



REPUBLIC OF MAURITIUS NATIONAL HIV
ACTION PLAN 2023 – 2027

Republic of Mauritius
National HIV Action
Plan 2023 – 2027



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FOREWORD



In line with the Sustainable Development Goals, the Republic of Mauritius is committed to further reduce the impact of AIDS epidemic as a public health threat by 2030. There has been a 32% decline in the estimated number of new HIV infections in the country from 2010 to 2021 while the HIV prevalence continued to decrease among the key populations which are the main drivers of the epidemic. The number of deaths related to HIV infections among children decreased by 52% with a steady reduction in the mother to child transmission since 2010. The Ministry of Health and Wellness is relentlessly expending great efforts in addressing the challenges and gaps along the HIV care continuum.

This commitment is reflected through the strong political will which has been further entrenched with the setting up of the High-Level Drug and HIV Council under the Prime Minister's Office in 2018.

The National HIV Action Plan 2023-2027 addresses the realities and the specificities of the country's evolving nature of the HIV epidemic which reflects the pattern of the behaviour of our society. To ensure that it tackles the gaps in the AIDS response, the National HIV Action Plan is guided by the principles of Universal Health Coverage, continuum of HIV services and Public Health approach to HIV services. A person-centred and rights-based approach has been adopted to develop this five-year plan.

I would like to express my gratitude to the World Health Organisation for the technical assistance it has provided in the preparation of the National Action Plan. It translates the sustained commitment and action to address the scale of challenges ahead. The five strategic goals that will set the course towards an AIDS-free generation are: reducing new HIV infections by at least 25%, reducing AIDS-related deaths by at least 50%; reducing mother to child transmission to zero; strengthening resilient sustainable systems for health and community systems and reducing barriers that hinder access to HIV and harm reduction services.

It is against this backdrop, that my Ministry will ensure that the National HIV Action Plan 2023–2027 be implemented over the next five years. Inter-sectoral collaboration and a whole of Government and whole of society engagement are being sought. All investments made now will result in substantive gains towards 2030.

My Ministry is confident that the effective and efficient implementation of the National HIV Action Plan 2023–2027 will accomplish its vision – that is to substantially reduce HIV and AIDS infection within the setting up of an inclusive society free of stigma and discrimination.

Dr the Hon Kailesh Kumar Singh JAGUTPAL
Minister of Health and Wellness

16 January 2023

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Abbreviations and Acronyms

AILES	Aides, Info, Liberté, Espoir et Solidarité
AHC	Area Health Centre
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
CART	Combination of Antiretroviral Therapy
CHC	Community Health Centre
CPD	Continuous Professional Development
CSR	Corporate Social Responsibility
CUT	Collectif Urgence Toxida
DCCI	Day Care Centres for the Immunosuppressed
DHIS2	District Health Information Software 2
Global Fund	Global Fund to fight AIDS, Tuberculosis and Malaria (GFTAM)
HCV	Hepatitis C Virus
HMIS	Health Management Information Systems
HIV	Human Immunodeficiency Virus
PWIDs	People Who Inject Drugs
IEC	Information, Education and Communication
KP	Key Population
M&E	Monitoring and Evaluation
MST	Methadone Substitution Therapy
MOHW	Ministry of Health and Wellness
MSM	Men who have Sex with Men
NAS	National AIDS Secretariat
NDS	National Drug Secretariat
NAP	National Action Plan
NSIF	National Social Inclusion Foundation
NEP	Needle Exchange Program

NGO	Non-Governmental Organisation
NSP	Needle and Syringe Programs
OSS	One-Stop shop
OST	Opioid Substitution Therapy
PILS	Prévention Information et Lutte contre le Sida
PLHIV	People Living with HIV
PrEP	Pre-exposure Prophylaxis
PEP	Post-exposure prophylaxis
PWID	People Who Inject Drugs
PWUD	People Who Use Drugs
RSSH	Resilient and Sustainable Systems for Health
SADC	Southern African Development Community
SCM	Supply Chain Management
SLMTA/SLIPTA	Strengthening Laboratory Management Toward Accreditation
SW	Sex Worker
TB	Tuberculosis
TG	Transgender
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organisation

Chapter 1: Background

1.1 Overview of the Republic of Mauritius

Republic of Mauritius is an upper middle-income country with a population of about 1,266,334 as of 1 July 2021 on its three main islands – Mauritius, Rodrigues, and Agalega and St Brandon with a slightly more females than males¹. The average population density in the country is 631/Km² and varies from 10/Km² in Agalega and St. Brandon to 654/Km² in the Island of Mauritius.² The median age in 2020 was 36.9 years with 64.9% of the population aged 15-64 years³. Life expectancy for both sexes in 2022 is 75.36 years⁴.

The economy of Republic of Mauritius is highly diversified and export oriented and includes manufacturing, agriculture, construction, and service industry such as tourism, banking, and ICT⁵. Republic of Mauritius' estimated Gross Domestic Product (GDP) per capita in 2021 was \$8,681.61 and is expected to increase to \$9,437.5 in 2022⁶. However, according to World Economics Research, London⁷, the GDP per Capita of Republic of Mauritius, based on the purchasing power parity, was \$24,481 (based on 2017 prices), placing the country in the 35th position in the World Economics Global Wealth rankings and first in Africa. Republic of Mauritius is a multi-ethnic society. The official language is English, although most of the population speak Creole⁸. More than half of the population reside in rural areas.

The health care system in Republic of Mauritius consists of public and private health care services. The public health care services operate a three-tier system consisting of primary, secondary (District and Regional health care services) and tertiary levels. The primary health care facilities constitute approximately 90% of the health care facilities and is the backbone of the country's health care system. The secondary health care facilities provide inpatient and outpatient services as well as supervise the Area Health Centers and Community Health Centers. The tertiary health care facilities provide specialized health care and serve as referral centers. There are five health regions which are semi-autonomous. The Ministry of Health and Wellness takes responsibility for the overall coordination of the health sector response and policy formulation. Health care is free in public facilities. There are also social protection measures such as old age pensions and family allowances.

¹ Statistics Mauritius. Population and Vital Statistics Republic of Mauritius, Year 2021. [online]. Available at https://statsmauritus.govmu.org/Documents/Statistics/ESI/2021/EI1606/Pop_Vital_MidYr21_300821.pdf (Accessed April 3, 2022)

² Ibid.

³ Ministry of Finance and Economic Development Statistics Mauritius (August 2021). Mauritius in Figures 2020. Population and Vital Statistics. Available online at: https://statsmauritus.govmu.org/Pages/Statistics/By_Subject/Other/SB_Other.aspx (Accessed April 3, 2022)

⁴ <https://www.macrotrends.net/countries/MUS/mauritius/life-expectancy>. Mauritius Life Expectancy 1950-2022. www.macrotrends.net. Retrieved April 3, 2022.

⁵ World Bank in Mauritius. <http://documents.worldbank.org/curated/en/415161568876900195/pdf/World-Bank-in-Mauritius.pdf>. (Accessed May 19, 2020)

⁶ Mauritius: Gross domestic product (GDP) per capita in current prices from 1986 to 2026 (in U.S. dollars). <https://www.statista.com/statistics/729012/gross-domestic-product-gdp-per-capita-in-mauritius/> Accessed: April 3, 2022

⁷ World Economics (2022). Mauritius's GDP PPP per Capita. Available at: <https://www.worldeconomics.com/Wealth/Mauritius.aspx> Accessed April 3, 2022

⁸ Mauritius (2020). Encyclopedia Britannica. <https://www.britannica.com/place/Mauritius>. (Accessed May 19, 2020)

1.2 HIV and AIDS in Republic of Mauritius

HIV was first reported in Republic of Mauritius in October 1987. Between 1987 and 2000 HIV transmission in Mauritius was thought to be driven by heterosexual sex. But in 2001, a sharp increase in the number of HIV cases was detected among people who inject drugs (PWIDs). This discovery was thought to reflect an increase in case detection among PWIDs rather than any change in socio-behavioral indicators⁹. Since then, HIV in Republic of Mauritius has continued to be driven by key populations, although recent program data suggest that new infections are increasing among adolescents and young adults (15 – 24 years) in the general population through heterosexual transmission (GF Funding Request, September 2020). In Rodrigues, the main driver of infection is heterosexual transmission mainly among adolescent girls and young persons. No case of HIV has yet been identified in Agalega and St. Brandon.

The steps taken by the government and developmental partners to address the marked increase in HIV cases among PWIDs in the early 2000s included the establishment of National AIDS Secretariat to coordinate the multisectoral response, assignment of the Ministry of Health and Wellness to coordinate the health sector response, the enactment of the HIV & AIDS Act of 2006, and the establishment of the harm reduction program (Needle Exchange Program and Methadone Substitution Therapy) in 2007. The first National HIV and AIDS Strategic Plan was developed in 2001 and expired in 2005. It was followed by the 2007 – 2011 National HIV and AIDS Strategic Plan, the 2013 – 2016 National Strategic Framework for HIV and AIDS, and the 2017 – 2021 National HIV Action Plan, which expired last year.

1.3 Regional and Global Commitments

The Government of Republic of Mauritius is a signatory to the following regional and global commitments regarding HIV and AIDS:

- The Maputo Plan of Action on Sexual and Reproductive Health and Rights (2007 to 2010)
- The 2011 Political Declaration on HIV-AIDS of June, 2011
- The 2011 Global Plan towards elimination of new HIV infections among children and keeping their mothers alive
- The 2012 Tunis Declaration on Value for Money, Sustainability and Accountability in Health aimed to increase domestic funding through cooperation between Ministries of Health, Ministries of Finance, technical and financial partners
- The 2012 African Union Roadmap on Shared Responsibility and Global Solidarity for AIDS, TB and Malaria in Africa
- Global Response of three-zeros (zero infection, zero death and zero discrimination).
- The 2015 United Nations agenda for Sustainable Development Goals (SDGs)
- The UNAIDS 2016-2021 Strategy
- Draft global health sector strategy on HIV, 2016-2021
- The Southern African Development Community (SADC) regional code on HIV/AIDS and Employment

⁹ National AIDS Secretariat (2010). HIV/AIDS in Mauritius. Country progress report to the United Nations General Assembly Special Session on HIV/AIDS. P.10

Chapter 2: Methodology – Developing the 2023 – 2027 National Action Plan

2.1 Introduction

The development of the 2023 – 2027 National HIV Action Plan was preceded by a contextual analysis of the national HIV response program of Republic of Mauritius, the goal of which was to understand the context within which the HIV response program in the country was operating, and to identify important considerations for the proposed National Action Plan (NAP). Information from the contextual analysis was then used to develop different sections of the NAP and to guide the prioritization of interventions for the next quinquennium. The preparation of the different drafts was supported by a technical team while ongoing consultations were held with different stakeholders throughout the process. Before finalization of the Action Plan, a two-day multi-stakeholder technical meeting was held to review all the strategic recommendations and activities and make inputs for the final draft. After incorporating the inputs, a one-day stakeholders' meeting was then held to further review the near-finished document and to provide further input. The final draft of the Action Plan incorporated all the feedbacks received from the one-day stakeholders meeting.

2.2 The Contextual Analysis – Purpose and Scope

The purpose of the contextual analysis of the national HIV response program was to understand the context within which the HIV response program in the country was operating, including the enabling and militating factors affecting the program that needed to be considered in the new action plan. This was critical considering that the new NAP is being developed at a time in the history of HIV response in the Republic of Mauritius when the Global Fund has given notice of its intention to withdraw funding support to the program because of the country's progress towards a High-Income Country status. Also, the COVID-19 pandemic has had a significant negative impact on the country's economy and on the delivery of HIV services nationally, and the country's commitment to the global goal of ending AIDS as a public health threat by 2030. Thus, such understanding of the operating context would place the response in its proper perspective and inform an evidence-based development of a realistic National HIV Action Plan for the country.

The scope of the contextual analysis covered

1. Understanding the status of the epidemic in the country.
2. Reviewing the lessons learned from the implementation of the 2017 – 2021 NAP to identify the bottlenecks, facilitating factors and other contextual issues that might affect the implementation and success of the 2023 – 2027 NAP.
3. Reviewing the governance structure of key institutions responsible for the implementation of the HIV response in Republic of Mauritius to understand their strengths, weaknesses, opportunities, and threats.
4. Reviewing the entire operating environment of the HIV response program to identify factors that need to be addressed to ensure the success of the implementation of the new Action Plan
5. Identifying, from the various reviews, gaps in the response that will inform appropriate prioritization of interventions for the next five years.

2.3 The Contextual Analysis – Processes

In conducting the contextual analysis, a conceptual framework was developed to guide the process. The critical element of the conceptual framework was the understanding that there is a complex interplay of all the factors that influence the implementation and outcome of the national HIV program (Figure 1). This was summarized as follows: “the relationship between the different factors is not linear but operate in complex interrelationships characterized by numerous feedback mechanisms and subterranean influences from other factors that may not be directly involved in the process”¹⁰

Other components of the contextual analysis were i) epidemiological analysis using the 2022 Spectrum Estimates complemented with data from the 2021 UNAIDS data book and the most recent Integrated bio-behavioural surveys; ii) review of the HIV response program focusing on the lessons learned from the implementation of the 2016 – 2021 National HIV Action Plan, a bottleneck analysis of the challenges faced during its implementation and a general review of the HIV response program performance; iii) a broad-based national dialogue involving all the stakeholders of the program; iv) SWOT analysis of the HIV program, the National AIDS Secretariat, the AIDS Unit and the Civil Society Organizations working on HIV in Republic of Mauritius ; and v) PESTEL analysis of the operating environment. All the data gathered were triangulated to identify gaps, enablers and barriers in the programs, as well as possible intervention priorities.



Figure 1: Conceptual Framework for the National Action Plan Development and Implementation. The figure attempts to capture the complexity of the interrelationships between the different components of the program. The contents (green colour) of each of the three phases of the NAP (in deep blue) are generated by Actors (grey colour) through various processes (sky blue) against a background that is determined by various contextual factors (red colour) – political, economic, social, cultural, legal, environmental and technology. And as already mentioned, these interactions are not linear.

¹⁰ Nweneka, C and Nweneka R (2022). Contextual analysis of the National HIV Response Program of the Republic of Mauritius.

2.4 National Dialogue

The National Dialogue conducted as part of the contextual analysis covered discussions on how the program is perceived by the stakeholders, services being provided by the program and whether these services were delivering as expected, issues and challenges facing the program, as well as policy issues that might be affecting the performance of the program. Discussions on the National AIDS Secretariat, the AIDS Unit, and the harm reduction program were also part of the dialogue. Thus, the national dialogue provided the stakeholders an opportunity to share their perceptions of the state of the response and what, in their opinion can be done to move the response forward towards attaining the goal of ending AIDS by 2030. The national dialogue combined focus group discussions, and in-depth interviews of key informants.

Chapter 3: Situational Analysis

3.1 Introduction

This chapter summarizes the important findings from the contextual analysis. The analysis involved triangulation of data from the review of existing literature, the national dialogue and analysis of spectrum data. The literature reviewed included published and unpublished documents such as program reports, other program documents, the midterm review of the 2017 – 2021 National HIV Action Plan, the Global Fund HIV Transition Readiness Assessment draft report, the most recent IBBS surveys and other HIV related surveys, HIV funding documents, published articles in peer-reviewed and non-peer-reviewed literature, among others. The broad scope of the situational analysis was to provide as complete a picture as possible of the context within which the HIV response in the Republic of Mauritius is operating to enable proper identification of appropriate interventions that can change the current trajectory of the epidemic and increase the chances of attaining overall program objective.

3.2 HIV Response in Republic of Mauritius

The Republic of Mauritius has a concentrated HIV epidemic with high prevalence among key populations: people who inject drugs (PWID) – 21%, Transgenders (TG) – 28.4%, Prisoners – 17.3%¹¹, MSM – 17.2% and sex workers – 15%. The HIV prevalence among adults aged 15 – 49 years was 1.7 in 2020¹². It is estimated that 14,000 persons were living with HIV (PLHIV) in Mauritius, of whom, 2,936 are receiving antiretroviral therapy by mid-2019¹³. Between 2010 and 2021, new HIV infections declined by 32%, while HIV incidence declined by 34% during the same period (Figure 2).

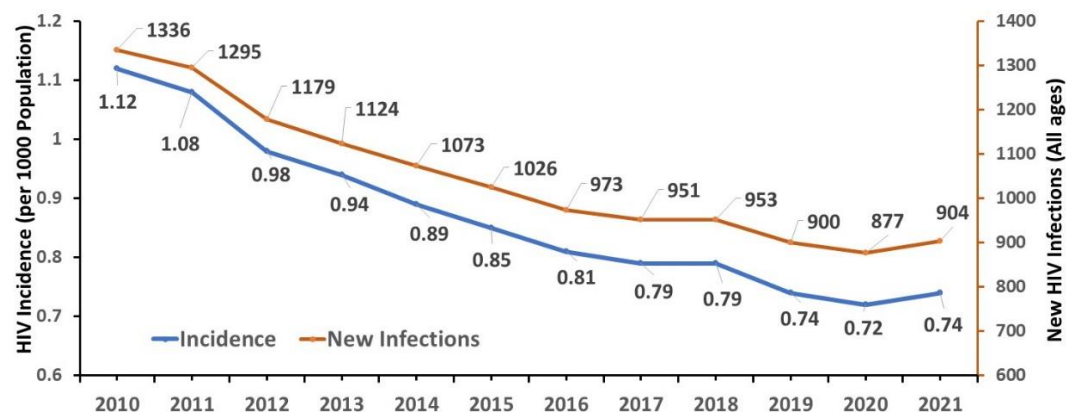


Figure 2: Trends in HIV Incidence and New HIV Infections in Mauritius, 2010 – 2021 (Spectrum Estimates 2022)

The HIV prevalence among all the key population (KP) groups, the key drivers of the epidemic in the Republic of Mauritius, has also continued to decline. But despite these downward trends, the program has not been performing so well, with several reversals of the gains made during the earlier periods of the response. For example, while HIV incidence declined by 24% between 2010 and 2015, the decline was only 13% between 2016 and 2021. Also, while new HIV infections declined by 23% between 2010 and

¹¹ UNAIDS 2021 Reference. UNAIDS Data 2021. Mauritius. Geneva: Joint United Nations Programme on HIV/AIDS; 2021. page 77. Licence: CC BY-NC-SA 3.0 IGO.

