- seeking behaviours among the community
d) Cost of training stakeholders, trusted access platform personnel on microplanning, implementation support
e) Cost of stakeholder mapping and networking of integrated NSP actions
f) The cost of capacity-building of health and DIC staff
g) The costs of updating M&E system and integrating DHIS-based digital reporting system on integrated HIV/STI and hepatitis management system
h) Cost of research and evaluations
i) Cost of technical assistance in the initial implementation period.

The accompanying programme cost template carries the entire cost parameters.

4.1.3 Estimating and reporting costs

After populating the necessary cost data into the OHT projection and excel-based cost template, both programmes were run to obtain different cost estimates of the NSP. The following sections present the estimated financial cost of the NSP 2022 to 2026.

4.2 Total and per capita cost of the NSP

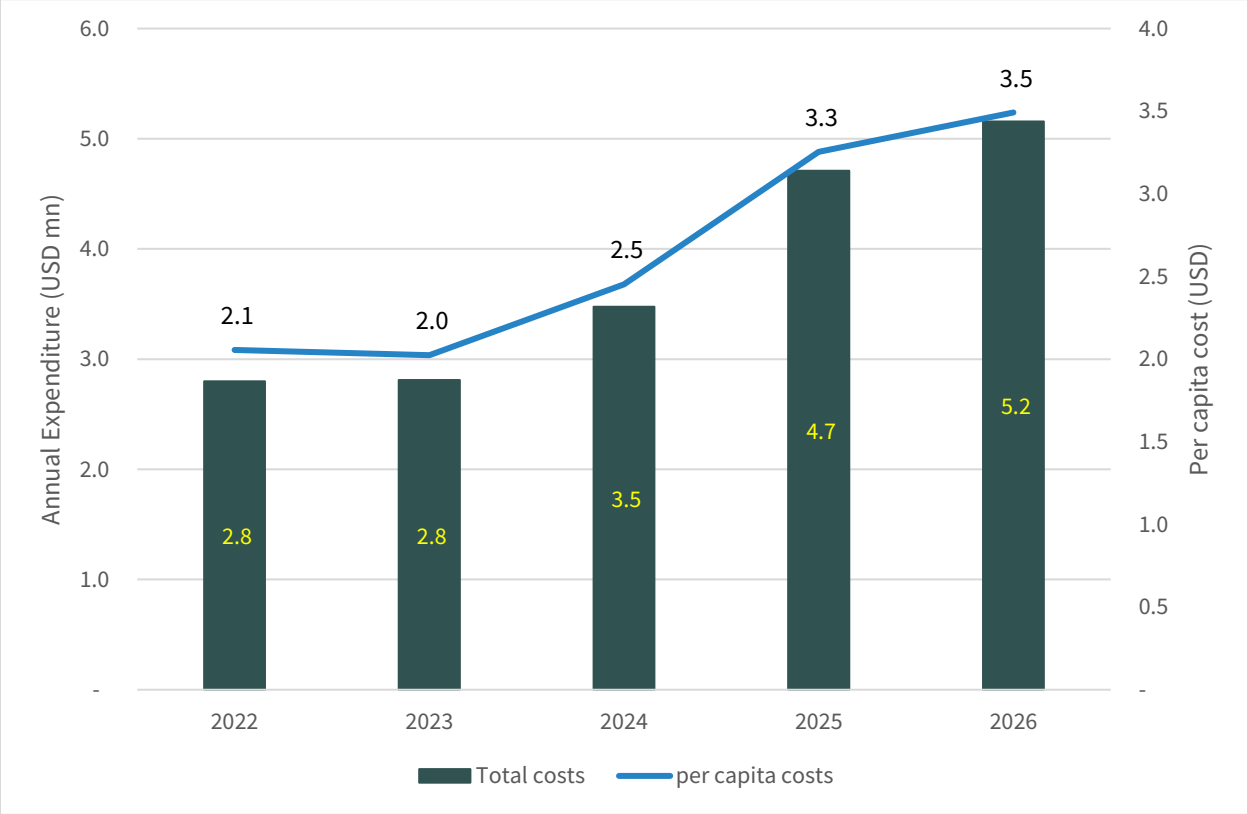
NSP 2022 to 2026 focuses prevention and control of HIV/STI and hepatitis infections among Timorese people. It plans different approaches aimed at two main target populations. They include KP and the general population, including special population groups such as pregnant women, youth, and uniformed personnel.

The cost estimates explained below cover the financial investments to be made in Timor-Leste in providing preventive, screening, and treatment interventions, making NSP-specific incremental costs related to health system strengthening, DIC maintenance, and programme activities. In addition, it captures the cost of generating and using health management information for NSP M&E.

Fig. 2 shows that the total cost of the NSP increases from US$ 2.7 million in 2022 to US$ 5.2 million in 2026 as the intervention scale-up to 95% in 2026. These costs were also adjusted for USD inflation of 1.2% over consecutive years.

The per capita cost related to NSP implementation ranges from US$ 2 in 2022 to US$ 3.5 in 2026.