¹² Ibid. page 76.

¹³ Ibid. page 76

2015, the decline was only 12% between 2016 and 2021. The contextual analysis provided some understanding of the issues and challenges that explains some of these reversals and recommends possible interventions to address the situation to improve the chances of the program goals.

3.2.1 New HIV infections

New HIV infections among children aged 0 – 14 years declined by 51%. Among adult women and men, the decline was 29% and 33% respectively. It is not clear why the decline among women is slower than that among men (Figures 3).

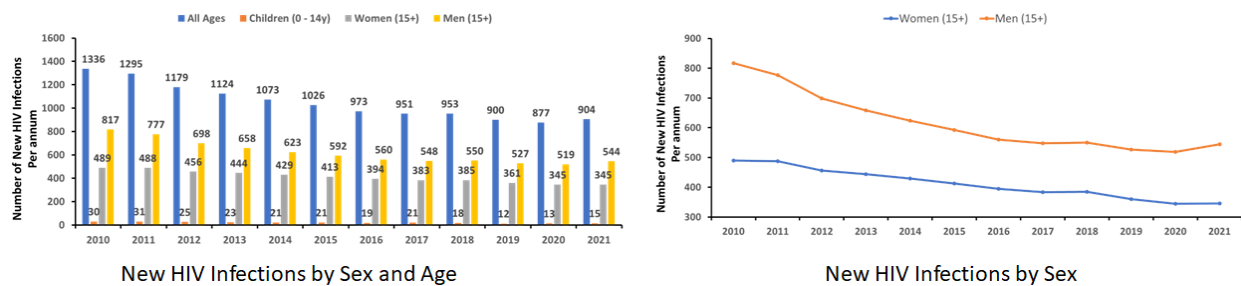


Figure 3: New HIV infections by age and sex

However, despite the more rapid decline among men, men still constitute the greater proportion of adults living with HIV (5,328 versus 3,886). The period 2018 – 2021 merits particular attention as new HIV infections began to increase among men, while continuing a downward trend among women (Figure 3). For both children and the adults, the COVID pandemic appears to have aggravated the situation. The lack of geographical data disaggregation makes identifying geographic variations in new HIV infections difficult.

3.2.2 AIDS-related deaths:

AIDS related deaths has been increasing among adults since 2012 with more men dying than females (Figure 4). Between 2010 and 2021, HIV related deaths among all age groups increased by 23% but increased by 26% between 2012 and 2021. Among adult men, the increase between 2012 and 2021 was 36% and 20% for adult women. HIV related deaths among children, however, has been declining, although the decline seem to have slowed since 2019. Between 2012 and 2021, the deaths among children declined by 52%.

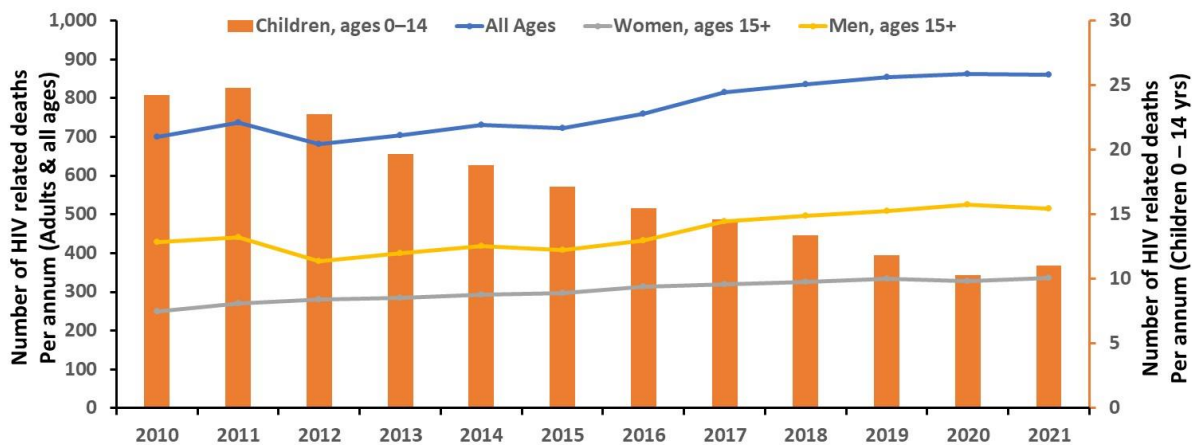


Figure 4: Number of AIDS-related deaths by Sex and Age

Some of the reasons suggested for the high number of AIDS related deaths includes late presentation to the clinic by PLHIVs, and poor adherence to treatment leading to treatment failures. The poor adherence could be responsible for the low viral suppression seen among PLHIVs on treatment (see below). The contextual issues contributing to the late presentation to the clinic by PLHIVs are summarized below:

1. The people who inject drugs and living with HIV face certain challenges with the system resulting to their poor attitudes towards access to care. As a policy, if a patient on methadone treatment misses three consecutive doses, they are dropped from the program and will need to be re-inducted to continue the treatment. When this happens, such patients often revert to the use of hard drugs. If the patient happens to be receiving ARVs, they also discontinue the ARVs. As a result, they develop opportunistic infections, gangrene, septicemia and other co-morbidities such as hepatitis C. Despite these co-morbidities, most of the patients still do not seek medical care, and when they do, they do so very late and eventually die. This line of thought get supports from the poor viral suppression seen among the PLHIVs on ART.
2. The level of care for patients with multiple conditions can be improved as there is limited interaction and communication between the different clinical units that care for PLHIVs – the day care centres for the immunosuppressed (DCCIs), the hospital clinical units, the various harm reduction units, and the addiction centres. Through adequate connection between the units, there will be more opportunities to better co-manage PLHIVs presenting with multiple conditions, including issues with addiction. One way of addressing the issue is to institute standardized processes in the hospitals for referring and co-managing patients.
3. The limited interaction between the doctors and the patients. Pressure of time and patient workloads mean that the doctors spend little time with each patient and therefore unable to properly educate the patients concerning their illness, the need for good compliance, the need for adoption of safe behaviors, the meaning of viral load and the clinical outcome if virally suppressed. As a result, many patients do not adequately understand their illnesses, nor what to expect and how to manage their conditions.
4. Attitude of healthcare workers towards the patients: many respondents during the national dialogue complained of not being treated fairly by the healthcare workers, which makes them reluctant to return to the clinic. This has contributed to poor treatment adherence, and in extreme cases, loss to follow-up.
5. Data issues: lack of accurate data on several indices makes it difficult to interrogate the high mortality from the program, and therefore to identify appropriate remedial measures. Several knowledge gaps concerning AIDS related mortality highlighted in the conceptual analysis include:
 - a. The factors contributing to the lower proportion of deaths among children; and why the decline in death rates has stalled in recent years.
 - b. The age band that is contributing more to the number of deaths among children. The present age disaggregation does not permit further analysis of the data.
 - c. The distribution of AIDS-related death by geography and population groups. The current data set does not disaggregate data by geography and population groups.

- d. The factors responsible for the leakages in the treatment cascade; the numbers of PLHIVs dying who are on ART; the role of resistance in these AIDS-related deaths; the contribution of TB and other opportunistic infections to the AIDS deaths; the contribution of suicide and drug use to the deaths, and generally the major causes of deaths among PLHIVs. Even though anecdotal evidence suggests that most of those dying have opportunistic infections, these need to be verified with evidence, which will include the types of opportunistic infections.
- e. The adherence profile of the PLHIVs that are dying versus those that are living longer, and what could be done to reduce the number of PLHIVs dying.

3.2.3 HIV Treatment, care, and support

HIV treatment, care and support services are provided in public health care facilities at no cost to the patients. Procurement of all ARVs is funded by the Government of the Republic of Mauritius. If patients opt to receive services from private health care facilities, they pay for such services from out of pocket. The national treatment guideline was revised in 2017 to include the use of Integrase Inhibitors (dolutegravir) as first line ARV and combination antiretroviral therapy (cART) to improve adherence rate and reduce side effects and pill burden.

HIV patients are managed at the five state-owned Regional Hospitals (HIV Day Care Clinics), 2 District Hospitals in the South, 1 Community Hospital, 1 HIV integrated service in Port Louis, 1 hospital in Rodrigues, 8 Prisons and the TB hospital. Treatment initiation is only conducted by the doctors working at the DCCIs. All the health and non-health products and commodities are received from the suppliers by the Central Medical Store Division, where they are also stored prior to distribution to health care delivery points monthly. All required ARVs and drugs for opportunistic infections are purchased with government funding. While drug stockouts are uncommon in Mauritius, they occasionally occur. In some cases, these stock outs occur only at the service delivery points even though such commodities are available at the central medical stores and could be addressed by strengthening the last mile distribution mechanism.

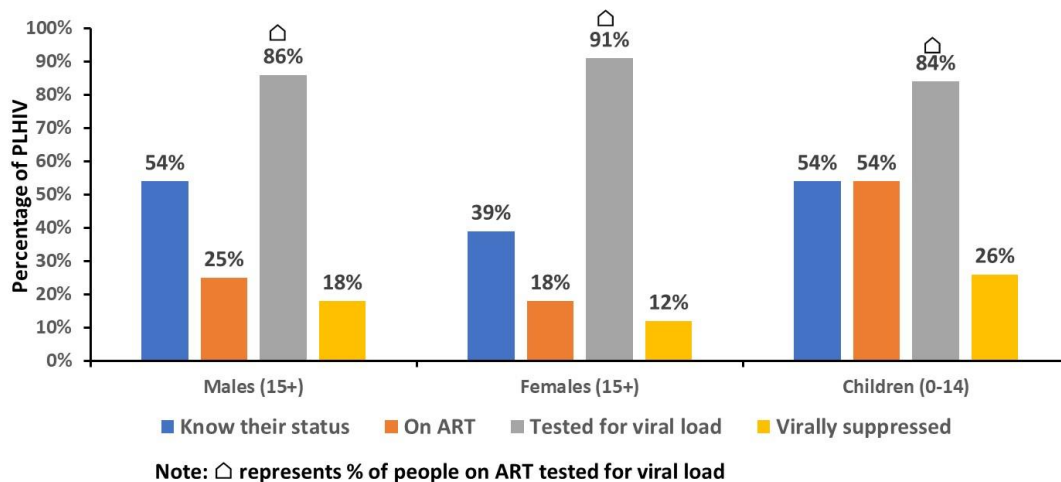


Figure 5: Treatment Cascade as of December 2021 (Source: Spectrum Data, 2022)

The treatment cascade (Figure 5) shows that 54% of males and 39% of females living with HIV know their status. Going by the last national action plan, at least 90% of all persons living with HIV should have known their status by the end of 2021. Figure 6 below is a root cause analysis of the reasons for the low uptake of HIV testing, which can be grouped into weak prevention programs, inadequate coordination and collaboration among stakeholders and poor enforcement of existing employment laws.

Figure 5 also shows a weak linkage of testing to treatment with only 25% of males and 18% of females living with HIV that know their status receiving ART. The almost universal negative perception of HIV by the Mauritian society and the apprehension associated with finding out one's HIV status was blamed for most PLHIVs not returning for their confirmatory test results, and therefore not getting onto treatment. This is further compounded by the two-week gap between rapid testing and confirmatory testing. There are no proper follow-up or referral systems in place causing many losses to follow-up. Even when some PLHIVs receive their test results, they are reluctant to commence treatment because of refusal to accept their HIV status for fear of losing their loved ones such as family members and friends or losing their jobs.

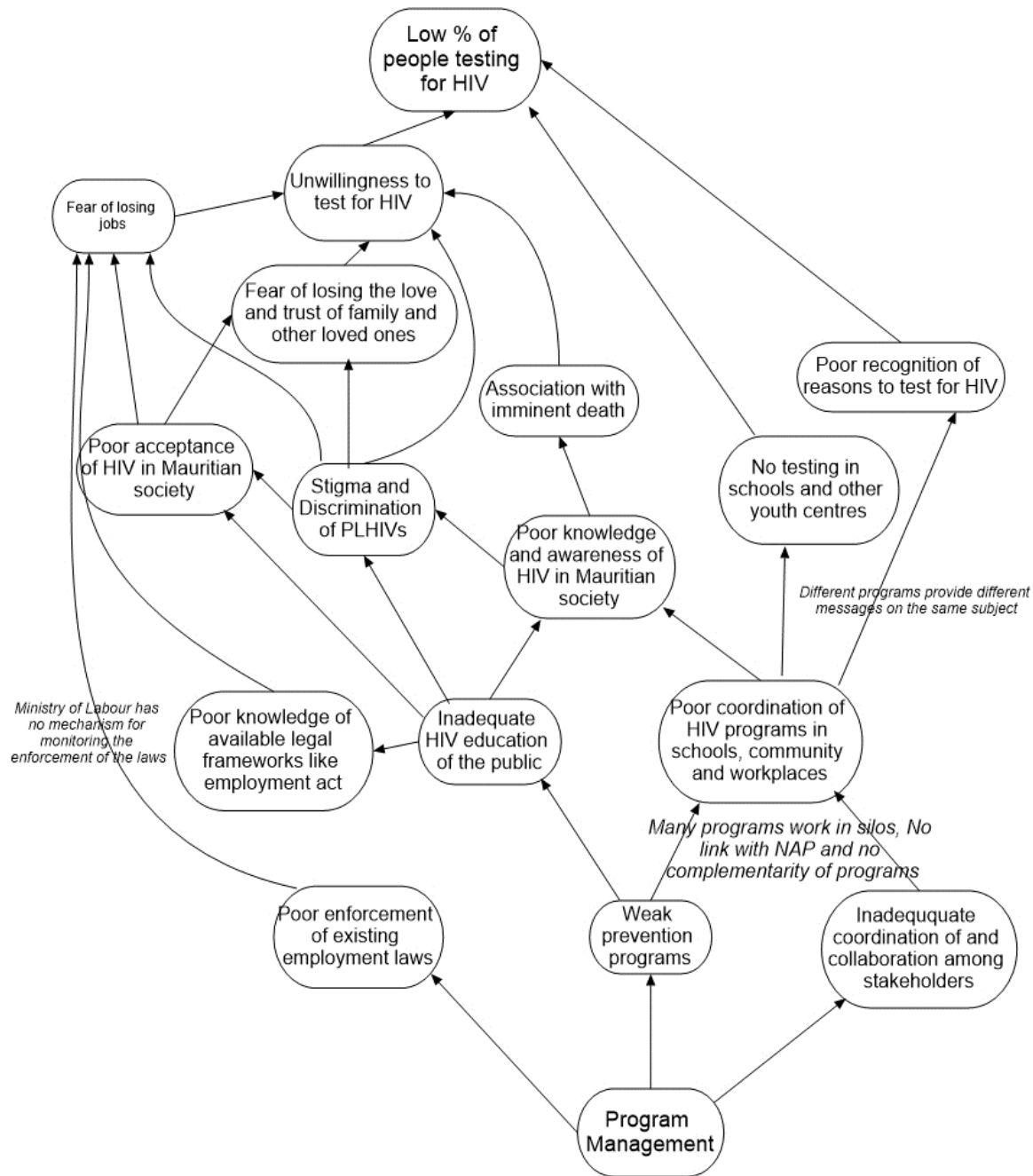


Figure 6: Root cause analysis of reasons why the proportion of people testing for HIV is low in Republic of Mauritius

Figure 7 below is a root cause analysis of why many PLHIVs that know their status are not getting onto ART. The root cause analysis shows that the main challenges fall into three categories: Human resources, program management and program design. To improve the linkage of testing to treatment, it will be imperative to address issues of stigma, patient confidentiality, and psycho-social support for patients testing positive to HIV. Paucity of staff at the various service delivery points puts considerable strains on the existing staff. There is only one psychologist and three psychiatrists in the program. The nurses in the DCCI combine several tasks to ensure that services are delivered to the patients. They carry out patient follow up, treatment literacy, counselling and testing, awareness sessions, as well as routine nursing work.

To achieve the level of efficiency and effectiveness required of the program, these human resources needs must be met. A structured referral system, with standard operating procedures, is also needed to reduce the loss to follow-up and improve linkage to treatment.