Figure 2. Total and per-capita cost of NSP implementation, 2022–2026



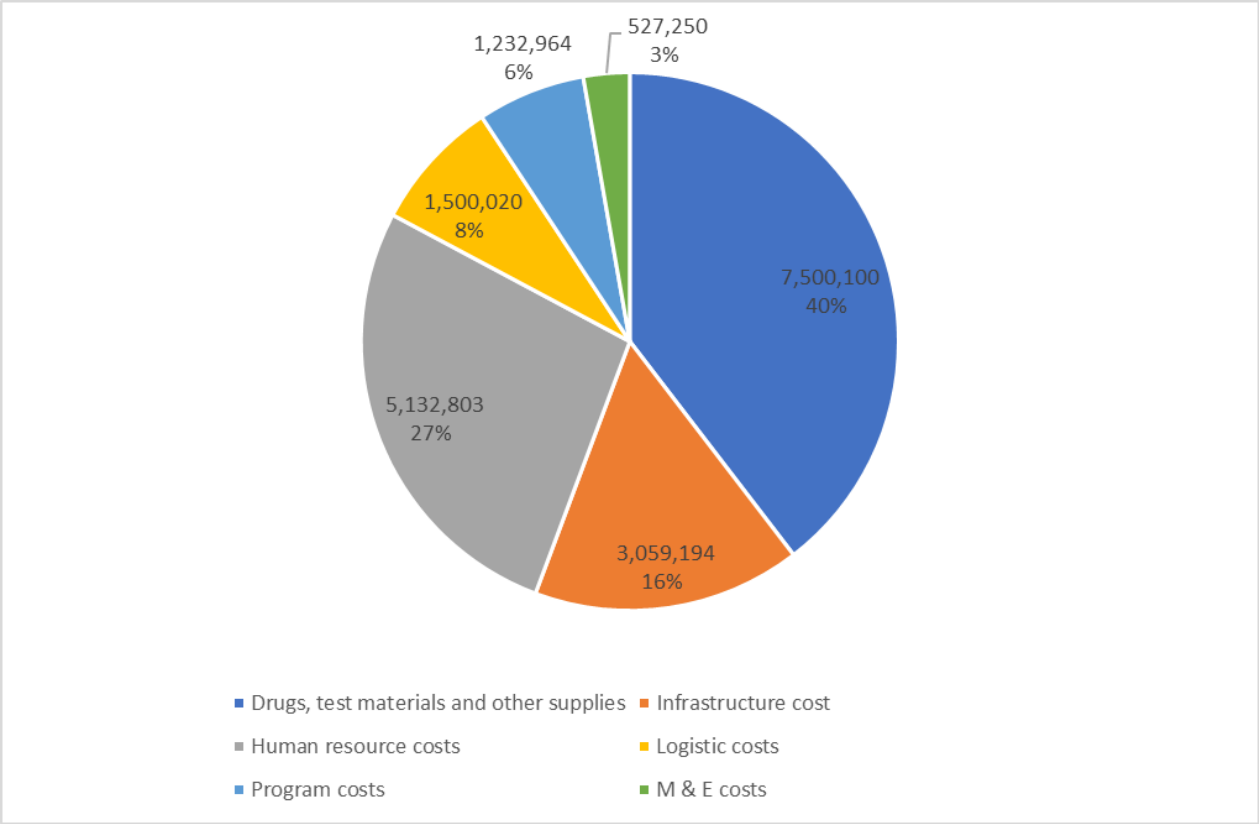
4.3 Cost by health system components

Table 1. Cost of NSP implementation by different cost components, 2022–2026

Cost element	2022	2023	2024	2025	2026	Total
Drugs, test materials and other supplies	586 805	954 630	14 08 639	19 47 091	26 02 935	75 00 100
Infrastructure	816 684	527 010	472 614	637 856	605 030	30 59 194
Human resource	795 448	935 869	10 17 723	11 46 513	12 37 250	51 32 803
Logistic	117,361	190,926	281,728	389,418	520,587	15 00 020
Programme	400 260	126 360	129 960	461 424	114 960	12 32 964
M & E	82 250	77 000	166 000	126 000	76 000	527 250
Total	**27 98 809**	**28 11 795**	**34 76 663**	**47 08 302**	**51 56 763**	**189 52 331**

On average, the largest share (40% of the total cost of the NSP project span) of NSP implementation costs is attributed to the material costs that include of drugs, testing materials, and other supplies used in the prevention and control of different health conditions related to HIV, STI, and viral hepatitis (Fig. 3).

Figure 3. Total NSP implementation cost over 2022 to 2026 period by cost elements



The second-largest share (27%) was accounted for by the payments made to DIC staff and the current donor contributions to HR payment of NAP activities. It is important to note that these cost estimates do not cover the shared HR costs of the health staff who are contributing to HIV/STI and hepatitis management, as they are already paid by the existing budgets. Hence the actual HR cost of HIV/STI and hepatitis management may be larger.

Infrastructure costs accounted for 16% of the total costs. They only focus on the capital and recurrent expenses attributable to NSP-related activities. The shared infrastructure cost that is already financed by existing budgets was not included.

Logistics cost is around 8% of total costs. Programme and M& E costs account for 6% and 3% of the total costs, respectively.

4.4 Cost by strategic focus

The NSP proposes to approach clients using two main approaches, i.e., are reaching KP using trusted access platforms and reaching the general population, including pregnant mothers, youth, armed personnel, blood donors, etc. In addition, there are many programme activities (such as capacity-building and technical guidance,) , M & E, operating technical support units and functions. The cost associated with these additional cost items are common to both KP and general population approaches. Hence they are identified as cross-cutting expenses.

Table 2. Cost of NSP implementation by strategic foci

Expenditure category	2022	2023	2024	2025	2026	Total	%
Expenses related to the KP approach	11 14 093	16 48 686	18 75 244	24 11 531	28 06 513	98 56 068	56
Expenses related to the general population approach	985 206	742 748	10 88 460	14 92 346	19 42 290	62 51 049	33
Cross-cutting expenses	699 510	420 360	512 960	804 424	407 960	28 45 214	15
Total	27 98 809	28 11 795	34 76 663	47 08 302	51 56 763	189 52 331	100

Approximately 56% of the total cost are attributed to the strategic interventions related to KP approach. The cost elements include all drugs and other materials used in the medical check-ups, screening, vaccination and treatment interventions carried out in the DICs, HR and infrastructure costs of TAPs. Logistic costs are related to TAP supplies.