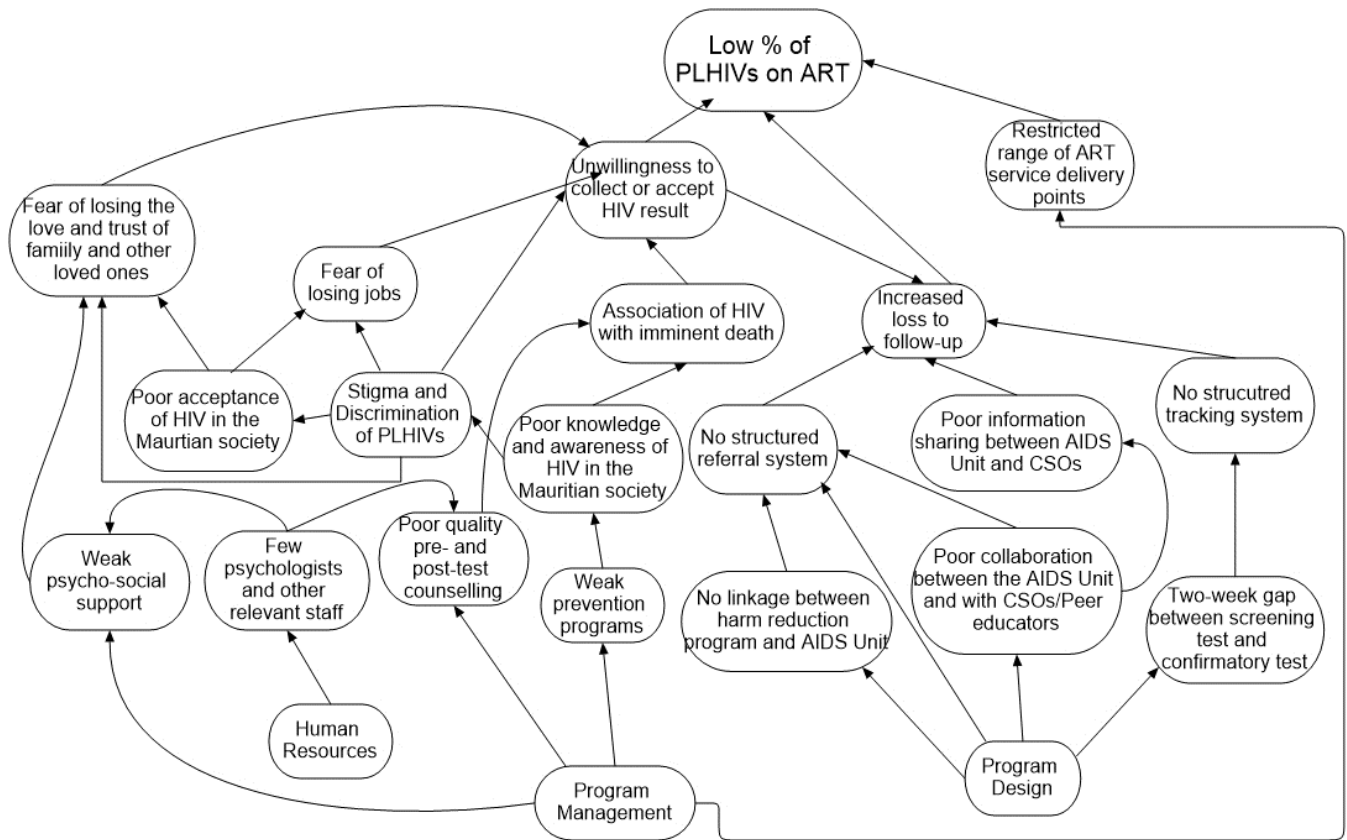


Figure 7: Root cause analysis of why many PLHIVs that know their status are not on ART

Out of 86% of male PLHIVs on ART that were tested for viral load, only 18% were virally suppressed. Among the females living with HIV, 91% of those on ART were tested for viral load of whom only 12% were virally suppressed. Only 26% of the children tested for viral load were virally suppressed (Figure 5). Figure 8 is a root cause analysis of poor viral load suppression among PLHIVs on ART in program. These causes can be categorized into service delivery, social issues, human resource issues and issues related to ARVs. By far the highest contributor to poor viral load suppression is poor treatment compliance which itself is caused by a gamut of factors, including stigma, poverty, among others. Addressing these and other issues identified in the contextual analysis would be critical to reversing the current trend.

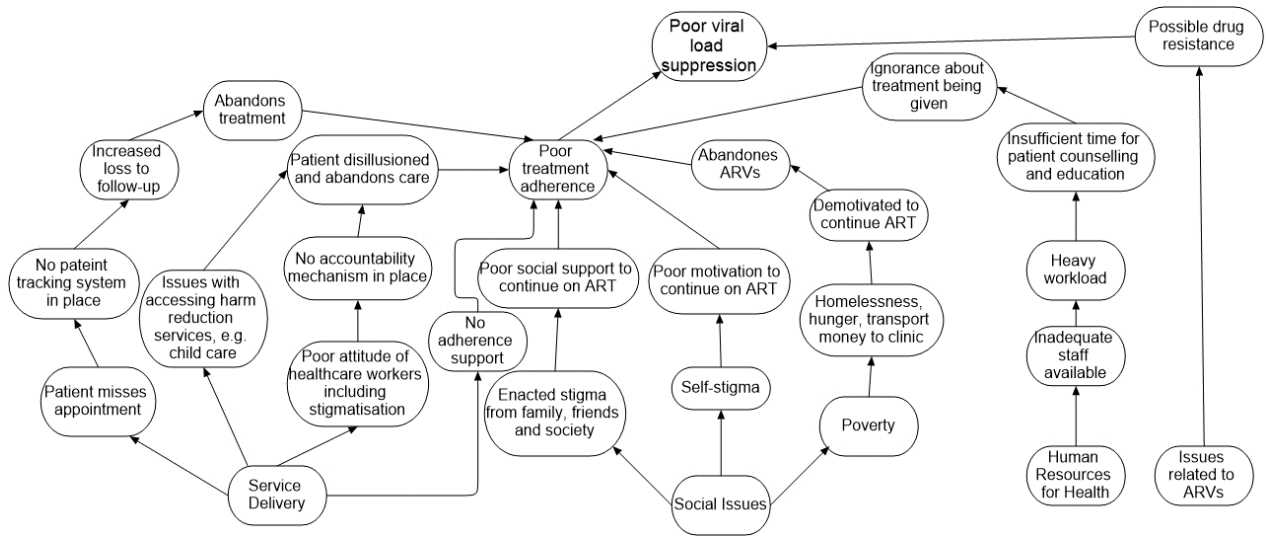


Figure 8: Root cause analysis of poor viral load suppression among PLHIVs on ART in the Republic of Mauritius

3.2.4 HIV Prevention Services

Combination HIV prevention programs are “rights-based, evidence-informed, and community-owned programs that use a mix of biomedical, behavioral, and structural interventions, prioritized to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections.”¹⁴ To be effective, combination prevention should be tailored to the national and local contexts and “thoughtfully planned and managed to operate synergistically and consistently on multiple levels ... and over an adequate period of time”¹⁵.

In the Republic of Mauritius, the prevention component of the HIV response program consists of condom and lubricant programming, pre- and post-exposure prophylaxis, awareness creation primarily in educational establishments, youth centers and in the workplace, prevention of mother to child transmission and harm reduction (methadone substitution therapy and needle and syringe exchange program). Treatment is also available to all persons living with HIV.

The prevention program, as presently implemented, needs to be strengthened. Different prevention components are implemented in silos with no synergy among them. For example, the harm reduction program is completely separate from the treatment program. The only two components that appear to be linked is the PMTCT and the condom programs because of the close link between the family planning clinic and the antenatal clinic. The weakest component seems to be the educational programs. Several agencies and organizations are providing educational programs but rarely interact with each other. There have been reports of different educational service providers sometimes providing conflicting messages to the same audience.

¹⁴ UNAIDS (2010). Combination HIV Prevention: Tailoring and Coordinating Biomedical, Behavioural and Structural Strategies to Reduce New HIV Infections. A UNAIDS Discussion Paper. Page 8. Available online at: https://www.unaids.org/sites/default/files/media_asset/JC2007_Combination_Prevention_paper_en_0.pdf.

¹⁵ Ibid.

Condom and lubricant programming: Condoms and lubricants are distributed through a network of healthcare and non-healthcare facilities. The healthcare facilities include DCCIs, and other facilities managed by the AIDS Unit, the family planning clinic, and harm reduction centres. The non-healthcare facilities include drop-in centers, communities, and facilities managed by NGOs. The NGOs are primarily responsible for distributing condoms to key populations. Male and female condoms are distributed to the adult populations above 18 years, except people in prisons. Condom vending machines are placed in 19 strategic places across the Mauritius island. All condoms procured are tested by an independent organization in Mauritius. Table 1 shows the number of condoms distributed in Mauritius island in 2019, 2020 and 2021.

Table 1: Number of condoms distributed in Mauritius in 2019, 2020 and 2021.

	2019			2020			2021		
	Government	NGOs	Total	Government	NGOs	Total	Government	NGOs	Total
Male Condoms	714,065	261,054	975,119	653,639	179,203	832,842	602,112	141,209	743,321
Female Condoms	20,940	21,963	42,903	17,416	18,139	35,555	15,725	10,394	26,119
Total	735,005	283,017	1,018,022	671,055	197,342	868,397	617,837	151,603	769,440

Pre-exposure prophylaxis: The uptake of pre-exposure prophylaxis has been low since it was introduced in 2018 with less than 200 persons currently receiving PrEP. Some of the possible reasons for the low uptake include insufficient promotion of the product among key populations, and the reluctance of the clients to go to the NDCCI, which is the only centre where PrEP can be procured. Decentralizing the program to more easily accessible locations, collaborating with NGOs and strengthening the peer education program could improve the uptake.

3.2.5 Harm reduction programs

The harm reduction program consists of the methadone substitution therapy (MST) and the needle and syringe exchange program (NSP). It is a standalone program that is not directly linked to the rest of the HIV program. However, other than providing methadone and needles and syringes, the harm reduction program also provides other services such as condom and lubricant distribution, HIV testing, and STI prevention education (Table 2). Figure 9 shows the distribution of harm reduction facilities across the Island of Mauritius. There is no harm reduction program in the islands of Rodrigues and Agalega and St Brandon.

Table 2: Services provided by the Harm Reduction Program in Republic of Mauritius

Package of Service	Available under the HRP?	Comments
1 Needle and syringe programmes (NSPs)	Yes	Available at 47 NSP sites
2 Opioid substitution therapy (OST) and other evidence-based drug dependence treatment	Yes	There are 5 Methadone Day Care Centers and 48 methadone Dispensing Sites
3 HIV testing and counselling (HTC)	Yes,	Available at the 5 MDCCs
4 Antiretroviral Therapy (ART)	Yes, in Bouloux drop-in centre)	Positive PWUDs are referred to the AIDS Clinic for further management. The co-management of patients to be strengthened.
5 Prevention and treatment of sexually transmitted infections (STIs)	Yes	PWUDs are screened for Syphilis after counselling by the doctor at the MDCCs and all Addictology Units
6 Condom programmes for PWIDs and their partners	Yes	Condom is distributed to the clients at the induction centres
7 Targeted IEC materials for PWIDs & their partners	Yes	HRU offers IEC materials and some NGOs provide general counselling to PWUDs
8 Prevention, vaccination, diagnosis and treatment for viral hepatitis	Yes	The PWIDs are tested for Hepatitis B and C
9 Prevention, diagnosis and treatment of tuberculosis (TB).	No	

Methadone Substitution Therapy (MST)

It is estimated that about 55,000 people use drugs in Mauritius island as of 2021, more than 90% of whom are males. Approximately 9000 persons have been induced on methadone since 2006 when the MST program started, but many of these are either dead or no longer on the program. Presently, it is estimated that 7000 persons receive methadone daily in all the methadone dispensing centres. There are five Methadone Day Care Centres (MDCCs) and 48 methadone dispensing centres spread across the Mauritius Island. There are five Addictology Units, providing treatment only, each of which is attached to the five regional hospitals. Five drug counselling centres are operated by NGOs and provide basic counselling but do not dispense methadone.

Methadone induction is done only at the MDCCs. Each MDCC has one full time doctor and one part time psychiatrist. Each psychiatrist is assigned to a particular MST zone. Each MDCC also has one specialized harm reduction nurse, one general nurse, and specialized harm reduction health care assistant. Three psychologists rotate through the different centres. There are also part time Pharmacy Technicians who visit each day care centre for about two hours a day. Those on MST must be available within these two hours to collect their methadone. There are no methadone day care centres in Rodrigues Island.

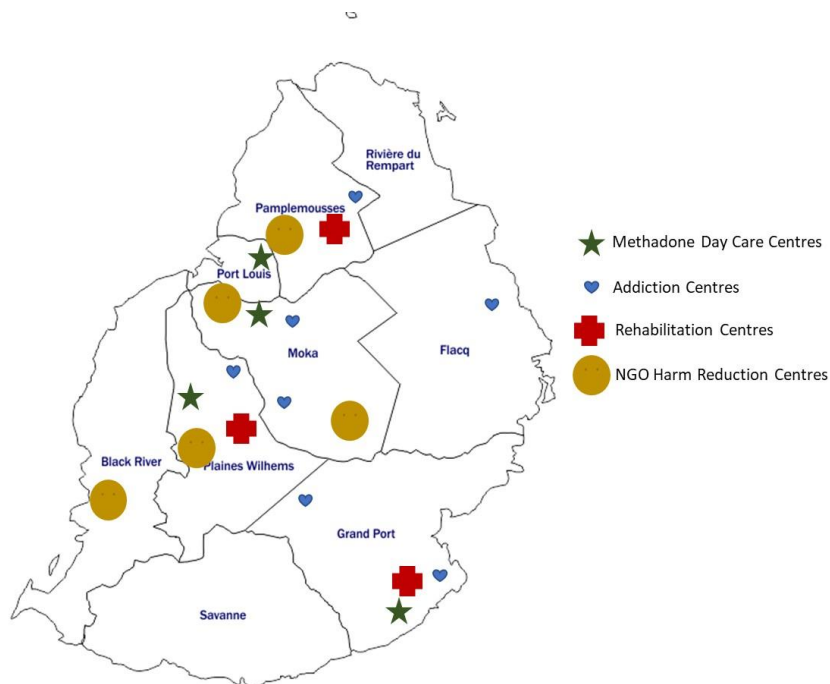


Figure 9: Distribution of harm reduction facilities across the Mauritius Island

Some of the challenges affecting the effectiveness of the methadone substitution therapy program are:

1. Each client is required to appear physically, in full view of everyone, every day of the week to receive their methadone dose, including on weekends. Defaulters risk being dropped from the program should they miss three consecutive doses.
2. Most of the beneficiaries enrolled on Methadone Maintenance Therapy are not followed-up by the doctors for months/years as they miss their appointments.
3. The methadone dispensing times are flexible in a number of AHCs and Mediclinic.
4. Some personal challenges related to finances, housing, food, etc, which affect their ability to access the services.
5. Anticipated security challenges, and the stigma associated with drug use make some residents near health care institutions to oppose the sites of methadone dispensing centers within their communities.

Needle and Syringe Exchange Program (NSP)

There are 37 NSP sites in different parts of the country managed by MOHW and 8 sites managed by NGOs. Two mobile caravans from the MOHW go to distribute needles and syringes at these NSP sites (same place, same day at the same time). The caravan spends around one hour at each site before proceeding to the other sites. The uptake of services at the NSP sites has been low because it is often difficult to reach the PWIDs, especially new drug users who are mostly young persons who are afraid of accidentally meeting people who might know them. Twenty syringes are provided weekly to each person in the program. In 2021, 721,065 syringes and needles were distributed to PWIDs (Table 3).

Table 3: Needle and syringe distribution in Mauritius Island, 2019 - 2021

Year	MoHW: Harm Reduction Unit – NEP)	NGOs	TOTAL
2019	484,664 (53%)	431,704 (47%)	916,368
2020	277,917 (40.4%)	409,485 (59.6%)	687,402
2021	331,036 (46%)	390,029 (54%)	721,065

In line with the Harm Reduction Plan which is being developed, the proposals to improve the performance of the Harm Reduction programme include the following:

- Establishing a strong drug use prevention program in line with the Ministry’s new drug prevention action plan which will allow for the individual to take informed decision. A life course approach will be adopted with appropriate information, education and communication at the different stages of life i.e pre-conception, pre-primary, primary and higher levels with the participation of different stakeholders i.e line ministries, NGOs, Anti-Drug Smuggling Unit and the Community Networks. Such prevention program should involve the Ministries of Education and Youth and Sports because most new drug users fall between the ages of 18 – 24 years. The NGOs to provide psychosocial support and be actively engaged in prevention programmes against drug
- The most cost-effective public health strategy for managing opioid dependence is Opioid Substitution Therapy, primarily through use of methadone and buprenorphine. Review of the Opioid Substitution Therapy programme, including the methadone dispensing sites to render the service delivery more efficient and effective. Relocations of existing MDCCS from non-health settings to health-settings i.e AHC, Medi-clinics and NGOs. Other treatment but less effective is naltrexone associated with significant mortality and morbidity. The focus on detoxification which has a very high rate of relapse needs to be redirected and limited to those who are not long-term drug abusers and have a strong will to cease drug abuse.
- Reduce waiting-time for methadone induction and extending the methadone dispensing times, and introducing take home methadone doses i.e tablets
- Changing from liquid, diluted, methadone to readily prepared methadone solution or tablets may help to certain extent. Oral methadone would allow multiple doses to be dispensed which will reduce the pressure on the dispensing centres. The methadone solution can be preserved for 24 – 36 hours only which does not allow for take home. Those at higher risks of defaulting could however continue liquid methadone under directly observed therapy.
- Capacity-building of the health and ono-health care providers on customer care, human rights and ethical conduct to ensure a conducive environment where both beneficiaries and service providers will thrive is highly recommended.

3.2.6 Prevention of mother to child transmission of HIV

The 2022 Spectrum data estimates that 149 pregnant women needed PMTCT in 2021. Of this number, 113 (76%) received ART (Figure 10). While there has been a steady decline in the MTCT rate since 2010, the program has been unable to achieve zero MTCT. In 2021, the MTCT rate was 10%.

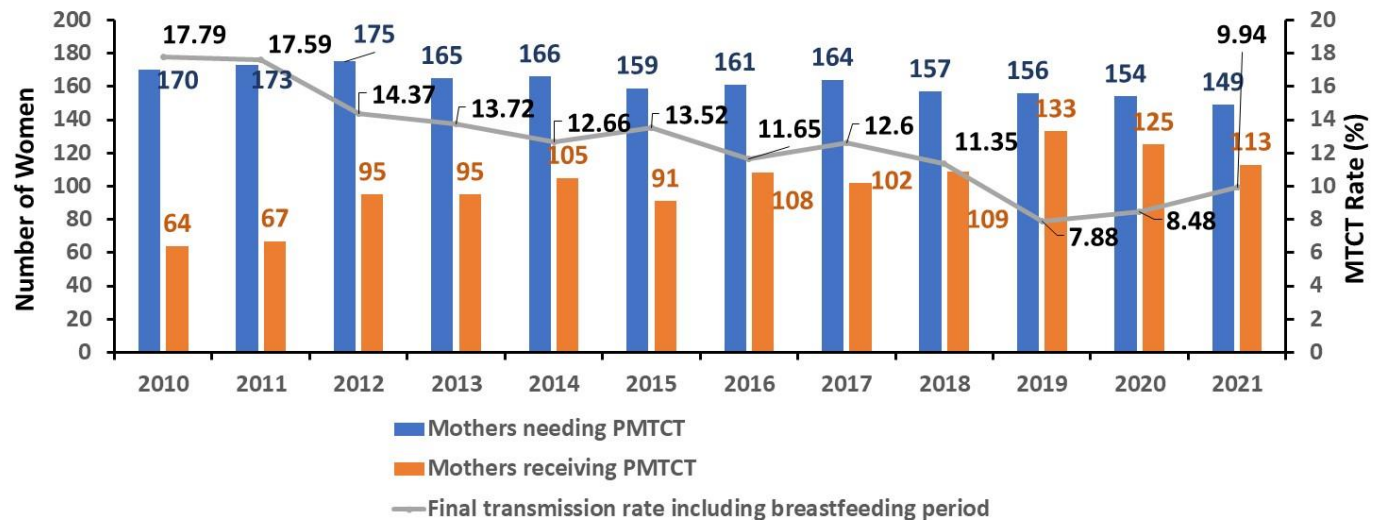


Figure 10: Trend in PMTCT performance, 2010 - 2021 (Source: 2022 Spectrum data)

Key issues that may explain the persistence of mother to child transmission of HIV were:

- Mothers defaulting on their treatments during pregnancy or presenting late to the healthcare facility. Sometimes, especially for pregnant sex workers, previous experiences of stigma and discrimination discourages them from accessing health care. Other mothers, especially IDUs and sex workers, refuse to visit the hospitals for care because of fear that their babies would be removed from them.
- Continued breastfeeding by HIV positive mothers because of inability to access artificial milk during the first few days of delivery or because the formula milk provided was causing the child to have diarrhoea;
- Diagnosis of HIV in mothers after delivery, indicating that these women either did not receive PMTCT or acquired the infection late during pregnancy in which case they were breastfeeding their babies without knowing that they were HIV positive.
- Inadequate involvement of partners of pregnant women in PMTCT to give them the necessary social support.

3.2.7 TB/HIV Services

Issues and challenges with the TB/HIV services that need to be addressed include

- There is no formal collaboration of TB and HIV services. Each is a standalone program. All TB patients are screened for HIV and treatment provided for those found to be HIV positive; but HIV patients are not routinely screened for TB. Baseline chest X-ray should be performed on all newly diagnosed PLHIV and then, systematically repeated annually. While there is a TB-HIV management protocol, there is no formal TB-HIV collaboration policy or guideline. Because HIV positive persons are not routinely screened for TB, it is difficult to determine the number and proportion of HIV positive persons tested for TB, the prevalence and number of new TB infections among PLHIVs, and how many HIV positive persons that know their TB status.
- Isoniazid preventive treatment (IPT) is not routinely provided to HIV positive persons. This is only done for PLHIVs who are Mantoux test positive and that have a history of contact with someone

with TB. There is a guideline on prevention of TB among HIV positive persons but it is not being implemented.

- Most of the other 12 TB-HIV collaborative activities are not being implemented (See table 4)
- There is no quality assurance for the TB/HIV services being provided.

Table 4: WHO recommended collaborative TB/HIV activities

Collaborative activity	Available	
	Yes	No
A Establish and strengthen the mechanisms for delivering integrated TB and HIV services		
A.1. Set up and strengthen a coordinating body for collaborative TB/HIV activities functional at all levels		No
A.2i. Determine HIV prevalence among TB patients	Yes	
A.2ii. Determine TB prevalence among people living with HIV		No
A.3. Carry out joint planning to integrate the delivery of TB and HIV services		No
A.4. Monitor and evaluate collaborative TB/HIV activities		No
B Reduce the burden of TB in people living with HIV and initiate early antiretroviral therapy (the Three I's for HIV/TB)		
B.1. Intensify TB case-finding and ensure high-quality antituberculosis treatment		No
B.2. Initiate TB prevention with Isoniazid preventive therapy and early antiretroviral therapy		No
B.3. Ensure control of TB Infection in health-care facilities and congregate settings		No
C Reduce the burden of HIV in patients with presumptive and diagnosed TB		
C.1. Provide HIV testing and counselling to patients with presumptive and diagnosed TB	Yes	
C.2. Introduce HIV prevention interventions for patients with presumptive and diagnosed TB		No
C.3. Provide co-trimoxazole preventive therapy for TB patients living with HIV		No
C.4. Ensure HIV prevention interventions, treatment and care for TB patients living with HIV	Yes	
C.5. Provide antiretroviral therapy for TB patients living with HIV	Yes	

3.2.8 HIV Program in the Rodrigues Island

The HIV program in Rodrigues Island is under the Commission of Health and provides HIV testing, treatment, care and support and community and workplace sensitization. The program was merged with the non-communicable disease (NCD) program to attract more people for HIV testing because of stigma. About 5000 – 6000 HIV tests are performed each year with the sero-positivity rate of about 0.25% (between 13 – 15 positive cases out of about 6000 tests). Since 1998 when the program was started, 141 persons living with HIV have been identified; 15 of these have died, 100 are on treatment and 7 are not receiving treatment. The rest are lost to follow-up. The most recent viral load tests done in Rodrigues shows that 40.2% had undetectable viraemia, 42% were detectable and 18% of the results were not available.

HIV in Rodrigues is commoner in young girls. This is thought to reflect poor awareness of sex and sexuality among adolescent girls and young women due to these topics not being discussed appropriately at home and at schools. HIV related stigma and discrimination is still very common, especially self-stigmatization. There is no psychologist attached to the program to provide psycho-social support. The entire program has two staff – a Specialized Nurse in AIDS and a community physician. The program runs one HIV clinic per week, but patients can be seen any time for other services.

Methadone induction is not done in Rodrigues. There is no information about presence, locations, and sizes of key populations in Rodrigues and as such no advocacy is being conducted for services to be provided for them. Alcoholism is a big problem in Rodrigues and playing a bigger role in HIV transmission than hard drugs.

Since the commencement of the HIV program in Rodrigues, there has been no study to estimate how many people are living with HIV on the Island, which makes it difficult to monitor the performance of the program. Additionally, the population is highly mobile with thousands moving back and forth between Rodrigues and Mauritius Island daily. This high mobility of the residents makes keeping track of patients difficult. Keeping track by phone is also difficult because patients change their phone numbers frequently.

Condom is distributed in Rodrigues through the AIDS clinic, family planning clinic and the emergency clinic. Sometimes condoms are left at the emergency clinic for people to take. Despite the wide availability of condoms, however, more cases of teenage pregnancy and sexually transmitted infections are being seen than previously, suggesting that the condoms are not being used. Several factors could explain this observation. 1) Some religious organizations are opposed to giving condoms to young persons. This is despite the finding of a recent survey that showed that up to 15% of children aged below 15 years were already sexually active, and most of them have 2 or more sexual partners. 2) Several youngsters refuse to use condoms because they do not derive pleasure with it. 3) The increasing rate of teenage pregnancy and STI could also be due to the school curriculum which does not incorporate sexuality education. It is likely that starting sexuality education for children at an early stage before they become sexually active may help to address this issue, at least partly. Efforts are being made to build the capacity of peer educators and to empower young girls; but these efforts are not being monitored, and there is underutilization of peer educator services. The contents of the trainings and workshops need to be reviewed to enable them to achieve the expected outcomes. 4) Lack of social support for teenagers could also be contributing to the rising teenage pregnancy. The teenagers are often left to look for alternative means of survival; and once they get pregnant, they lose their self-esteem, which leads them to further pregnancies. 5) Another possible reason could be poor parental supervision. Most parents work, leaving their teenage children with the child's grandparents. As such supervising these children is poor, which exposes them to sexual predators. A program to support single parents and teenage mothers could be beneficial to the HIV program.

Another group that is of concern in Rodrigues HIV program are the fishermen. The challenge with this group often arises whenever there is a natural disaster such as cyclone, which makes it difficult for them to continue their routine livelihood activities. To survive, these fishermen often relocate to source for alternative means of livelihoods, thus abandoning their HIV clinic follow-up and ARVs. Providing some economic support could help to retain them in care even when natural disasters occur.

3.2.9 Gender and Human Rights Issues

The HIV Act of 2006 provides for the prevention and containment of HIV and AIDs through implementation of harm reduction programs. This Act safeguards the rights of PLHIVs and those affected by HIV and AIDS and protects them against Stigma and Discrimination. Specifically, Clause 16 of the Act which deals with possession of syringes and needles provides that "A person who is in possession of a syringe or needle, in compliance with this Act, shall not, by reason only of that possession, be considered as having committed an offence under the Dangerous Drugs Act." However, possession of other drug paraphernalia is illegal under the Dangerous Drug Act.

The Employment Rights Act of 2008, in its definition of “discrimination” and “harassment” includes HIV status as one of the grounds for violating the Act by stating that one’s HIV status should not be a determinant for the termination of an employment agreement between an employer and an employee. The Employment Relations Act of 2008 also ensures the protection of the fundamental rights of workers. Section 29 of the Act provides that the right of the employee to join as a member of a trade union shall not be forfeited because of his/her HIV status.

The Equal Opportunities (Amendment) Act (EOA) of 2011 ensures that every person has an equal opportunity to attain their objectives in various spheres of activities and that no person is placed, or finds themselves at a disadvantage, by reason of their status, including impairment, sex or sexual orientation. The Act accordingly prohibits any form of discrimination or victimisation in a direct or indirect manner on the grounds of status or gender. These prohibitions from discrimination apply to employment activities, education, and provision of goods, services, or facilities among others. The Act also provides for the establishment of an Equal Opportunities Commission that investigates and addresses complaints of violation of equal opportunity rights.

3.2.10 Summary of other contextual issues

1. Service Delivery – Issues and Challenges

- i. Access to Services
 - a) Opening times of the service delivery points, which is often too short.
 - b) Locations of the service delivery points which sometimes are inappropriate and overcrowded making people unwilling to attend the place.
 - c) Requirement for persons on methadone substitution therapy to visit the methadone dispensing centre every day of the week to receive their methadone dose, failing which, they risk being dropped from the program.
- ii. Accountability Mechanisms: The program does not have a system of making health care personnel accountable for their actions. As such, the staff may act in ways that negatively affect the services delivered to the clients.
- iii. Knowledge and Awareness: there are several misconceptions about HIV and the associated programs because of a general low level of knowledge about HIV in the country. For example, some people do not return for their HIV test results because they believed that HIV was associated with death. There were reports of people being rejected by their families or being sacked by their employers because they were HIV positive.
- iv. Program Management:
 - a) The management of the HIV program in the country currently places more emphasis on treatment compared to prevention. And in some cases, both components are treated as mutually exclusive, which has impacted on the program.
 - b) There is presently no functional referral system between the prevention and the treatment programs. Such referral system is critical to ensure that the prevention program effectively supports the treatment program. Some strategies that could support a functional referral system include short messaging services (SMS), and effective use of the peer system and expert patients.

- c) There is no existing committee on PMTCT, and no strategy to attain elimination of MTCT. A national committee to oversee the elimination of mother to child transmission in the country is highly desirable if the country wants to achieve an AIDS-free generation.
 - d) A well-structured and harmonized tracking system could help ensure that HIV+ mothers get the needed support to prevent their children from becoming infected. Programs such as the use of mentor mothers that have worked well in other countries could also be explored. Discrete use of SMS could also help in tracking the pregnant HIV positive mothers and their children.
 - e) Other operational issues such as transport refund, challenges associated with the caravans that deliver methadone and syringes, long waiting times, among others were all issues mentioned during the national dialogue as affecting access to services.
- v. Service Organization
- a) The two-week gap between testing and commencing treatment increases the risk of loss to follow-up, especially without a structured and formalized referral process.
 - b) The 48 methadone dispensing sites spread all over the Island is thought to be stretching the personnel thin. Decentralising these sites of distribution could make it more efficient and effective.
 - c) To combat the crowding and rowdiness associated with having too many beneficiaries assessing methadone at the same time, the appointment for methadone dispensing could be staggered.
 - d) More One-Stop-shops are recommended so that all things can be done at the same place. All the present Area Health Centres, DCCIs, and MDCCs can all be converted to One-Stop-shops without the need for additional infrastructure except some upgrading of what already exists and additional training and equipment for the staff.
- vi. Service Package: the service packages for all the program areas need to be reviewed, especially:
- a) Reviving public education around HIV, which will help to combat stigma, among other benefits.
 - b) Addressing the socio-economic and psycho-social dimensions of health.
 - c) Operationalising integrated and multi-disciplinary management of patients.
- vii. Service Quality: Most of the issues raised above relate to the quality of services provided to patients. A continuous quality improvement system is needed within the program.

3.2.11 Resilient and sustainable systems for health (RSSH)

a) Health Information Management Systems

Raw HIV program data from all the service delivery points of the AIDS Unit and NGOs, including the Central Health Laboratory are sent to the M&E Unit of the National AIDS Secretariat for cleaning, consolidation, and analysis. The data is shared with the health statistics department, and every six months, the report is uploaded to the MoHW website. Most of the HIV data are processed manually using paper records. As a result, most data are scattered in several places, making collation difficult.

Table 5 summarizes the assessment of the Program’s health information management system by applying the World Health Organization’s WHO Health Metrics Network Framework for a Strong National Health Information System¹⁶. Data acquisition, storage, verification, validation, analysis, reporting, dissemination and use all have major problems that is affecting the programs and have seriously affected the quality of the data emanating from the program.

Table 5: Assessment of the national HIV response program's health information management system based on field observations and discussions with stakeholders

Category	Sub-category	Descriptions	Rating		
			Good	Fair	Poor
Inputs	Human Resource	Availability of skilled human resources to lead and coordinate the processes and to do the work			
	Infrastructure	Availability of the requisite infrastructure required for the processes to operate smoothly			
Processes	Indicators	The set of measures that monitor the system’s effectiveness and how the program is performing			
	Data Sources	The mechanisms that produce data that feed into the system			
	Data Management	The required arrangements necessary for the collection, storage, processing, compilation, and analysis of the data to ensure that high quality data is available to those who needs it while protecting the privacy of the individual patients.			
Outputs	Information products	Data that has been transformed into information that can be used by decision makers to improve the program			
	Dissemination and use	The information is accessible to decision makers and other stakeholders for use in further strengthening of the program			

The inadequate infrastructure of the program’s health information system has encouraged the development of parallel data management systems by other stakeholders, with no known links between these parallel systems. And because there is no known platform for data reconciliation, verification, and validation, it is not uncommon to find inconsistencies in the data provided by the different implementing partners and NGOs.

The IT infrastructure across the program requires attention. Presently, the platform for inputting and retrieving data cannot effectively and efficiently support the program’s data needs. There has been plans to switch to the DHIS2 platform, but this plan is yet to materialize. Most importantly, a system is needed that will support real time data from all the components of the program – including the harm reduction units, the AIDS Unit, the prevention program, and the programs operated by the NGOs and other civil society organizations. Also, a digitalized system that links all the constituent islands will help to keep track of patients and reduce loss to follow-up.

¹⁶ WHO: Health Metrics Network – Component of a Strong Health Information System. A Guide to the HMN Framework

There are also several information gaps hindering the appropriate planning of interventions. For example, there is lack of statistics on the number of drug overdose cases occurring in the country. While there have been some surveys to attempt to fill these information gaps, some of these surveys are staggard in such a way that affects their complementarity. It was also reported that there has not been much encouragement for research and other activities that generate data.

b) Financing Mechanism

The government of the Republic of Mauritius has continued to demonstrate its strong commitment to the HIV program by its continued funding of a substantial part of the program. The government provides about 80% of the funding for the program through budgetary allocations to the Ministry of Health and Wellness under the budget line '*Treatment and Prevention of HIV and AIDS*'. Additional funding is provided through the National Social Integration Foundation (NSIF) specifically for funding HIV programs by civil society organizations. All anti-retroviral drugs and drugs for opportunistic infections used in the country are purchased by the Government, including the ARVs for PrEP, and all the personnel costs for the treatment program. The PMTCT program and prevention programs for the general population are also fully funded by the government, including the purchase of breastmilk substitutes. The government also partly supports the funding of the condom program, harm reduction programs, HIV testing services and prevention programs for the key populations.

c) Human Resources

The need to reinforce the staffing of the various service delivery points was a key finding of the contextual analysis. This has made it difficult for doctors, for example, to provide adequate counselling and patient education. The limited window period for accessing various services including needle and syringes, methadone and dispensing of ARV are all, in some way, related to the shortage of staff to provide these services. None of these centres has a records staff, leaving the nurses and nurse assistants to fill in this role, in addition to their regular work. The absence of M&E staff has adversely affected the quality and currency of program's data. In Rodrigues, there are only two staff overseeing the entire HIV program – one nurse and one medical doctor. The situation is made more critical by the fact that these staff are also expected take on other responsibilities in addition to running the HIV program. Another key issue highlighted by the contextual analysis was the need for capacity building for both clinical and non-clinical staff of the program, as well as the staff of other stakeholders involved in the HIV response in Republic of Mauritius. All the government ministries that participated in the national dialogue conducted as part of the contextual analysis expressed the need for capacity building for their staff to enable them to contribute meaningfully to the program. The nursing cadres require capacity-building in HIV management skills, training and clinical monitoring support, medication assisted therapy, health education and counselling, psychological intervention building up social support to improve retention in care and treatment adherence. It is important to have dedicated teams of nursing officers for the prevention and clinical components of the HIV programme. This will allow each team to be more effective and efficient in the long term. A more comprehensive HIV management will improve the quality care and health outcomes of the PLHIV.

d) Logistics and Supply Chain Management

The supply chain management unit of the MoHW provides supply chain management support to the HIV program and follows government approved regulatory policies and procedures. The list of HIV drugs is reviewed regularly to reflect national and international guidelines. All ARVs recommended by the National HIV management protocol are available in the pharmacy list. For quantification, the morbidity method of drug quantification along with the consumption method is used for calculation of drug requirements. Data is sourced from the logistics information management system and past usage data supplied by the user department. All the procurement is funded by the MoHW approved budget. An assessment of the level of utilization of the commodities procured showed that all products are being used optimally. Regular monitoring and control inventory are done throughout the fiscal year. The major challenge faced by the SCM unit is inadequate quality control and quality assurance for the products. Quality control tests are done randomly on selected batches, rather than on every batch received on a more frequent basis.

e) Laboratory Services

The Central Health laboratory (CHL) at Victoria Hospital provides all the laboratory support for the HIV program except the rapid HIV tests, which are done at the service delivery points. Confirmatory HIV tests, viral load tests, CD4 count and other ancillary investigations are conducted by the CML. For the HIV tests, a rapid test is first done at the service delivery point. If it tests positive, the patients are referred to DCCI for blood sampling for confirmatory test and for other conventional tests. Because Western Blot (confirmatory test) is done only weekly, sometimes the patients might have to wait for up to one week to have the blood sample for confirmatory tests collected. During the wait, some patients get lost to follow-up. However, it is anticipated that within the next 6 – 8 months, the rapid confirmatory test will become the norm. There are also plans to begin sequencing for HIV in the lab. A separate laboratory in Rodrigues carries out the laboratory investigations for the Rodrigues HIV program.