4.5 Detailed drug and supply costs

The estimated drugs, testing, and other material supply costs of prevention and control of managing HIV, STIs, and viral hepatitis were around US$ 586 805 in 2022. The increase of intervention coverages from baseline levels to reach 95% by 2026 will result in increasing the material cost related to NSP targeted intervention implementation to US$ 2.6 million. Table 3 shows how these costs are disaggregated by three disease programmes.

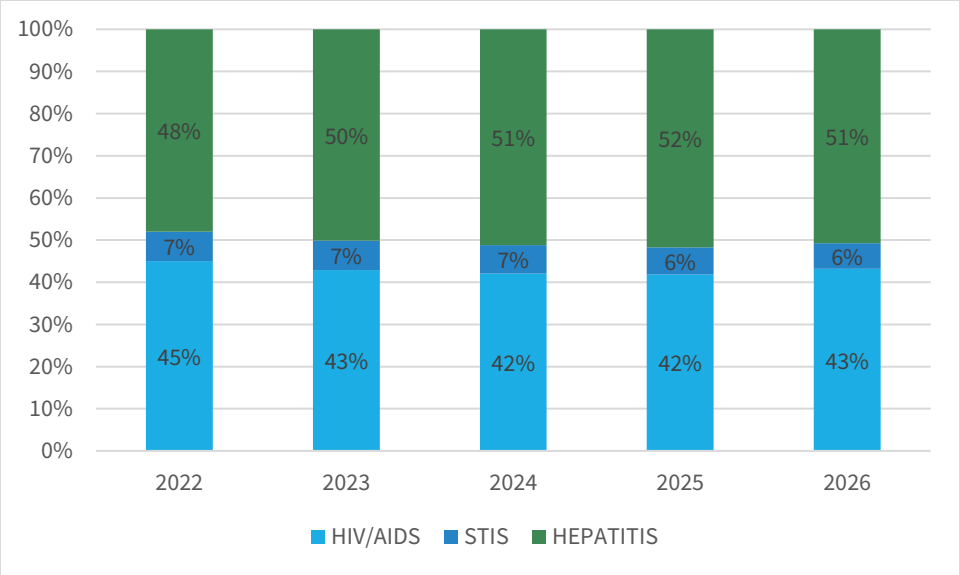
Table 3. Drug and supply costs related to NSP implementation, 2022– 2026

Illness	2022	2023	2024	2025	2026	Total
HIV/AIDS	264 339	409 254	592 843	814 868	11 24 345	32 05 649
STIs	40 835	67 144	95 265	125 270	157 141	485 654
Hepatitis	281 631	478 231	720 531	10 06 953	13 21 450	38 08 797
Total	586 805	954 630	14 08 639	19 47 091	26 02 935	75 00 100

Fig. 4 presents the patterns of the relative share of materials cost by three programme areas. It seems that as time advances within five-year period, the relative share of HIV/AIDS increases from 48 to 51%, while the relative shares of hepatitis and SITs material costs reduce correspondingly.

Detailed analysis showed that this is mainly due to the scaling up of HIV PrEP among KP. The cost of HIV PrEP drugs was found to be the largest cost driver of drugs and supply costs.

Figure 4. Relative distribution of drugs and supply costs by three programme areas



Tables 4 to 6 present the detailed material costs of three different programme areas from 2022 to 2026.

Table 4. Material costs of HIV/AIDS interventions, 2022–2026

HIV/AIDS intervention	2022	2023	2024	2025	2026	Total
Prevention						
Interventions focused on PWID	10 966	21 981	33 835	46 456	59 963	173 202
Interventions focused on FSW	6060	12 134	18 603	25 493	32 840	95 130
Interventions focused on MSM	6508	13 028	19 972	27 372	35 269	102 149
Voluntary counselling and testing	31 624	35 204	39 189	43 625	48 564	198 207
Post-exposure prophylaxis	9	19	28	39	50	145
Testing pregnant mothers (HIV)	35 511	64 190	94 962	127 846	162 706	485 215
Blood donor testing (HIV)	8288	8388	8488	8590	8693	42 448
Injection safety	5623	11 247	17 234	23 604	30 376	88 084
Interventions for TG	816	3495	6349	9392	12 640	32 692
Interventions for MSW	5328	7865	10 562	13 435	16 500	53 690
Pre exposure prophylaxis	3209	28 502	77 500	149 013	291 209	549 433
Care and treatment						

HIV/AIDS intervention	2022	2023	2024	2025	2026	Total
ART (First-line treatment)	105 909	140 428	180 253	225 585	276 579	18 57 508
ART (Second-line treatment)	15 563	20 636	26 488	33 150	40 643	136 480
PMTCT	256	454	706	1016	1383	3814
Cotrimoxazole for children	332	444	564	692	819	2852
Paediatric ART	4695	5495	6286	7107	7881	31 464
Diagnostics/lab costs for HIV+ in care	23 015	35 167	51 097	71 562	97 206	278 048
Management of opportunistic infections associated with HIV/AIDS	626	579	727	889	1022	3843
Total	264 339	409 254	592 843	814 868	11 24 345	32 05 649