3.2.12 Institutional and Governance Structure of the HIV program in the Republic of Mauritius

There are three main coordinating agencies for the HIV response program in the Republic of Mauritius – the National AIDS Secretariat, the AIDS Unit and the Harm Reduction Unit. The National AIDS Secretariat is responsible for coordination of the multi-sectoral response to HIV, the AIDS Unit oversees the health sector response to HIV, while the harm reduction unit coordinates the methadone substitution therapy and the needle and syringe exchange program. The National AIDS Secretariat and the AIDS Unit are co-located in the Ministry of Health and Wellness. This co-location has often caused confusion on the role of each agency among the HIV stakeholders in the country. The contextual analysis revealed that this has resulted in several stakeholders undermining the authority of NAS, and thereby weakened its ability to effectively manage the internal and external coordination of the response. Addressing the leadership of the national response is critical to effective implementation of the 2023 – 2027 National Action Plan, and therefore to the achievement of the 2030 goals.

What is Coordination?

“Coordination is the process of effective and efficient synchronization and integration of resources, activities and organization, leading to the achievement of specified goals and objectives”

What does this mean for NAS?

This means that NAS should be

- ‘Synchronizing and integrating’ all the activities of the different players in the national response, including government ministries, departments and agencies, civil society organizations, private sectors and other stakeholders.
- Synchronizing and integrating all the resources entering the country for the purposes of funding the National Response.
- Synchronizing and integrating the plans being developed by the different players to ensure that all the plans reflect the first component of the “three ones”

Coordinating Roles of the National AIDS Secretariat

- Planning
 - Coordination of all plannings related to the response - both internal and external components
 - Instituting the planning process, when necessary
 - Managing collaborations and linkages between stakeholders during the planning process to ensure that the plans reflect the agreed national action framework.
 - Define roles and responsibilities, when necessary.
- Organising
 - Instituting the development of internal and external guidelines and processes to ensure the effective implementation of the response. These guidelines and processes may be developed by the different partners and stakeholders, but NAS should be expected to provide proper guidance for the process.
 - Without interfering with the ability of each entity to mobilise resources for its programs, NAS should be able to ensure that any funds coming into the country will address a determined need in the country’s response since ultimately, all of these contribute to the records of HIV funding in the country.
 - When required, NAS should be able to assign roles and responsibilities to different players in the national response.
- Staffing
 - Ensuring that there is adequate capacity to implement the national response should be part of the functions of the NAS. This includes identifying the human capacity gaps and developing strategies to fill these gaps. Again, that actual implementation does not have to be by NAS but NAS could identify partners best positioned to respond to these needs, working with other stakeholders.
- Directing
 - Provide guidance and strategic direction for the National response
- Controlling
 - Setting and enforcing standards – under this, NAS should ensure that the third component of the “three ones” is appropriately implemented – “One agreed country-level monitoring and evaluation system”. This will provide the needed information to monitor the performance of the response and where the leakages are and how these leakages could be field.
 - Ensure compliance to the directive

Leadership and Governance – Issues and Challenges

1. Internal coordination:

- a. While there is a good coordination between the National AIDS Secretariat and the AIDS Unit, the co-location has often resulted in role confusion that has often made it difficult to appreciate the peculiar mandate of NAS as the coordinator of the multi-sectoral response, an overarching role that extends beyond the Ministry of Health; and a role clearly distinct from that of the AIDS Unit which is responsible for the health sector response to HIV. A clear separation of roles is desirable as this will increase the effectiveness and efficiency of the response and allow each entity to focus on their statutory functions.
 - b. The relationship of the AIDS Unit to the other clinical units needs to be strengthened. For example, the AIDS Unit and the TB Unit have very limited interactions. While the TB Unit screens all TB patients for HIV, the AIDS Unit does not routinely screen HIV patients for TB, and there is little cross-referral of patients between the two units. Also, the AIDS Unit and the Harm Reduction Program are completely separate with very limited interactions. As such, follow-up of referred patients as well as co-managing of HIV positive patients on methadone has to be reinforced. This disconnect between the different clinical units adversely affects the quality of care provided to the patients and could be contributing to the limited response to treatment by many patients as evidenced by the poor viral load suppression and increase in AIDS-related deaths. To improve the HIV care cascade outcomes, integration of HIV services with other health services to boost the sustainability of the HIV response is necessitated i.e HIV testing and counseling to non-HIV services, non-HIV services added to ART – HCV and STIs management, maternal and child health care, family planning, TB testing and treatment, SRH services, mental health services and MST.
2. **Stakeholder Coordination:** There are several players within the National HIV response in the country but virtually all of these players, including government Ministries and Agencies, operate independently with little or no recourse to the National HIV Action Plan or to the National AIDS Secretariat. Most of these believed (wrongly) that since NAS was a Ministry of Health Department, they were not obliged to report to the institution; and some viewed NAS as a Global Fund establishment, while others saw NAS as a co-competitor for HIV funds. This is also the perception within the HIV response program in Rodrigues. The overall impact of these misperceptions has been weak coordination of the stakeholders. Additionally, mutual lack of trust between the civil society organizations' (CSOs) and the MoHW has also affected the effectiveness of coordinating the stakeholders. To improve the collaboration the NGOS and other CSOs and the relevant government agencies, the following point is worth noting as the 2023 – 2027 NAP is being developed: "The AIDS epidemic has had a major impact on how decisions are made within public health. Prior to the epidemic, the major paradigm in both public health and medicine was the 'expert/doctor' telling the 'patient/client/community member' what to do. This was not a paradigm that would have ever been successful in handling the AIDS epidemic." **The AIDS epidemic has proven that the best way of gaining the support of a community is actively to involve them in the decision-making process.** This requires 'giving up' power... our experience

has been that **by giving up power, power is gained** – the power to forge consensus solutions that marshal government and community forces behind the same mission.”¹⁷

3. **Policies and Laws:** The government of the Republic of Mauritius has enacted several laws aimed at providing a conducive environment for the provision of services to people living with HIV and other key affected populations. From the contextual analysis, it was clear that despite these laws, the beneficiaries of the program still face barriers to access services within the program. Monitoring the enforcement of the extant laws could help mitigate some of these challenges.
4. **Program Design:** Because of the role played by PWIDs in driving the HIV epidemic in the country at the earlier stages of the epidemic, the design of the National HIV response was skewed in favor of the PWIDs. With the maturation of the program, and significant affectation of other populations, including other key population groups, several population groups are beginning to feel left out and advocating for restructuring of the program to fully address the needs of the other groups beyond PWIDs. There is also a strong feeling that the current design of the program has left little room for full involvement of the NGOs and other members of the civil society.

Other program design issues considered in the preparing this NAP include: i) the requirements for beneficiaries of the MST program to go to methadone dispensing canter every day to receive their daily dose of methadone, the short time interval available to access methadone each day, and the uncoordinated approach to addressing issues related to adolescent and young persons; ii) Poor referral system within the program, which may have contributed to the huge loss to follow-up; and iii) poor implementation of the three ones principle of HIV/AIDS coordination.

3.2.13 Social Issues and Patient Welfare

Other issues affecting the program include inappropriate behaviors by the patients, especially PWIDs accessing MST, issues related to patient welfare and stigma and discrimination. The profile of the patients accessing the services of the HIV program was largely that of poor individuals, often rejected by the society and struggling for survival. Many of these patients do not have any means of livelihood, surviving on state welfare. Those that have jobs are mostly casual workers with no stability of income and could be fired anytime. Some are homeless, especially those that have been recently released from the prisons or those on drugs. These challenges cause them to prioritize economic survival over any interventions the program has to offer, including ART and MST. Most affected appear to be women with children whose welfare did not seem to have been considered in the design of the programs. Stigma and discrimination are still rife within the society resulting in high levels of self-stigma, rejection of PLHIVs by their families and the society, and judgmental attitudes towards PLHIVs by healthcare personnel.

3.3 SWOT analysis of the National HIV Response Program

Strengths

- Decentralized service provision (for the treatment program there are 8 DCCIs and prisons)
- HIV prevention packages that include condom distribution, harm reduction programs, PrEP, PEP, VCT, PMTCT, treatment of opportunistic infections, HCV and HBV screening, HBV vaccination and pap smear.

¹⁷ Katz M. H. (2005). The Public Health Response to HIV/AIDS: What Have We Learned?. The AIDS Pandemic, 90–109. <https://doi.org/10.1016/B978-012465271-2/50007-8> (emphasis supplied)

- Strong financial commitments from the government – funds up to 80% of the program.
- Regular social interventions and campaigns
- Adoption of new molecules which has improved adherence

Weaknesses

- Insufficient coordination and communication with other stakeholders, and poor information sharing between the different players
- Significant loss to follow-up with no functional tracking mechanism or a reliable contact tracing mechanism
- Weak prevention program especially the harm reduction program and the PrEP, which presently has very low uptake after two years in operation.
- Lack of a structured referral mechanism and linkages between the different components of the program.
- Paucity of personnel for effective service provision. In most service delivery points, there are no records staff to manage the record and documentation and very few M&E staff for data management. Nursing staff of the facilities carry out the data entry and data management.
- Paper-based database – DHIS2 has been in the works for quite a long time.
- Evidence generation within the program through research is limited resulting in poor evidence base to improve the interventions.
- Segmented and fragmented service delivery despite decentralization. The different components of the program need to speak to each other. Each operates in silos, which affects the quality of service provided to the patients.
- Poor community involvement – most of the community work is done by NGOs. None of the key populations for example have any formal community network. Only the NGOs pull them together to articulate their needs, which is not always adequate.
- Lack of comprehensive prevention programme on sexual health for students.

Opportunities

- Digitalization of database by the harm reduction program provides an opportunity for further expansion to other units.
- The presence of social media which provides opportunities to reach different population groups with prevention messages, including the most affected populations.
- Availability of home testing kits that can be deployed to increase coverage of services such as self-testing

Threats

- Widespread stigmatization of HIV within the Mauritian society makes reaching those who truly need the services difficult.
- Exit of Global Fund support could reduce the funds available for some community activities.

Chapter 4: Strategic Agenda OF 2023 – 2027 National Action Plan

4.1 Introduction

This section presents the vision, mission, goal, and objectives of the 2023 - 2027 National HIV Action Plan. The chapter also elaborates the objectives, targets, and strategic interventions of the Action Plan. This chapter therefore serves as a guide for stakeholders and funding agencies to align with the country's priorities.

4.2 Vision of the 2023 – 2027 Republic of Mauritius National HIV Action Plan

To achieve zero new HIV infections and zero AIDS related deaths within a setting of an inclusive society free from stigma and discrimination.

4.3 Mission

To provide high quality HIV prevention, testing, treatment and care and support services accessible to all Mauritians

4.4 Guiding principles

The 2023 – 2027 National HIV Action Plan is guided by the need to address the issues and challenges affecting the Republic of Mauritius National HIV response program as identified by the contextual analysis of the response program conducted as a prelude to the development of the NAP. Based on that analysis, the NAP will hinge on the following pillars:

1. Universal Health Coverage (UHC)
2. Continuum of HIV services
3. Public Health approach to HIV services

Universal Health Coverage

The World Health Organization describes Universal Health Coverage as “*all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course.*”¹⁸ Implementing the Universal Health Coverage means providing high quality equitable services that responds to the needs of the beneficiaries as well as the broader epidemiological context. It requires providing holistic care to the beneficiaries. The contextual analysis identified compartmentalization of care for PLHIVs and most at-risk populations as a major challenge that is affecting both service uptake, service coverage and quality of service, and may have directly or indirectly contributed to the increasing AIDS-related mortality within the program. This NAP attempts to address this challenge by emphasizing not just the immediate medical problem of the patient but also other co-morbidities and social issues that the patient might have that could impinge on the efficacy of the services.

¹⁸ World Health Organization (2021). Universal health coverage (UHC). What is UHC? [online]. Available at: [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)). Accessed 30 June 2022.

Continuum of HIV services

The continuum of HIV care outlines the stages that people with HIV go through from the diagnosis to achieving and maintaining viral suppression (Figure 11). This is an evidence-based approach that, properly implemented, has the potential to plug all the leakages in the testing and treatment cascades, and to accelerate the HIV response to meet the global target of 95-95-95 to end AIDS by 2030.



Figure 11: Continuum of HIV Care

The contextual analysis revealed several gaps in the prevention and treatment cascades resulting from poor linkage of the different components of the program, weak support system and weak collaboration between the different entities. These have resulted, not only in the disruption of the continuum of care, and a huge amount of loss to follow-up, but also poor viral suppression in all population groups, with the attendant high mortality rates. This NAP recommends strategies for bridging and reestablishing the continuum of care, as well as strengthening this continuum to ensure that ultimately, good viral suppression is achieved and maintained. This is expected to translate to better quality of life for PLHIVs, improve their productivity and contribution to the overall socio-economic development of the country, and help the Republic of Mauritius to attain the 95-95-95 by 2030.

Public Health Approach

The focus of a public health approach to combating HIV/AIDS is on addressing the health needs of a population rather than a narrow focus on individuals. It “*involves a collaborative effort by all parts of the health sector, working to ensure the well-being of society through comprehensive prevention, treatment, care and support*”.¹⁹ The public health approach consists of four steps:

- Defining the problem through the systematic collection of information about the magnitude, scope, characteristics and consequences of the disease and the causes and correlates of the disease, the factors that increase or decrease the risk for infections, and the factors that could be modified through interventions.
- Finding out what works to control the disease by designing, implementing, and evaluating interventions.
- Scaling up effective interventions in a wide range of settings.

¹⁹ WHO/SEARO (2008) Public Health Approach to Combating HIV/AIDS. Meeting of the Advisory Committee (ACM) to review technical matters to be discussed at the Sixty-first Session of the Regional Committee WHO/SEARO, New Delhi, 30 June - 3 July 2008 [online] Available at: [https://apps.who.int/iris/bitstream/handle/10665/126816/SEA_ACM_Meet.%201_2.4\(Rov.1\).pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/126816/SEA_ACM_Meet.%201_2.4(Rov.1).pdf?sequence=1&isAllowed=y). page 2. Accessed 30 June 32022

- Monitoring and evaluating the impact and cost-effectiveness of these interventions as part of the program.

Strategies developed using this approach are expected to complement the Universal Health Coverage, strengthen the continuum of care, and address the numerous RSSH issues, including challenges with strategic information, service delivery issues, and the issues bordering on multi-stakeholder collaboration and coordination. As part of this component, this NAP recommends the establishment of effective and efficient feedback mechanisms that will promote real-time assessment of the performance of the response program to enable adaptation of the response to prevailing contexts. Such evidence driven implementation of the response will ensure value for money, greater efficiency and effectiveness and ultimately greater impact. Part of this process will involve establishing a continuous quality improvement system within the program and strengthening the monitoring and evaluation component of the program. This NAP proposes replacing the M&E system with a MEAL (Monitoring, Evaluation, Accountability and Learning) system. The MEAL system, in addition to the tracking progress and assessing impacts, will also provide an accountability mechanism involving information sharing with the stakeholders and developing a complaints or feedback mechanism which will also guide program implementation. The Learning component of the MEAL system will ensure that lessons learned from implementing the program are properly articulated and used as a basis for the adaptive management of the program. Applying the public health approach will also help in combating stigma and discrimination that is so rampant in the country by promoting broader social and environmental changes, in addition to promoting changes in the knowledge, attitudes and behaviors at the individual level.

The NAP is also guided by the following additional principles:

4. **Political Leadership:** The setting-up of the High-Level Drug and HIV Council under the chairmanship of the Prime Minister and the Multi Sectoral Committee, chaired by the Minister of Health and Wellness, show the strong commitment of government towards ending AIDS as a public health threat. As argued in the Global Fund's Investment Case for the Seventh Replenishment 2022: "*The "U" of UHC will not be attained automatically, but by deliberate, sustained action to build people centered and inclusive systems, and to remove barriers to access health services.*"²⁰
5. **The Three Ones Principle:** The Republic of Mauritius subscribes to the Three Ones Principle namely (i) one agreed HIV NSP, (2) one national AIDS coordinating authority, and (3) one agreed country level monitoring and evaluation system. It is anticipated that this NAP will form the basis for all HIV and AIDS programming in the country by all stakeholders, including government ministries, departments and agencies, non-governmental organizations and other civil society organizations, and the private sector. It is also anticipated that the NAS will remain the only coordinating authority on HIV and AIDS issues. The NAP proposes that once this Action Plan has been approved, the stakeholders should meet to define a common agreed national M&E system that will be used to effectively monitor progress in the implementation of the HIV and AIDS program.

²⁰ The Global Fund (2022). Fight for what counts: Investment Case, Seventh Replenishment 2022 Executive Summary. [online]. Available at: https://www.theglobalfund.org/media/11784/publication_seventh-replenishment-investment-case_summary_en.pdf. Accessed 10 July 2022

6. **The UNAIDS Investment Framework**²¹ whose objectives are to stop new infections and to keep people alive. The three components of the Framework are: Basic program activities, Critical enablers and Synergies with development sectors (Figure 12).