Table 5. Material costs of STI interventions, 2022–2026

STI intervention	2022	2023	2024	2025	2026	Total
STI screening for IDU	36	74	112	151	197	571
STI screening for FSW	3330	6667	10 220	14 009	18 043	52 269
Screen syphilis (VDRL) pregnancy	22 477	36 911	52 387	68 914	86 419	267 108
Syphilis screening (Blood donor)	4402	4455	4508	4563	4617	22 546
STI screening for MSM	3576	7159	10 973	15 041	19 380	56 129
STI screening for MSW	2927	4320	5802	7382	9066	29 496
STI screening for TG	449	1920	3489	5160	6945	17 964
Treatment of syphilis	1527	2407	3347	4354	5417	17 052
Treatment of gonorrhoea	833	1257	1709	2191	2704	8694
Treatment of chlamydia	921	1392	1893	2425	2996	9627
Treatment of trichomoniasis	114	172	233	299	369	1187
Neonatal follow-up of STI-positive mothers	242	410	591	782	987	3011
Total	40 835	67 144	95 265	125 270	157 141	485 654

Table 6. Material costs of Hepatitis interventions, 2022–2026

Hepatitis intervention	2022	2023	2024	2025	2026	Total
Prevention						

Hepatitis intervention	2022	2023	2024	2025	2026	Total
HB vaccine birth dose	9746	15 174	20 997	27 216	28 170	101 304
Vaccination of health care workers	1273	1288	1304	1319	551	5736
Vaccination of armed forces	583	590	597	605	612	2987
Vaccination of PLHIV	825	1093	1403	1756	2153	7229
Vaccination of haemodialysis patients	61	62	62	63	64	312
Vaccination of prisoners	292	295	299	121	31	1037
Vaccination of TG	178	763	1386	2050	2760	7137
Vaccination of FSW	1323	2650	4061	5566	7171	20 771
Vaccination of MSW	1163	1717	2305	2934	3603	11 722
Vaccination of family contacts	4523	6612	8846	11 112	13 441	44 533
PMTCT(HBV)	3460	5725	8156	10 734	1255	29 330
Vaccination of blood donors	3739	3783	3829	3875	3921	19 147
Testing pregnant mother (PMTCT)	17 438	28 551	40 206	52 387	65 014	210 473
Vaccination of MSM	1421	2844	4361	5976	7701	22 303
Vaccinating IDU	15	28	45	60	78	226
Testing						
Testing of health care workers	754	763	772	781	327	3396
Testing of armed forces	557	563	570	577	584	2851
Testing of PLHIV	760	1008	1295	1620	1986	6670
Testing of haemodialysis patients	56	56	57	58	58	285
Testing of prisoners	278	282	285	115	29	990
Testing of TG	330	1408	2558	3784	5093	13173
Testing of FSW	2442	4889	7495	10 273	13 231	38 331
Testing of MSW	2146	3168	4255	5413	6648	21 631
Testing of family contacts	9117	13 325	17 826	22 394	27 086	89 749
Testing blood donors	3340	3380	3420	3461	3503	17 104
Testing of MSM	2623	5250	8047	11 030	14 212	41 161
Testing IDU	27	54	82	111	145	418
Treatment						

Hepatitis intervention	2022	2023	2024	2025	2026	Total
CHB- assessment for treatment eligibility	38 683	57 358	77 455	97 868	119 511	390 873
CHB- management drugs eligible patients	35 483	72 696	125 032	193 365	278 320	704 896
CHB- management drugs not eligible patients	52 014	106 543	183 276	283 501	408 066	10 33 400
CHC - management	86 776	135 622	188 784	244 267	302 131	957 580
Total	281 631	478 231	720 531	10 06 953	13 21 450	38 08 797

4.5 Detailed infrastructure costs

As already indicated, only infrastructure costs related to NSP implementation were included in infrastructure costs. It was assumed that all CHCs (n = 72) would be provided the cold chain equipment mentioned in the section of methodology during the first year to support the programme scale up. The referral hospitals and the national hospital will also get the diagnostic equipment described in the methodology section.

All newly established DICs will also be equipped with the set of medical equipment, furniture, IT equipment, and other items mentioned. Infrastructure recurrent costs included the monthly rental of DICs, and all forms of utility costs mentioned above. Table 7 presents the infrastructure costs disaggregated by sub-items.

Table 7. Infrastructure costs related to NSP implementation, 2022–2026

Infrastructure cost	2022	2023	2024	2025	2026	Total
Capital costs						
Purchasing cold chain equipment for CHC and diagnostic equipment for RH and NH	528 264	0	0	0	0	528 264
Medical equipment, furniture and IT equipment purchases for new DICs	0	60 000	0	40 000	0	100 000
Total capital cost	528 264	60 000	0	40 000	0	628 264
Operating costs						0
Water cost - DICs	30 360	49 159	49 749	62 932	63 687	255 887

Infrastructure cost	2022	2023	2024	2025	2026	Total
Electricity cost - DICs	30 360	49 159	49 749	62 932	63 687	255 887
Other facility operating costs- DICs (including rentals)	227 700	368 692	373 116	471 992	477 656	19 19 156
Total operating costs	288 420	467 010	472 614	597 856	605 031	24 30 931
Total infrastructure cost	816 684	527 010	472 614	637 856	605 030	30 59 194

4.6 Detailed human resource costs

As explained above, only the DIC staff costs were considered as human resource costs. Table 8 presents the expected number of staff types in existing DICs by each year. The respective staff norms used were described in the methodology section.

Table 8. Number of DIC staff by category over 2022 to 2026 period

Health service providers	2022	2023	2024	2025	2026
DIC coordinator	5	8	8	10	10
DIC doctors (part time)	5	8	8	10	10
DIC nurses	5	8	8	10	10
DIC counsellors	5	8	8	10	10
DIC peer educator supervisors	21	32	43	54	66
DIC peer educators	107	159	214	270	329
DIC supporting staff	5	8	8	10	10
Total	137	207	262	330	389

Table 9 presents the staff costs by type of staff and year of payment.

Table 9. Staff payment cost, 2022–2026

Health service providers	2022	2023	2024	2025	2026	Total
DIC coordinator	30 360	49 159	49 749	62 932	63 687	255 887
DIC doctors	18 520	29 987	30 347	38 389	38 849	156 091
DIC Nurses	24 288	39 327	39 799	50 346	50 950	204 710

DIC counsellors	21 373	34 608	35 023	44 304	44 836	180 145
DIC peer supervisors	51 981	77 242	103 961	131 166	159 828	524 178
DIC peer leaders	97 456	146 555	199 617	254 876	314 298	10 12 801
DIC supporting staff	12 144	19 664	19 900	25 173	25 475	102 355
Sub total (DIC)	256 121	396 542	478 396	607 186	697 923	24 36 168
HR contribution to TSU human resources (Central) and TA	539 327	539 327	539 327	539 327	539 327	26 96 635
Total HR costs	795 448	935 869	10 17 723	11 46 513	12 37 250	51 32 803

4.7 Detailed programme costs

NSP suggests several programme activities that would be required for creating a supportive environment for the implementation of NSP activities. Programme activities were classified under the following themes.

Strategic communication activities

It was assumed that NSP has to be disseminated among relevant stakeholders at national and district levels once finalized. The costs of printing and dissemination meeting costs were considered.

Technical guidance

The need for the availability of integrated implementing guidelines in local languages were considered as an important prerequisite. The cost of the development of local guidelines and printing of copies to cover medical and nursing staff was estimated.

Community awareness

NSP proposes to improve community awareness on the prevention and control of HIV/AIDS, STIs and viral hepatitis. The financial provision required for comprehensive mass media programme were identified and costs estimated.

Stakeholder mapping and networking

As suggested in the NSP, the cost of stakeholder mapping and ensuring sustained stakeholder engagement was estimated.

Capacity-building

The need for enhancing the capacity of CHC and hospital doctors and nurses was identified as an important prerequisite for NSP effectiveness. The costs were estimated to ensure financial provisions of training district-level staff as a cascade training conducted by newly established master trainer groups. Peer leader training was considered a routine function of the DIC medical staff. No separate financial allocations were made on this.

M & E

Ensuring reliable data to guide the NSP response was one of the main objectives of the NSP. The costs of the review and development indicator framework, development of e-platform (DHIS2-based), training local data managers and update and duplication of hard data formats were factored into the costs. Hosting the network was considered as a shared cost, and related expenses are already being met.

Research cost

Cost was added to facilitate conducting an integrated national serological and programme survey in the midterm.

Technical assistance

Provisions were made to include the costs of technical assistance over the NSP period in the form of having one national programme officer, three programme coordinators, and one international level TA in each year.

Table 10 presents the estimated cost of these programme activities. The accompanying programme cost excel sheet shows the detailed calculations and parameters used in the calculation process.

Table 10. Programme activity cost over 2022 to 2026 period

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
Strategic communication							
Approved NSP will be disseminated among central and district/municipality level health authorities and institutions	Printing and dissemination of NSP (n = 100)	9960					9960

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
Technical guidance							-
A guideline on the implementation of NSP interventions are distributed among health staff. This guide will be developed in local language by a local expert. Guidelines are disseminated during capacity-building sessions	Development of a key population package and an integrated intervention package for CHC and RH staff package guideline by a local expert	9250					9250
	Dissemination of "key" population package guideline (n=300- DIC staff and peer leaders)- 60 page document, will be distributed in every other year as peer leaders change and books becoming destroyed (every other year)	3600		3600		3600	10 800
	Dissemination of integrated intervention package for CHC and RH staff (n=1500)	18 000					18 000
Community awareness building on HIV/STI and hepatitis prevention							-

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
Communication messages will be prepared by an expert, pre tested and telecasted	Development of messages by an international expert	15 300					15 300
	Production of video based on messages	2000.00					2000
	production of audio message to be broadcasted	1000					1000.00
	production of social media messages to be published	250					250
	Development and printing of posters	1800					1800
	production of pamphlets for key population/ youths/armed personnel	10 000	10 000	10 000	10 000	10 000	50 000
	Telecasting messages in the TV channel (2 minute add twice a day per month in every quarter)	24 000	24 000	24 000	24 000	24 000	120 000
	Broadcasting messages in a radio channel (twice a day per month in every quarter)	14 400	14 400	14 400	14 400	14 400	72 000
Stakeholder mapping and networking							-

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
A stakeholder mapping exercise will be conducted through an international and local consultant	Payment to international consultant - 14 days	7000					7000
	Payment to local consultant - p 14 days	2800					2800
	Sundries	250					250
A network of stakeholders will be established through an advocacy meeting	Stakeholder meeting cost	4480					4480
Quarterly review meetings will be held with stakeholders by NAP	Review meeting cost	8 960	8 960	8 960	8 960	8 960	44 800
Capacity-building							-
Capacity of CHC and hospital doctors and nurses will be trained as cascade training held at district level, One programme for district by using a trained master trainer teams (2 persons 2 teams)- altogether 13 (2 days) training programmes	Payment to a local consultant for developing a curriculum and training material	5250					5250
	Printing training materials	6000					6000
	Conducting master training	1896					1896
	Conducting local training	185 064			185 064		370 128
Monitoring and Evaluation							

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
Development/ Updating M& E indicators to suit the new NSP guidelines	The NSP related indicators will be developed by an international consultant through a desk review, system analysis and stakeholder consultation	12 990					12 990
Development and integration of Information module to national HMIS (DHIS2) system.	This module development and the training of local data managers on operating the module will be done by an IT consultant	14 000					14 000
Training of data managers	2 personnel from each district/municipality and 2 personnel form NAP will be trained on the MIS module	3360					3 360
Printing of institutional data formats	Existing data formats will be updated and printed in DICs and institutions, a combined book with both record and return (can be torn off and mailed) will be prepared for each institution (CHC/DIC/RH/NH)	890					890