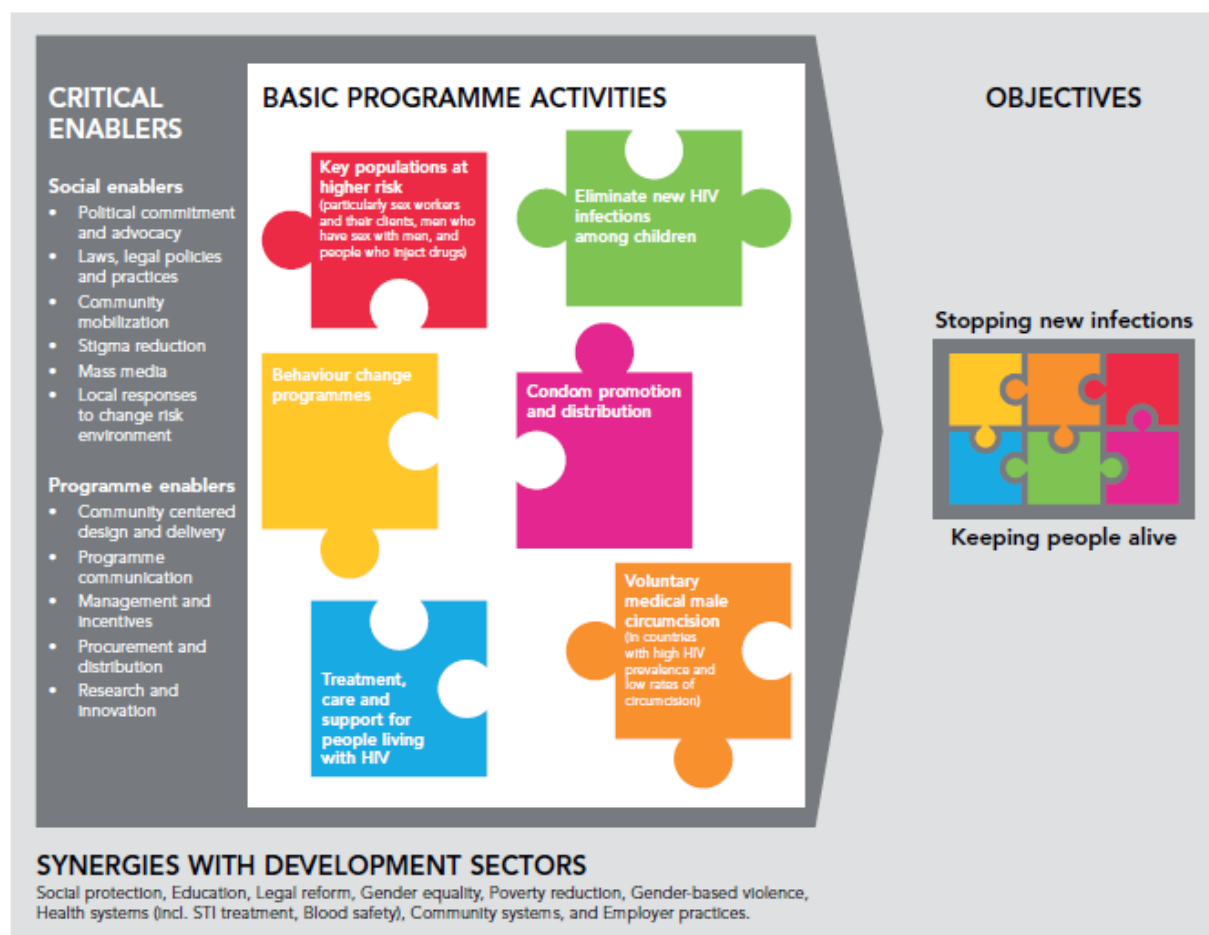


Figure 12: UNAIDS Investment Framework for HIV and AIDS

7. **Target groups:** This NAP will continue to target PWIDs who remain the key drivers of the infection in the country. Understanding that female PWIDs are worse affected than their male counterparts, special attention will be given to better understand this scenario and to address the inequity. Additionally, other populations that are most at risk of either becoming infected with HIV or of infecting others will be targeted, including MSMs, Transgender, Sex workers, Prisoners, Adolescents and young persons, and people in prisons, with services tailored to the needs of these persons.

²¹ UNAIDS (2011). A NEW INVESTMENT FRAMEWORK FOR THE HIV RESPONSE. UNAIDS Issues Brief 2011. [online]. Available at: <https://nacc.or.ke/wp-content/uploads/2016/03/Investment-Framework-Summary-UNAIDS-Issues-Brief1.pdf>. Accessed 10 July 2022

8. **Multisectoral, multi-stakeholder engagement:** HIV not only a health issue, but it is also a developmental issue linked to different sectors of the economy. Therefore, to tackle HIV effectively and therefore achieve the goal of ending AIDS as a public health threat by 2030, a multi-sectoral multi-stakeholder approach is required. Thus, the active involvement of the various line ministries, the civil society and the private sector will be critical to the response.
9. **Community Participation and Engagement:** To achieve the objectives of this NAP, the full participation of the community will be critical. This would be done in a transparent mutually rewarding engagement between the managers of the HIV response program, the Ministry of Health and Wellness, the NGOs, and the various community networks. The NAP emphasizes the importance of developing and capacitating community networks as distinct from the role currently being played by non-governmental organizations.

4.5 The Theory of Change

The Republic of Mauritius is committed to ending AIDS as a public health threat by the year 2030. To accomplish this requires stopping and reversing the current unfavorable trajectory of the epidemic in the country, including reversing the trends in AIDS related deaths and new HIV infections, and eliminating mother to child transmission of HIV, and working towards the attainment of the 95-95-95 targets. The contextual analysis identified the root causes of the unfavorable trends in the epidemic response in the HIV program. **If** the root causes of the increasing AIDS-related deaths are addressed, and **If** the root causes of increasing new HIV infections are addressed, and **If** mother to child transmission of HIV is eliminated in the country, and **If** the coordination of the National HIV response is strengthened, and **IF** the other contextual issues impeding the progress of the response program are addressed, **then** the current unfavorable trajectory of the epidemic will be halted and reversed towards ending AIDS as a public health threat by 2030.

4.6 Goal and Strategic Objectives of the 2023 – 2027 NAP

The overall goal of the 2023 – 2027 NAP is to reverse the trend of the HIV epidemic towards ending AIDS as a public health threat by 2030.

There are five strategic objectives which we believe that if we achieve them, we should be close to attaining the 95-95-95 target that will set us in course to ending AIDS as a public health threat by 2030. These objectives are:

1. Strategic Objective 1: Reduce by at least 25% new HIV Infections among the key populations, adolescents and young persons, and the general population.
2. Strategic Objective 2: Reduce by at least 50% the number of AIDS related deaths among persons living with HIV.
3. Strategic Objective 3: Reduce mother to child transmission of HIV to zero.
4. Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems.
5. Strategic Objective 5: Reduce structural and other barriers that hinder access to HIV and harm reduction services.

4.6.1 Strategic Objective 1: **Reduce by at least 25% new HIV Infections among the key populations, adolescents and young persons, and the general population.**

Reducing new HIV infections requires early diagnosis of HIV infections and linking HIV positive persons to effective care and treatment to enable them to attain viral suppression and remain virally suppressed to reduce risk of transmitting HIV. It also requires supporting HIV negative persons with appropriate prevention services to enable them to remain HIV negative. For this NAP, early diagnosis of HIV infections will be done through effective deployment of differentiated HIV testing services within the program. This can be realized by effective and efficient implementation of the new HIV policy. The differentiated testing services will be supported by establishing an effective and efficient referral system tailored to each testing scenario. To keep HIV negative people from becoming infected, combination prevention strategies will be deployed widely across the country, with priority given to places with the largest burden of disease and among populations at greatest risk of HIV.

To ensure appropriate targeting of interventions and resources, a nationwide population-based AIDS Indicator survey is being proposed in all the Islands that make up the Republic of Mauritius, despite the low HIV prevalence among the general population. In addition to providing a true picture of the HIV epidemic in the country, it will also provide accurate baseline values that will be used to assess the performance of the implementation of the 2023 - 2027 National HIV Action Plan. Alternatively, (or in addition), a composite integrated bio-behavioral surveillance survey (IBBSS) covering all the key populations (PWID, MSM, SW, TG, AYP) at the same time, followed by a mode of transmission study could be done. The current staggering of IBBSS does not make room for appropriate comparison of data across key populations, and therefore hinders appropriate planning.

4.6.1.1 Priority interventions

1. **Increase awareness and knowledge of HIV, STIs, hepatitis and TB among key populations, adolescents and young people, and the general population.** Knowledge of essential information about HIV is very low in the Republic of Mauritius and contributes to high levels of misconceptions about the virus and the disease. Such misperceptions have been blamed for the persisting high levels of HIV-related stigma, which has become a strong disincentive for many people to access HIV services. Increasing HIV awareness of the public, including health care establishments, religious organizations, workplaces, and educational establishments would be critical to combating HIV-related stigma and discrimination and to increasing the willingness of people to utilize HIV services.

Such massive awareness raising interventions must be conducted in a multi-stakeholder collaborative manner with clear, specific, and consistent messaging, and using all forms of media, including recruiting the support of Trust Capitals such as religious leaders. Specifically, while TV, radios, and billboards will remain important information dissemination methods, other methods and technologies will be encouraged such as the use of social media – Facebook, twitter, WhatsApp, and related media. NAS and the ministry of health will be encouraged to develop mobile applications that can provide updated and reliable information on HIV, Sexual and Reproductive Health, STIs and viral hepatitis, with links to sites that further information can be found. For greater effectiveness, it is recommended that a communications specialist with skills

in social media, website management and related knowledge and skills should be recruited and specifically charged with managing the messaging component of the response.

In terms of targeting of the messages, while emphasis will continue to focus on key populations, efforts will be made to be as inclusive as possible by designing messages and IEC materials that speak to different segments of the population. In addition to the modes of dissemination already mentioned above, these materials will also be disseminated through various health care clinics and centres, including private health care settings, public restrooms, clubs, vending machines, and other public areas. The idea will be to flood the country with HIV/AIDS, SRH, STI and viral hepatitis messages, making such messages easily accessible to everyone.

Strategies

- i. Design and implement a multi-stakeholder sexual health and HIV education campaign for the public, including the use of Trust Capitals such as religious leaders and other key opinion leaders in the country. The messages should be disseminated widely using all available media – electronic media, print media, social media, edutainment, and information, education, and communication materials, and the other modes of dissemination described above. As much as possible, the delivery of these messages should follow a participatory approach and varied to the contexts and circumstances of the audience. The details of these will be elaborated during the development of the annual operational plans. For the adolescents and young persons, involvement of their parents, guardians and other significant persons in their lives should be considered as another means of improving the uptake and assimilation of these messages.
- ii. Harmonize the messaging around HIV to ensure the messages provided by all stakeholders are clear, specific, consistent, and up to date. However, the messaging should be adapted to the needs of different audiences without losing its meaning and consistency.
- iii. Design and implement interventions to build the capacities of personnel of line ministries and other relevant government agencies to effectively conduct HIV awareness and education programs.
- iv. Develop an effective peer education program for HIV awareness and education, including the use of community networks.
- v. Strengthen sexual and reproductive health (SRH) education programs in pre-primary, primary and secondary schools in all the regions of the Republic of Mauritius, to develop the students' coping skills, including building the capacity of the teachers to effectively deliver the SRH education programs. Consider adopting a life cycle approach to sexual and reproductive health education, beginning early in the life of a child on to adulthood and old age. At each stage in life, the message should be adapted as appropriate.
- vi. Integrate and harmonize the SRH and HIV education curriculum and, evaluate it.
- vii. Create a multi-sectoral multi-stakeholder oversight platform under the leadership of NAS to monitor the implementation of the awareness and education programs
- viii. Integrate HIV messaging into existing campaigns and other activities related to SRH, including STIs, viral hepatitis, harm reduction, other healthcare activities and immunization programs.

2. **Increase access to HIV prevention (including harm reduction) and testing services among key populations, adolescents and young persons, and the general population.** Expand and improve the implementation of effective combination prevention interventions, including provision of condoms and lubricants, harm reduction programs (MST and NSP), pre-exposure prophylaxis, post exposure prophylaxis, treatment as prevention, diagnosis, and treatment of STIs and other behavioral HIV prevention options. The differentiated HIV testing services will link to the prevention interventions by adopting a **'status-neutral approach to HIV care'**. This approach allows for ongoing engagement in HIV prevention, care, and treatment regardless of a person's HIV status. People that test HIV negative will be offered effective prevention services, while those that test HIV positive will be offered effective treatment and care services to enable them to achieve and maintain viral suppression. A major advantage of this approach is that it provides holistic service to the individual, considering their needs more than their HIV status. This has a potential to increase the acceptability of HIV testing services, HIV prevention services and treatment services, and could also reduce the structural barriers that affect service uptake, including stigma.

Strategies

- i. Develop a comprehensive **HIV prevention strategy** based on the WHO guidelines and provide standard operating procedures and job aids to facilitate effective combination prevention programming.
- ii. Build appropriate capacities among the different stakeholders to implement combination prevention interventions. Create linkages among the different prevention components and provide a forum for regular interaction between the key implementers of the different components.
- iii. Incorporate awareness messages of the available prevention options in all HIV awareness raising and education events. Develop appropriate IEC materials and other information sharing platforms to increase awareness of the HIV prevention options. The program should consider producing a video on 'How to stay HIV free' and make such video go 'viral'.
- iv. Include risk assessment checklists in assessments at various entry points (school, health services, when patients present to the casualty unit, social services etc.).
- v. Identify and address barriers to access to HIV prevention services. Examples include inter-ministerial collaboration to orientate and empower PLHIVs, key populations and other individuals with a high risk and/or history of risky behaviors through training and employment. **Affirmative actions** for such individuals by giving them preferential employment opportunities need to be established. Providing social support desks in all major healthcare settings with links to NGOs and other resources such as food, support (including legal support) and information can also be considered.
- vi. Encourage and maintain focus on post exposure prophylaxis and pre-exposure prophylaxis. The service delivery points to these services should be increased to make them more easily accessible.
- vii. Establish community-led interventions to improve access to HIV/STIs services targeting key populations and the community.

- viii. Provide needle dispensing bins in public restrooms, parks, and remote regions to avoid prick injuries.
- ix. Increase access points for safe sex materials (lubricant, condoms, rapid tests/strips, information booklets/posters/QR code to instructional videos)

3. **Increase knowledge of HIV status among key populations, adolescents and young persons, and the general population.** HIV testing is the entry point to care and treatment and the first component of the treatment cascade. The 95-95-95 target of UNAIDS requires that by 2030, 95% of people living with HIV should know their HIV status. Since this component feeds the rest of the treatment cascade the quality and efficiency of the component will invariably affect the performance of the rest of the cascade. Republic of Mauritius has a huge unmet need for HIV testing services with 46% of men and children and 61% of women infected with HIV not knowing their status. To meet this need, this NAP is recommending the deployment of differentiated HIV testing (Figure 13) as recommended by the recently approved HIV testing policy.

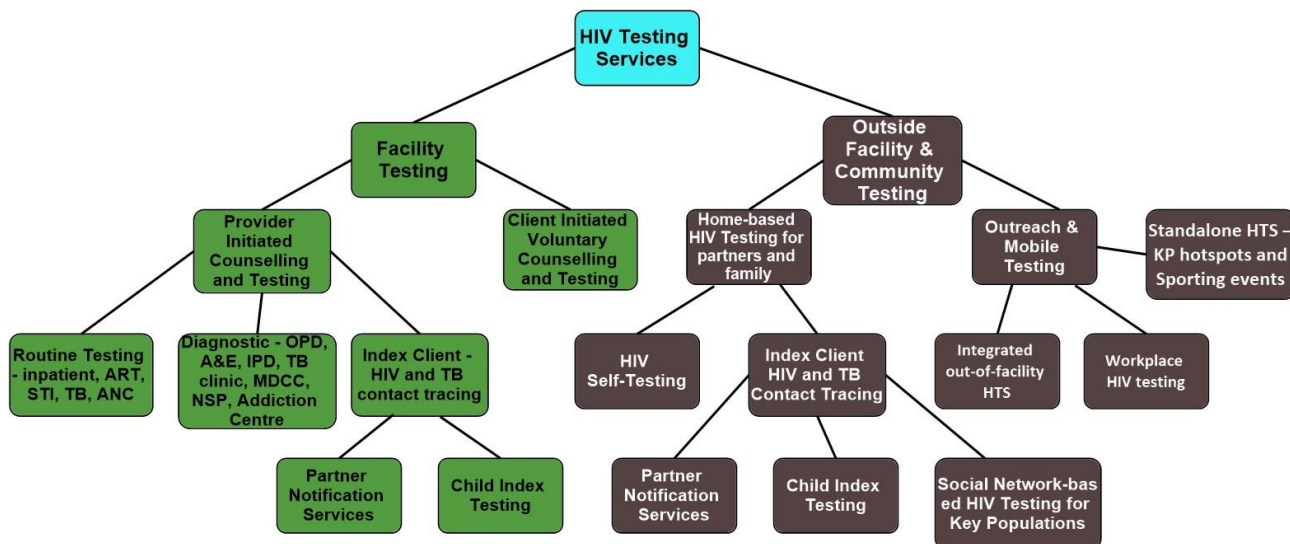


Figure 13: Differentiated HIV testing approaches

Differentiated HIV testing is of particular relevance to the Republic of Mauritius context because of the country’s low-level epidemic with concentration among key populations, and high levels of stigma and discrimination in the society, which discourages people from accessing HIV testing services. Differentiated HIV testing is a client-centered testing model that addresses the needs and preferences, and specific barriers and bottlenecks of a sub-group of individuals to enable them to know their HIV status; thus, facilitating early diagnosis of HIV, maximizing yield, efficiency, and cost effectiveness of the HTS program. Since there are insufficient program data to demonstrate the efficiencies of different testing modalities in identifying new HIV positives, the program will utilize evidence from the experiences of other countries. For a start therefore, the following modalities will be prioritized: index testing, community VCT centers, social network-based HIV testing for key populations, inpatients and patients attending TB and STI clinics, and clients attending harm reduction facilities. These approaches will thereafter be refined in course of the implementation of the Action Plan, as more reliable program data emerge. The specific modality to be employed for a particular client in this differentiated HIV testing model would

depend on the risk-profile of that individual, his or her preferences, and other peculiar circumstances of the client, hence the need to provide risk assessment checklists at various points along the care pathways.