Programme activity cost assumption	Sub activity	2022	2023	2024	2025	2026	Total
Research							-
Conduct a comprehensive sero survey and programme evaluation at mid term					150 000		150 000
Technical assistance							-
Recruiting national programme officer	One officer to be recruited for 5 years	18 000	18 000	18 000	18 000	18 000	90 000
Programme officers to NPA coordination (n =3)		36 000	36 000	36 000	36 000	36 000	180 000
Technical assistance (international)	Tentative estimate for further technical assessment needs	15 000	15 000	15 000	15 000		60 000
Total		431 500	126 360	129 960	461 424	114 960	12 64 204

5. Annex 1. HIV, STIs and hepatitis interventions

The interventions related to HIV, STIs and hepatitis were separately costed based on respective target populations that are expected to be covered in each year based on targets. The intervention costs were presented in disaggregated manner to show costs by main focus areas (KP interventions and CHC-based interventions aimed at general population groups including pregnant mothers , youth, armed personnel etc.

5.1 HIV/AIDS interventions

Prevention

1. Interventions focused (as in the annex 2) on PWID
2. Interventions focused on FSW
3. Interventions focused on MSM
4. Interventions for TG
5. Interventions for MSW
6. Voluntary counselling and testing

7. Testing pregnant mothers (HIV)
8. Blood donor testing (HIV)
9. Injection safety
10. Pre-exposure prophylaxis for all KP
11. Post-exposure prophylaxis.

Care and treatment

1. ART (First-line treatment) for men
2. ART (First-line treatment) for women
3. PMTCT
4. Cotrimoxazole for children
5. Pediatric ART
6. Additional ART for TB patients
7. Diagnostics/lab costs for HIV+ in care
8. Management of opportunistic infections associated with HIV/AIDS.

5.2 STI interventions

1. STI (Syphilis, gonorrhoea) screening for PWID
2. STI (Syphilis, gonorrhoea) screening for FSW
3. Screen syphilis (VDRL) pregnancy
4. Syphilis screening (Blood donors)
5. STI (Syphilis, gonorrhoea) screening for MSM
6. STI (Syphilis, gonorrhoea) screening for MSW
7. STI (Syphilis, gonorrhoea) screening for TG
8. Treatment of syphilis
9. Treatment of gonorrhoea
10. Treatment of chlamydia
11. Treatment of trichomoniasis
12. Neonatal follow up of STI positive mothers.

5.3 Viral Hepatitis Interventions

Prevention

1. HB vaccine birth dose
2. HB vaccination of health care workers
3. HB vaccination of armed forces
4. HB vaccination of PLHIV
5. HB vaccination of haemodialysis patients
6. HB vaccination of prisoners
7. HB vaccination of TG
8. HB vaccination of FSW
9. HB vaccination of MSW
10. HB vaccination of family contacts
11. PMTCT(HBV) for newborns
12. Vaccination of blood donors
13. Testing pregnant mother (PMTCT)- HBV–HCV
14. HB vaccination of MSM
15. HB vaccinating PWID.

Testing

1. Testing of health care workers for HBV–HCV
2. Testing of armed forces for HBV–HCV
3. Testing of PLHIV for HBV–HCV
4. Testing of hemodialysis patients for HBV–HCV
5. Testing of prisoners for HBV–HCV
6. Testing of TG for HBV–HCV
7. Testing of FSW for HBV–HCV
8. Testing of MSW for HBV–HCV
9. Testing of family contacts for HBV–HCV
10. Testing blood donors for HBV–HCV
11. Testing of MSM for HBV–HCV
12. Testing IDU for HBV & HCV.

Treatment

1. HBV- assessment for treatment eligibility
2. HBV- management drugs eligible patients
3. HBV- management drugs not eligible patients
4. HCV Management of all patients.

6. Annex 2. OneHealth Tool

OHT is computer software that can be used to estimate the cost of implementing health programmes. It is organized to enable the costing of resources utilized in complex health systems, where health system inputs are shared and services are delivered as integrated packages. In addition, OHT allows us to conduct health impact analysis, compare the cost implication of different scenarios, identify the financial space and conduct budget mapping of health programmes, all within the same framework of costing.