To improve the effectiveness of the differentiated HIV testing services, the NAP is also prioritizing interventions aimed at removing barriers to HIV testing such as stigma and poor appreciation of the implications of a positive HIV test which results in poor acceptance of an HIV test result. To this end, the differentiated HIV testing services will continue to emphasize the ‘5 Cs’ of HIV testing – **Consent, Confidentiality, Counseling, Correct test results and Connection** (linkage) to care²².

Presently, community networks do not exist within the various key population groups. To effectively implement the community component of the differentiated HIV testing, especially the social network-based HIV testing approaches, self-testing, assisted partner notification, home-based index testing, and mobile HIV testing services, such community networks would be needed to complement the work of the NGOs and community-based organizations. This NAP recommends the establishment of such community networks and building their capacities to support the differentiated HIV testing services. An important missing component in the HIV program so far is programming for adolescents and young persons. For this NAP, establishment of adolescent and youth friendly health services (AYFHS) is recommended, including youth friendly harm reduction services.

Throughout the lifespan of this Action Plan, focused demand creation activities will be undertaken at facility and community levels to improve knowledge of, and attitude to HIV testing. Efforts will also be made to facilitate enabling environment for HIV testing uptake. Locations with high HIV burden and which have been shown in the past to have high HIV positivity yield will be targeted for demand creation activities. The proposed community networks will be actively engaged to facilitate demand creation and address stigma and discrimination which impede uptake of testing services. The expanded differentiated HIV testing services will also increase demand for external and internal quality assurance.

Strategies

- i. Design and implement a status-neutral approach to HIV testing and care, which will link HIV positive persons to treatment and care, and HIV negative persons to appropriate prevention services to ensure that these persons remain negative.
- ii. Offer routine HIV testing for persons in specific settings such as inpatients, patients attending the STI, family planning and antenatal clinics, TB clinics and others with symptoms and signs suggestive of immunosuppression, according to the current Republic of Mauritius HIV testing guidelines.
- iii. Implement appropriate differentiated HIV testing targeting different populations, including self-testing, index testing, community testing, social network-based testing, provider-initiated HIV testing, among others.

²² WHO (2015). Consolidated guidelines on HIV testing services 2015.

- iv. Implement sustained awareness raising activities among physicians and nurses to raise their index of suspicion of HIV among patients accessing care and develop algorithms and job aids to assist them with making judgements on when to request for an HIV test.
- v. Develop/update standard operating procedures and guidelines for HIV testing covering different population groups in line with current evidence and international best practices.
- vi. Design and implement interventions targeting the partners of persons who test positive, including providing testing for such partners, supporting sero-discordant partners to remain HIV negative.
- vii. Make couple counselling and testing a standard practice in the country, including at antenatal clinics. Religious bodies could be used to promote couple counselling and testing. Officers of the marriage registry department should also be trained on HIV counselling and testing, and this included in their pre-marriage registration discussions. However, all such HIV counselling and testing must be voluntary, and the couples must not be forced against their wills to accept HIV testing. There should be broad access to information on couple counselling through pamphlets/brochures with links to official health services website & resources, and health clinics in high schools with trained nursing staff or counsellor-testers.
- viii. Revise the current testing guidelines that takes two weeks for a client to know their status to reduce the risk of loss to follow-up. Testing algorithms should be defined using three rapid tests. Each person coming for HIV testing will be tested with two rapid tests concurrently. If the two tests are negative, then such individual would be taken to be HIV negative; and if both test results are positive, then that individual is definitely positive. Where one of the rapid tests is positive and the other negative, the third rapid test will then be used as a tie breaker. That way, individuals could get their test results confirmed the same day. This would fast track treatment initiation for those found positive.
- ix. Strengthen the current caravan-based outreach testing services by converting it to a multi-disease testing services to encourage uptake of HIV tests i.e Hepatitis B, Hepatitis C, syphilis, blood pressure and diabetes
- x. Organize special community outreach HIV testing programs as part of a monthly or quarterly multi-disease testing programs. During these outreaches, arrange to have confirmatory testing services available on site to ensure that any HIV positive person identified can be rapidly initiated on treatment.
- xi. Organize special training workshops for physicians on provider-initiated HIV counselling and testing, and train non-HIV physicians on conducting HIV testing.
- xii. Expand HIV testing points across the country, including all harm reduction centres, youth centres, secondary educational institutions, community centres, centres run by NGOs and private clinics and pharmacies. For the sexually active adolescents, HIV testing should be aligned with the HIV and AIDS Act 2006 with their consent. A strong referral system should be created to link all the HIV testing points to the CML for confirmatory tests, and to the DCCIs for follow-up treatment and care.
- xiii. Establish an effective tracking system to track all those accessing the testing services to enable them to be linked to either prevention services or to treatment and care, depending on the eventual outcome of the confirmatory test

xiv. Identify and address all the barriers to access to HIV testing services. For example, specific legal aid services could be established to provide legal support in response to discriminatory practices linked to HIV status. Protocols and legislation should be clear with regards to risks and rights linked to testing. It will be more acceptable if these legal aid services are staffed by people living with HIV or key populations. The proposed community networks would be very useful in this regard.

4. **Increase access to HIV prevention services among persons who test negative to HIV.** As a sub-set of the priority intervention on testing above, this NAP is proposing the expansion of access to individuals that test negative by adopting the **status-neutral HIV testing**. This will ensure that these individuals remain HIV negative. To effectively implement this strategy, appropriate SOPs and job aids will be developed and the capacity of all the implementers of the prevention program built on its operation.

4.6.2: Strategic Objective 2: **Reduce by at least 50% the number of AIDS related deaths among persons living with HIV**

Spectrum and programmatic data show that deaths among people living with HIV is unacceptably high. The national dialogue conducted as part of the contextual analysis revealed that even among the PLHIVs that are alive, their quality of life is poor. This strategic objective aims to keep PLHIVs alive and well enough to contribute meaningfully to the socio-economic life of the country. To do this, the NAP proposes to start HIV treatment early for all PLHIVs through early diagnosis and effective linkage to treatment, and to support all those on treatment to stay on treatment (the second component of the 95-95-95 – **by 2030, 95% of all PLHIVs that know their status should be on effective treatment**). There is abundant evidence that early initiation of treatment, even for asymptomatic HIV patients, significantly improves the health outcomes for PLHIVs and can help them to attain a normal lifespan^{23,24}. In addition to early initiation of treatment for PLHIVs, this NAP also proposes to increase focus on the continuum of HIV care to block all the leakages in the treatment cascade by identifying and addressing gaps at each step in the continuum of care. Such focus will require effective implementation of the public health approach to HIV care through providing comprehensive, holistic, rights-based care to PLHIVs, including addressing their social and economic needs.

As revealed by the contextual analysis, one of the reasons for PLHIVs not getting on treatment or continuing treatment is lack of understanding of the personal and public health benefits of taking ART. Therefore, this NAP proposes to improve treatment literacy among PLHIVs during the pre- and post-test counselling processes, during treatment initiation, and at each contact between the patient and the healthcare workers. All the barriers identified in the contextual analysis to such engagement between the patients and healthcare workers, including insufficient time for the healthcare workers to conduct quality

²³ INSIGHT Start Study Group, Lundgren JD, Babiker AG, Gordin F, et al. Initiation of antiretroviral therapy in early asymptomatic HIV infection. *N Engl J Med.* 2015(August 27);373(9):795-807. doi:10.1056/NEJMoa1506816

²⁴ TEMPRANO ANRS Study Group, Danel C, Moh R, Gabillard D, et al. A trial of early antiretrovirals and isoniazid preventive therapy in Africa. *N Engl J Med.* 2015(August 27);373(9):808-822. doi:10.1056/NEJMoa1507198

patient education, non-management of co-morbidities which may be the underlying cause of death will be addressed as part of the package to improve the quality of services being provided by the program.

Several studies have shown that failure to achieve viral load suppression within six months of commencing ART is associated with increase in mortality among PLHIVs^{25, 26}. The treatment cascade described in the situation analysis above clearly demonstrated poor viral load suppression among all the population groups - men, women, and children. As expected, mortality among PLHIVs was also high in the program. Therefore, for this NAP, in addition to rapid initiation of treatment, the contextual factors that have been identified as affecting viral suppression (***the third component of the 95-95-95 – by 2030, 95% of all patients on effective ART should be virally suppressed***) will be addressed. Resistance testing and other studies to identify other factors that could be affecting viral suppression will be conducted and results used to improve service delivery to enhance the chances of viral suppression of PLHIVs on treatment.

Studies have also shown that PLHIVs with greater social support had better treatment adherence, compared to those with poorer social support^{27, 28, 29, 30}. The contextual analysis clearly revealed that one of the factors hindering access to effective social support by PLHIVs is stigma and discrimination and negative perceptions of HIV within the Mauritian society. This NAP proposes to increase efforts to combat stigma and discrimination, and the negative perceptions of HIV in the society through the interventions listed in ***Strategic Objective 1***, to enable the PLHIVs to secure the needed social support for their treatment. For greater effectiveness, all the interventions will be implemented through multi-stakeholder collaborative efforts, including the involvement of the community networks to be set up during the life of this NAP. Additionally, the peer educators' program will be strengthened to support treatment adherence and treatment literacy.

²⁵ Lee JS, Cole SR, Richardson DB, Dittmer DP, Miller WC, Moore RD, Kitahata M, Mathews C, Mayer K, Geng E, Achenbach CJ, Eron JJ Jr; Center for AIDS Research Network of Integrated Clinical Systems. Incomplete viral suppression and mortality in HIV patients after antiretroviral therapy initiation. *AIDS*. 2017 Sep 10;31(14):1989-1997. doi: 10.1097/QAD.0000000000001573. PMID: 28650383; PMCID: PMC5695564.

²⁶ Engsig, F. N., Zangerle, R., Katsarou, O., Dabis, F., Reiss, P., Gill, J., Porter, K., Sabin, C., Riordan, A., Fätkenheuer, G., Gutiérrez, F., Raffi, F., Kirk, O., Mary-Krause, M., Stephan, C., de Olalla, P. G., Guest, J., Samji, H., Castagna, A., ... Wittkop, L. (2014). Long-term Mortality in HIV-Positive Individuals Virally Suppressed for >3 Years With Incomplete CD4 Recovery. *Clinical Infectious Diseases*, 58(9), 1312–1321. <https://doi.org/10.1093/cid/ciu038>

²⁷ Gonzalez, J. S., Penedo, F. J., Antoni, M. H., Durán, R. E., McPherson-Baker, S., Ironson, G., Isabel Fernandez, M., Klimas, N. G., Fletcher, M. A., & Schneiderman, N. (2004). Social Support, Positive States of Mind, and HIV Treatment Adherence in Men and Women Living With HIV/AIDS. *Health Psychology*, 23(4), 413–418. <https://doi.org/10.1037/0278-6133.23.4.413>

²⁸ Mao Y, Qiao S, Li X, Zhao Q, Zhou Y, Shen Z. Depression, Social Support, and Adherence to Antiretroviral Therapy Among People Living With HIV in Guangxi, China: A Longitudinal Study. *AIDS Educ Prev*. 2019 Feb;31(1):38-50. doi: 10.1521/aeap.2019.31.1.38. PMID: 30742482.

²⁹ Oliveira RDS, Primeira MR, Santos WMD, Paula CC, Padoin SMM. Association between social support and adherence to anti-retroviral treatment in people living with HIV. *Rev Gaucha Enferm*. 2020;41:e20190290. Portuguese, English. doi: 10.1590/1983-1447.2020.20190290. Epub 2020 Jul 13. PMID: 32667420.

³⁰ Vyavaharkar M, Moneyham L, Tavakoli A, Phillips KD, Murdaugh C, Jackson K, Meding G. Social support, coping, and medication adherence among HIV-positive women with depression living in rural areas of the southeastern United States. *AIDS Patient Care STDS*. 2007 Sep;21(9):667-80. doi: 10.1089/apc.2006.0131. PMID: 17919094.

4.6.2.1 Priority interventions

1. **Increase access to effective HIV treatment for all persons living with HIV.** Effective antiretroviral treatment is critical to the rapid achievement of viral suppression and the sustenance of the viral suppression on the long term. This will be assured through the strategies outlined below.

Strategies

- i. **Rapid initiation of treatment:** The 2023 – 2027 NAP proposes prioritizing rapid initiation of ART, preferably within seven days after diagnosis. This will require several structural changes including changes in many of the current processes such as reducing the gap between rapid testing and confirmatory testing, improved linkages to treatment, addressing the various barriers to treatment uptake, addressing human resource challenges and fast-tracking pre-initiation clinical and laboratory evaluations. For example, presently, CD4 count tests are not done every day because they must be done in batches, which delays CD4 results for up to two weeks in some cases. This, combined with two weeks of waiting for confirmatory tests, means that sometimes, a person positive for HIV can wait for up to four weeks to commence treatment. A work around will be identified to reduce this waiting time to encourage rapid initiation of treatment such as using **point of care** laboratory tests that provide rapid results. This NAP strongly recommends investing heavily on point of care tests to help the response program to succeed.
- ii. **Use of effective antiretroviral drugs (ARVs), preferably fixed dose combination ARVs.** The current first line ARV regimen in Republic of Mauritius is dolutegravir-based ARVs. This has been proven globally to confer strong efficacy and is the mainstay of treatment in several countries. This regimen will be continued during the life of this NAP. In addition, resistance testing will be introduced to monitor the efficacy of the regimen and to generate local evidence to support its use. Additionally, quality of all the ARVs procured for the program will be monitored closely at the point of delivery from the suppliers and periodically during storage at the central stores and at the clinic pharmacies. The current protocol for switching to second and third line ARVs will continue to be followed.
- iii. **Promote integrated health care for PLHIVs on treatment:** This NAP recommends the provision of holistic care to all PLHIVs on treatment, including multidisciplinary management of HIV-associated comorbidities, coinfections, and complications, including STIs, provision of various support services to the PLHIVs as needed, and identification and management of social and other barriers that could affect the treatment program of the PLHIVs. Some of these barriers have been described in detail above.
- iv. **Increase access to treatment by decentralizing treatment and support to the secondary and primary healthcare centres** and providing the requisite training to the doctors and nurses in these facilities. For example, renewal of prescriptions, dispensing of pills and basic assessments could be done by the family doctors. Patients with other issues of special concerns or complications at these centres could still be referred to the AIDS physicians at regular intervals.

2. **Reduce loss to follow-up:** loss to follow up within the program occurs at different stages beginning from the testing stage all through treatment and care. Some of the reasons for this have already been described above. This intervention will reduce the loss to follow up by addressing the root causes of loss to follow up, including operational reasons within the program (already described above), issues related to stigma, discrimination and misperceptions of HIV and AIDS, social and economic challenges faced by PLHIVs, among others. The outcomes of this intervention would be an increase in retention of people on treatment and increased number of people on ART. Ultimately, this will improve viral suppression and overall health and survival of PLHIVs.

Strategies

- i. Address operational issues within the program that promote loss to follow up. For example, reduce the two-week gap between HIV screening and confirmatory tests by adopting rapid confirmatory tests. To do this, appropriate algorithms will have to be built, SOPs and job aids developed, and appropriate training provided to all the personnel that will be involved. The efficiency and effectiveness of tracking of people that come for tests should also be improved by appropriate documentation of the demographic details of all testing clients without violating their privacy and confidentiality. This may require redesigning the HIV testing registration forms to include information that can facilitate tracking of those coming for tests. The pre-test and post-test counselling should be improved to emphasize the benefits of early diagnosis and early initiation of treatment to the PLHIV, their partners and the wider society. This will require a review of the counselling guidelines and protocols, development of appropriate SOPs and job aids, and training and retraining of the counsellors.

Part of the operational issues that should be addressed is to close the gaps between the harm reduction units, the AIDS Unit and other clinical units and service delivery points. The contextual analysis revealed the non-existence of an effective collaboration between the harm reduction unit and the AIDS Unit. This gap has further increased the number of losses to follow-ups in the program, and therefore increased the number of PLHIVs that are not getting on treatment. Measures should be put in place to close the gap and tighten the collaborative link between the two components of the HIV response program. The National AIDS Secretariat, as the supervising authority of the two units, should ensure that this occurs and is sustained. In developing the referral and tracking systems, the need to close this link should be specifically identified and addressed, and processes put in place to monitor its implementation.

- ii. **Strengthen the peer education network to improve treatment adherence:** The collaboration between the AIDS Unit, harm reduction units, NGOs, CBOs and community networks should be strengthened to enable the creation and operation of an effective and efficient peer-educators' system that will support counseling, treatment literacy and treatment adherence of PLHIVs, as well as follow-up of those defaulting in their clinic appointments. Where necessary, and agreed to by the PLHIVs, use of SMS and other messaging services like WhatsApp should be utilized in reaching out to the PLHIVs.

- iii. **Capacity-build** health care providers on treatment literacy to improve retention rate among PLHIV/
 - iv. **Establish a tracking system for persons that have been lost to follow-up.** Establishing an effective tracking system will require a multi-stakeholder consultation to identify what would most likely work within the Republic of Mauritius context. In this regard, inputs from the community networks would be invaluable as key affected populations, and because they can more easily identify their peers. Therefore, establishment of these community networks should be pursued seriously for their invaluable benefits. Once the tracking system has been developed, SOPs and job aids should be developed to facilitate the operationalization of the tracking system. A feedback mechanism should also be incorporated in the tracking system to help in troubleshooting the system for course corrections during its implementation. Ongoing monitoring of the tracking system should be the responsibility of the National AIDS Secretariat and should form part of the reports for the regular multi-stakeholder meetings that will be established throughout the life of this NAP.
 - v. **Build the capacity of the health care providers to provide high quality pre-and post-test counselling as well as pre-treatment-initiation counselling, and at each clinic visit.** Poor understanding of the importance of getting on ART and treatment adherence contributes to loss to follow-up, among other things. This NAP proposes training and retraining the counsellors as well as providing appropriate SOPs and job aids to strengthen their work. The accountability mechanisms that will be set up will support close monitoring of the performance of the counselling component of care. Occasional patient exit interviews should be conducted as part of the monitoring process. Such exist interviews should be conducted primarily as part of community monitoring services by the community networks, but could also be commissioned, as needed, by the National AIDS Secretariat.
 - vi. **Provide psychosocial support to the patients living with HIV on treatment.** Poor psychosocial support is one of the factors identified as affecting the uptake of care and remaining in care by PLHIVs, with consequent loss to follow-up. The paucity of psychologists in the program has contributed to this situation and should be addressed by recruiting more psychologists. At least one psychologist should be recruited specifically for Rodrigues Island. Additionally, this NAP recommends task shifting to other healthcare workers who could be trained to provide psychosocial support to the patients. Such training will require the development of appropriate guidelines, SOPs, job aids, training curricula and multi-stakeholder support. Some members of the community networks can also be trained to provide psychosocial support to their peers.
3. **Improve treatment adherence.** The poor viral load suppression identified during the contextual analysis could be directly related to poor treatment adherence. But it will be important to conduct some primary research on the causes of poor treatment adherence and its associated loss to follow-up. The eventual outcome of poor treatment adherence, in addition to the development and spread of resistance, is increase in deaths among PLHIVs. This NAP proposes to improve treatment adherence through the strategies outlined below.