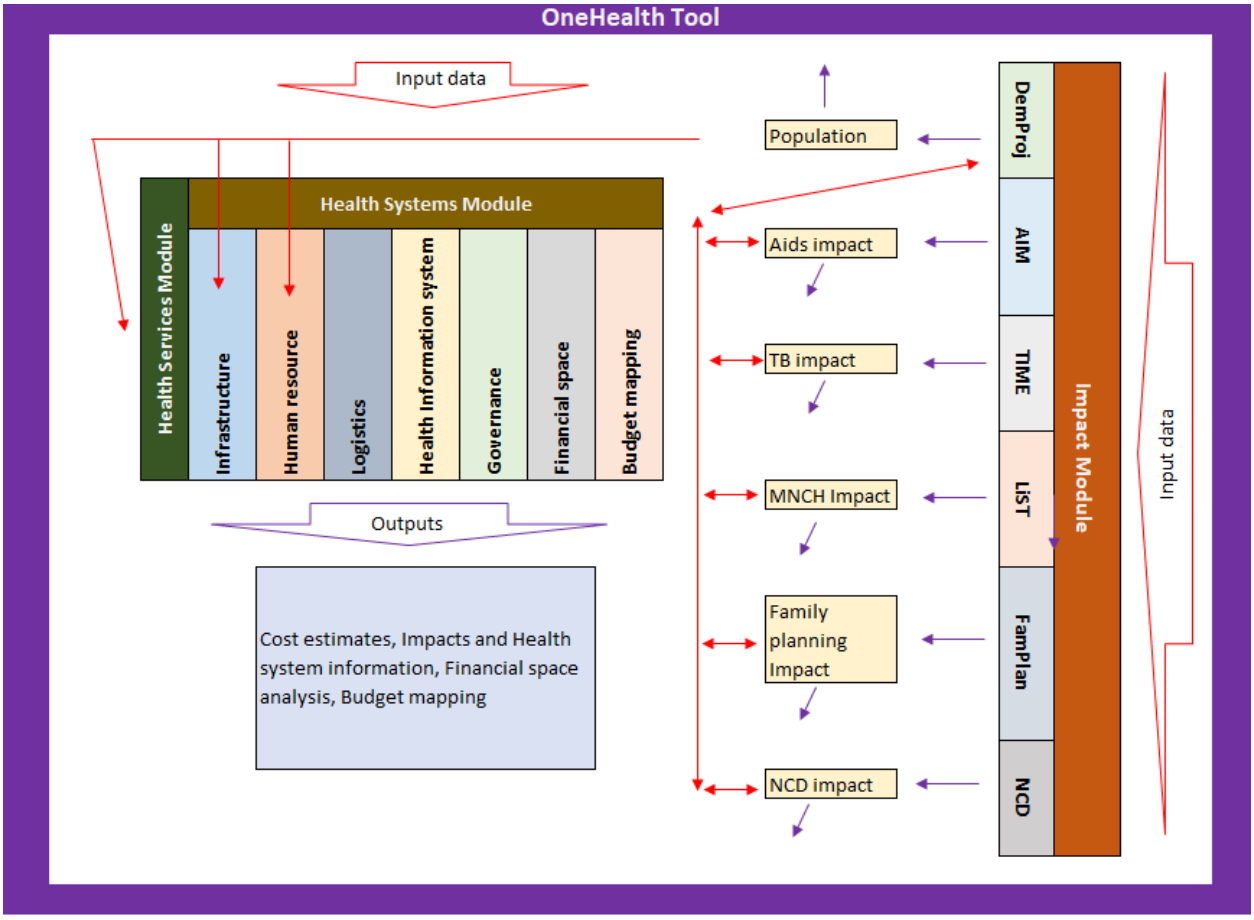
OHT is organized into separate analytical modules, which allows the estimation of the cost of resource utilization within various health system structures as different subtotals. These subtotals are then used to produce the total cost of the health programme in focus. Table 11 presents the organizational arrangement of modules within the OHT and their functions.

Table 11. Organizational structures of different modules within the OHT and their functions.

Main module		Submodule	Functions
Health services		Intervention costing	Estimation of drugs and other supplies cost of providing various health interventions
		Program costing	Estimation of the cost of programme activities such as advocacy, awareness, capacity-building of providers, supervision, M&E, research, etc.
Health systems		Infrastructure	Estimation of the cost of infrastructure (capital and maintenance)
		Human resources	Estimation of the cost of human resources production and remuneration of services
		Logistics	Estimation of cost of logistical supplies

		Health information systems	Estimation of the cost of developing and maintaining health information system.
		Health financing	Estimation of the administrative cost of the health financing system
		Governance	Estimation of the cost of governance actions
		Financial space	Comparing the estimated cost with available resources
		Budget mapping	Mapping the estimated costs to various budget items
Impact modules		Dem proj	Assessment of overall population dynamics and target population numbers
		Famplan	Assessment of the impact of family planning activities and other determinants of fertility outcomes
		AIM	Assessment of the impact of the AIDS epidemic and interventions
		LiST	Assessment of the impact of RMNCH interventions
		TIME	Assessment of the impact of TB epidemic and interventions
		NCD	Assessment of the impact of NCD epidemic and interventions

Figure 5. Schematic framework on the structure and functions of the OHT.

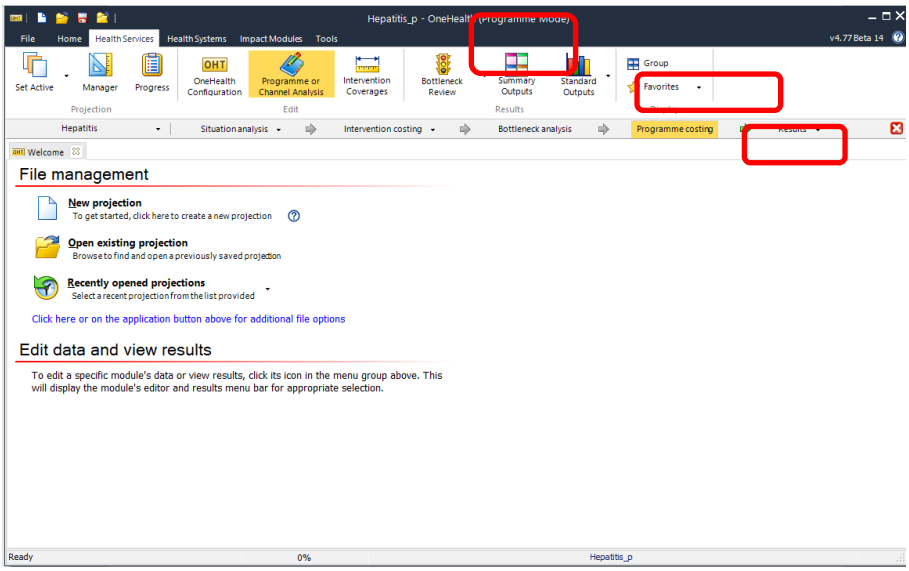


As shown in Fig 5, OHT has 3 main components or modules: 1) Health service module; 2) Heath system module; and 3) Impact module. The health service and health system modules can be viewed as the costing engine of the tool, while the impact module is facilitating the costing as the target recipient estimator. Health services module is also used for assessment of service-related statistics such as out-patient visits, inpatient days, person-time requirements. Impact module estimate the population and disease outcomes related to various illnesses and health conditions. It acts as the main source of the target population estimator for the other modules. All the modules are dependent on the user input data for producing respective outputs.

Health service module: The health services module estimates the costs of drugs and other supplies used in intervention delivery. These are called intervention costs. For example, in the hepatitis programme, these items include vaccines, drugs (Tenofovir and Entecavir), and other supplies (Eliza kits, etc.). The module utilizes user-defined inputs such as type of interventions, target populations, populations in need of interventions (i.e., proportions of target populations that are actually eligible for interventions), percentage coverage of intervention, and the delivery channel for producing the estimates of drugs and supplies. In addition, various treatment inputs (Drugs, injection supplies, blood or urine tests, etc.) related to interventions have to be specified. The unit costs of these items also have to be

specified. This module is also used to estimate the cost of implementing programme activities such as advocacy, awareness, capacity-building of providers, supervision, M&E, research, etc.

Health services module



Health systems module: The health systems module consists of several sub-modules. They include infrastructure module, human resource module, logistic module, health information systems module, and governance module.

Infrastructure module: It estimates the cost incurred on buildings (i.e., construction, rehabilitation/maintenance, and utility costs), the cost involved in vehicles (purchase, maintenance, and operational costs), and the cost of ICT equipment (purchase and maintenance costs). The user has to specify the baseline number of infrastructure items, other baseline parameters used for assessing the cost (average construction, maintenance and utility costs) as well as targets for infrastructure developments. Infrastructure development targets could be based on existing plans or population norms.

Human resource module: It calculates the cost of paying emoluments to health staff, cost of preservice training, and cost of providing retention incentives. Context-specific human resource types have to be specified by the user. The staff baseline, staff distribution by various levels of care, annual salary,

incentives and increment patterns, and numbers and unit costs related to preservice training of different types of staff have to be indicated. The human resource targets can be specified, either according to the existing plans or based on population norms.

Logistic module: It estimates the expenditure incurred on logistics activities related to a health programme. The module estimates the cost of warehouses (construction, maintenance, and utilities), cost of transport (vehicle purchase, maintenance and operational cost, third party contracts), and the cost of paying warehouse workers (e.g., managers, storekeepers, clerks, drivers, manual laborers, etc. In addition, the cost incurred on the material items that are usually not based on the target recipients is also considered in this module. For example, items that are given to health staff (e.g., uniforms, bicycles, etc.) could be costed in this section. As in the case of infrastructure and human resource modules, the baseline levels and future targets of each cost element and their unit costs have to be pre-specified by the user.

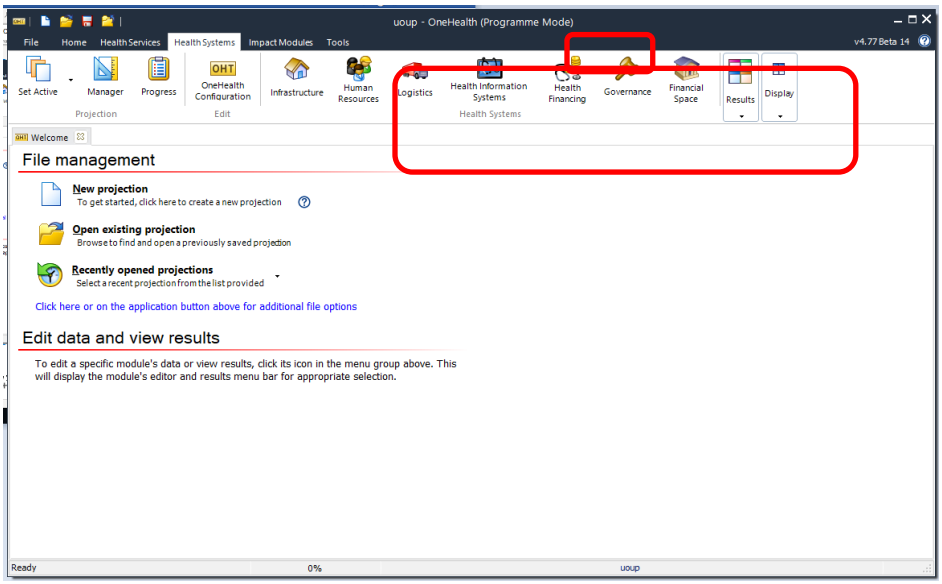
Health information system module: The health information system (HIS) module is designed to estimate the cost of developing and maintaining the management information system related to a health programme. HIS-related cost components include the cost of personnel involved in information management, cost of printing formats, cost of ICT equipment, and cost of software development and application. Health information systems also involve several management functions such as training, supervision, review, and updating of the information systems, etc.

Governance module*:* This module is meant for estimating the cost of governance activities such as the development or review of strategic vision and ethics, improving responsiveness, participation, and consensus, carrying out legal reforms, and maintaining the transparency and accountability of health programmes.

Financial space module*:* This module provides an analysis of financial gaps in relation to the available budgetary resources and estimated costs.

Budget mapping module: Budgetary mapping module allows facilities to recategorize the estimated costs according to the user-defined budget coding systems.

Health system module



In-depth information regarding OHT can be found in the resource manuals accessible at: https://www.avenirhealth.org/software-onehealth.php

National Strategic Plan for HIV, STIs and Viral Hepatitis

2022–2026

Timor-Leste

July 2022

National HIV/AIDS Programme
Department of Communicable Diseases
Ministry of Health
Democratic Republic of Timor-Leste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