Strategies

- i. **Regular monitoring of viral load**, which is the only way of diagnosing and confirming treatment failure³¹. Additionally, knowing their viral load status helps the patients to understand their disease, and enhances their motivation to adhere to their treatment. Therefore, during pre-treatment initiation counselling and patient education, viral load should form part of the topics to be discussed, with the patients allowed to ask questions and seek clarifications around the topic. The information provided on viral load should be reinforced at every contact between the physician and the patient. For all the patients, viral loads should be conducted at least at the 6th month after initiation of treatment and at the 12th month. Thereafter, especially if the patient has achieved viral load suppression within the first year of treatment, viral load should be checked annually. If, however, there is evidence of virologic failure (Viral load >1000 copies/ml) during the first year of treatment, the viral load test could be repeated more frequently (between 3 – 6 months). Reasons for the virologic failure should also be investigated, e.g., adherence issues, and addressed.

The contextual analysis revealed that there is sufficient viral load machines in the country to meet the needs of the program. Therefore, the purchase of additional equipment for measuring viral loads is not anticipated during the lifespan of this Action Plan. However, the Action Plan proposes to invest in building the capacity of personnel to effectively collect and transport blood for viral load tests, and to conduct the viral load tests also. The Action Plan also recommends reducing the turnaround times for the viral load tests, as well as other clinical tests, to enhance the usefulness of these tests for patient management. The HIV program in Rodrigues will need special support to ensure regular and quality viral load tests during the period covered by this Action Plan.

- ii. **Continued use of CD4 to monitor disease progression and risk of death.** The World Health Organization advises that “*CD4 count is the best predictor for disease status and immediate risk of death and thus should be used to identify those who have advanced HIV disease.*” A deteriorating CD4 count should serve as a red flag to further investigate adherence issues, even if the patient reports good treatment adherence. Therefore, baseline CD4 count should continue to be done at treatment initiation and when clinically indicated. Additionally, patients lost to follow-up who re-enter the treatment program should also have their CD4 count measured before re-entering the program.
- iii. **Monitor treatment adherence.** To improve treatment adherence requires monitoring the adherence to detect when a patient is not adhering to treatment. At the service delivery points, adherence monitoring should be incorporated as a standard routine practice in clinical care. The adherence monitoring could be done using self-report, pill counts and any other method that is considered feasible at any particular point in course of the implementation of this Action Plan. For example, the use of electronic monitoring tools such as MEMS cap could be considered if the program considers it necessary and affordable. The NAP recommends a multi-sectoral, multi-stakeholder dialogue to identify

³¹ WHO Information Note, July 2017. HIV Treatment and Care: What’s new in treatment monitoring: viral load and CD4 testing. [online]. Available at: <https://apps.who.int/iris/bitstream/handle/10665/255891/WHO-HIV-2017.22-eng.pdf>. Accessed 15 July 2022.

what will likely work best for Republic of Mauritius context. The NAP further recommends consideration for the adoption of multiple adherence monitoring strategies.

- iv. **Improve retention in care.** Retention in care will increase the chances of treatment adherence, which in turn, will increase the chances of PLHIV on treatment achieving and maintaining long term viral suppression. In addition to Improving the quality of counselling and treatment literacy, strengthening the peer education system should be used as a major pillar in ensuring this. This in turn, should hinge on building a strong collaborative network between the AIDS Unit, the harm reduction unit, the NGOs, CBOs, community networks and the peer educators. Community education should also be emphasized to help the friends and families of PLHIVs and the wider society to understand the importance of social support to treatment retention and adherence, as well as the benefits of these on the overall health of the PLHIV and the society. Effective community education should enhance the level of social support the PLHIV receives, thus increasing their chances of improved treatment adherence.
4. **Establish a strong TB/HIV collaboration:** The TB and HIV programs, while acknowledging their close links, do not presently have any effective collaboration. Patients with TB are screened routinely for HIV, but HIV patients are not screened for TB. This NAP proposes the establishment of a strong TB/HIV collaboration in line with WHO guidelines. The first step should be to develop a TB/HIV collaboration strategy which will outline clearly how the collaboration will operate. SOPs and job aids should also be developed detailing how the cross-referral process would work. The goal would be to ensure that all HIV positive TB patients are placed on effective ART and co-trimoxazole preventive treatment, and that all PLHIVs are placed on Isoniazid Preventive Therapy. To ensure adherence to the IPT, shorter course regimens should be adopted. A quality assurance/quality control mechanism should be established to monitor the services being provided to HIV positive persons by the TB team and a forum should be created in the form of clinical meeting for the physicians and nurses in the TB and HIV clinics to interact regularly and exchange views on patient management.

Strategies

- i. Develop a TB/HIV collaboration strategy
 - ii. Build the capacity of the personnel in the TB clinic and the HIV clinic on the diagnosis and management of TB/HIV co-infection.
 - iii. Beyond screening for TB and HIV, the two units should be capacitated to be able to screen for other co-morbidities.
 - iv. Create a forum for regular interaction between personnel from both HIV and TB clinics.
 - v. Monitor the services provided to HIV and TB patients.
5. **Multi-disciplinary management of STIs and other opportunistic infections.** One of the important outcomes of the advances in the management of HIV is its transformation from an almost death sentence to a more manageable chronic illness. The high death rates associated with the infection more than 30 years ago was mainly due to several associated complications and opportunistic infections because of the weakened immune system. The use of more potent and better tolerated antiretroviral drugs has meant fewer complications and opportunistic infections, and therefore

fewer deaths. The prognosis has been further improved through better strategies for managing opportunistic infections and complications, including multidisciplinary and holistic care of PLHIVs. That HIV-associated deaths are still very high in the Republic of Mauritius suggests that this multidisciplinary care is compromised, among other reasons. This NAP proposes re-engineering the approach to multi-disciplinary management of HIV patients in the spirit of Universal Health Coverage, Continuum of Care and Public Health Approach to care for HIV patients. The NAP emphasizes providing multi-disciplinary and holistic care to any PLHIV seen in any of the clinical units – whether an HIV unit or not. This will require the development of appropriate guidelines, SOPs, and job aids for the personnel, and the training of physicians and nurses in all the HIV and non-HIV clinical units, organizing joint clinical conferences involving all the clinical units for exchange of ideas, updating knowledge and addressing issues and challenges arising from patient care. Deliberate efforts should be made to address structural issues such as stigma that can be serious barriers to such collaboration.

Strategies

- i. Develop a multidisciplinary patient management strategy.
- ii. Provide appropriate guidelines and job aids
- iii. Build the capacity of the healthcare personnel in the use of the guidelines and job aids
- iv. Create a forum for professional exchange among the healthcare personnel and weekly case management of the PLHIV with complications by the HIV expert.

4.6.3 Strategic Objective 3: Reduce mother to child transmission of HIV to zero

In 2021, 149 HIV positive pregnant women needed PMTCT, of whom 113 (75.8%) received the needed care. In the same year, 15 infants became HIV positive from maternally acquired infections (MTCT rate of 10%). Reasons that have been associated with vertical transmission of HIV include women defaulting in their ART regimen, late presentation of mothers, new infection of mothers during the late stages of pregnancy resulting in missed diagnosis, among others. The implication is that the PMTCT program needs to be strengthened. Considering the population of pregnant women in the Republic of Mauritius every year and the availability of resources to cover the PMTCT needs, elimination of mother to child transmission of HIV should be a feasible target. Therefore, this NAP focuses on elimination of MTCT within the five years covered by this Action Plan.

To achieve the objective of eliminating MTCT of HIV by the end of 2027 would require a comprehensive public health approach involving the participation of all stakeholders involved in the care and support of women, children, and their families under the leadership of the National AIDS Secretariat and the oversight of a national technical committee for the elimination of mother to child transmission of HIV. It would also require the effective integration and linkage of all the four prongs of PMTCT through a comprehensive sexual and reproductive health program, and a strong multi-stakeholder collaboration. Specifically, the involvement of the line ministries responsible for adolescents and young people, women and gender, NGOs working with young persons and women, gender and reproductive health, and other key stakeholders and opinion leaders, including Trust Capitals along the care-seeking pathway will be invaluable. This may require the creation of an enabling environment for efficient and effective multi-stakeholder coordination of and collaboration within the PMTCT program.

The four-pronged PMTCT strategy

- **Prong 1:** Primary prevention of HIV among women of reproductive age within services related to reproductive health, such as antenatal care, postpartum/natal care, and other health and HIV service delivery points, including working with community structures.
- **Prong 2:** Providing appropriate counselling and support to women living with HIV to enable them to make informed decisions about their future reproductive life, with special attention to preventing unintended pregnancies.
- **Prong 3:** For pregnant women living with HIV, ensuring access to HIV testing and to the antiretroviral drugs that will help mothers' own health and prevent infection being passed on to babies during pregnancy, delivery, and breastfeeding.
- **Prong 4:** Better integrating HIV care, treatment, and support for women found to be HIV-positive and their families.

For greater effectiveness, the elimination of mother to child transmission (EMTCT) of HIV program will not be a standalone program but will be operated synergistically with the prevention and treatment programs. Also, each stakeholder will be expected to adapt the priority interventions to their programs and activities by identifying those interventions and activities that are applicable to their settings and incorporating them into their programs as appropriate. A strong monitoring, evaluation, accountability and learning (MEAL) system should be established to monitor the implementation of the program and to recommend appropriate changes that should be effected to improve its impact. Structural issues that impede access to services, including social conditions that encourage stigma and discrimination and economic challenges should be identified and addressed holistically with other components of the HIV response program. Similarly, post-partum challenges that are likely to encourage vertical transmission post-partum should be identified and addressed.

4.6.3.1 Priority Interventions

1. Prevent HIV infection among women of childbearing age

Strategies:

- Integrate sexual and reproductive health programs and HIV programs.** While there have been efforts to integrate the HIV activities with those of the sexual and reproductive health program of the Ministry of Health and Wellness, this integration is not optimal, and the synergy should be enhanced. During the life of this Action Plan, efforts should be made to improve this integration efforts by converting the family planning clinics and AIDS Units into One-Stop-shops that can address both HIV and family planning and reproductive health service needs. This will require training health care workers in the family planning clinics on HIV and the training health care workers at the AIDS Unit on family planning and reproductive health.
- Provide sexual and reproductive health education programs for women of childbearing age.** As part of the general awareness raising interventions of the response program, and specific to women of childbearing age, SRH education programs should be planned and implemented across the country, involving all the stakeholders working with women and youths. There should be joint planning of the interventions and harmonization of the education curriculum, as well as joint capacity building for all the personnel. As part of this, access to HIV prevention

services and information should be provided. For greater effectiveness, the SRH education program should be designed to include adolescent males and young men, and non-binary persons, with staged interventions across the lifespan.

- iii. **Ensure that all women of childbearing age know their HIV status.** This should be done by effective and efficient implementation of the differentiated HIV testing services and the expansion of HIV testing services to family planning clinics, and centres that provide sexual and reproductive health services to adolescent and young girls. It is also important to encourage male involvement in ANC and the systematic partner HIV testing, including couple voluntary testing and counselling.

2. Increase access to ART for pregnant HIV positive women

Strategies:

- i. Develop and disseminate standard operating procedures and guidelines for the care of HIV-positive pregnant and postpartum women and HIV-exposed or HIV-positive children, including counselling and treatment guidelines and SOPs.
- ii. Address other medical, harm reduction and psychosocial needs of at risk and HIV-positive pregnant and postpartum women.
- iii. Enforce multi-disciplinary management of high risk and HIV-positive and postpartum women and their children, including their mental health needs.
- iv. Identify all pregnant women in need of antenatal care and provide them with PMTCT services. This will include engaging public and private sector antenatal care facilities and other places where pregnant women are likely to be seen and ensuring that all pregnant women are documented and provided with PMTCT services. All HIV negative pregnant women identified through these PMTCT programs will be linked to effective prevention program to ensure that they remain HIV negative throughout the duration of the pregnancy and breastfeeding, while those found to be HIV positive, will be enrolled in care, including provision of safe and effective ART services, and alternatives to breastfeeding. All HIV negative pregnant women will also be retested at each trimester of the pregnancy. Barriers that may limit access to care by women and children will be identified and addressed. For example, women and their families will be educated regarding stigma and discrimination that may surround an HIV-positive diagnosis. Appropriate counseling and support will also be provided.
- v. Develop SOPs for couple counselling and provide couple counselling at antenatal booking, and throughout pregnancy and breastfeeding.
- vi. Strengthen early infant diagnosis and retain all HIV-exposed and HIV-positive children in HIV care for at least the first 24 months of life. Identify and address the needs of perinatally-infected children and young person especially beyond the first 24 months of life.
- vii. Support the use of mentor mothers or other peer networks to recruit and retain pregnant HIV positive women and their babies into care. Increased connectivity and support networks for mothers contribute to the success of PMTCT (especially young mothers). Building on a buddy system, including use of mentor mothers will help to mitigate risks of non-compliance and stigma and discrimination
- viii. Establish effective tracking and referral system to reduce loss to follow-up among HIV positive mothers and their HIV exposed infants

- ix. Provide appropriate support services such as shelter and housing, and substance use treatment for HIV positive female key populations and their HIV exposed children, to ensure their unrestricted access to appropriate PMTCT services, including female PWIDs, female sex workers and adolescent girls and young persons.
- x. Identify and address policy and human rights barriers that hinder access to PMTCT services by HIV positive women.
- xi. Ensure access to harm reduction services to parents engaged in risky behaviors throughout pregnancy.
- xii. Address barriers posed by stigma and discrimination in clinical and community settings.
- xiii. Operationalize and strengthen couple counselling at antenatal clinics, preconception clinics, and fertility clinics. Encourage the presence of the partner at all clinic visits throughout pregnancy
- xiv. Strengthen available coordination mechanisms and create new ones to ensure efficient and effective coordination of the program, including the establishment of a National Technical Committee on the Elimination of Mother to Child Transmission of HIV.
- xv. Strengthen collaboration among all the stakeholders, including governmental and non-governmental agencies, community networks and other community structures for the prevention of mother-to-child transmission of HIV.

3. Ensure access to breastmilk supplements for HIV exposed infant

Strategies:

- i. **Organize infant feeding counselling and support sessions.** To be more effective, these sessions will be facilitated by mentor mothers – women who have gone through the program and can therefore serve as experts to support the younger mothers.
- ii. **Ensure that breastmilk substitutes are always available and accessible.** Barriers to access to breastmilk substitute should be identified and addressed promptly.
- iii. Consider providing milk vouchers to mothers to enable them purchase milk from pharmacy shops and other sales outlets.
- iv. Provide psychosocial support to women who might feel distressed for their inability to breastfeed their babies.

4.6.4 Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems

4.6.4.1 Priority Interventions

1. **Strengthen Strategic Information management system.** The assessment of the Program’s health information management system provided in Table 5 of this National Action Plan showed that the program rated fairly in four out of seven metrics, rating good only in the availability of indicators. Addressing the challenges identified is critical to effective management of the program. The strategies identified to strengthen the strategic information management system have been selected to reflect the needs identified.

Strategies:

- i. Address the human resource needs of the strategic information component of the program.
 - ii. Build the capacity of the personnel to effectively manage the strategic information.
 - iii. Upgrade the data management system to a digital platform that can facilitate better data management and information sharing among the different units. The digitalization of the harm reduction unit's operations provides a positive first step. During the life of this National Action Plan, this process should be expanded to include all the other sub-units of the harm reduction unit, the AIDS Unit's service delivery points, Rodrigues, the prevention components, laboratory, and National AIDS Secretariat. A separate but interoperable system should be developed for NGOs and other implementing partners to ensure that data are available as and when needed.
 - iv. Revise the data disaggregation protocol to age bands that make more analytical sense. The present age disaggregation of 0-14 years, 15 – 49 years, 50 years and above does not allow for further interrogation of data. Suggested disaggregation format should not exceed five-year age bands (0-4y, 5-9y, 10-14y, 15-19y, 20-24y, 25-29y, etc).
 - v. Establish a Data Governance Committee to oversee the management, quality and utilization of the data. Appropriate data governance will ensure accurate, timely, trusted, and complete information to decision makers and other data users. To be effective, the Data Governance Committee should be multi-disciplinary, and their main function should be to increase data quality, improve data literacy and ensure the program maximizes the value of the data they collect. The committee should be responsible for developing data related policies and procedures that help ensure the transformation of data to information that can be used by the program staff, program managers and other decision makers and stakeholders
2. **Improve supply chain:** The major challenge faced by the SCM unit is inadequate quality control and quality assurance for the products. Quality control tests are done randomly on selected batches, rather than on every batch received on a more frequent basis.

Strategies:

- i. Ensure quality control and quality assurance of the products
 - ii. Strengthen last mile distribution of the products.
 - iii. Review procurement protocols to ensure availability to medication especially pediatric formulations, which, because of low demand is difficult to acquire from the manufacturers. Related to this, efforts should be made to pool resources with the other small islands in the Indian ocean for the acquisition of these medications.
3. **Strengthen the community systems to support the HIV programs.** Community networks play invaluable roles in the management of the HIV response in any country. The absence of such institution in the Republic of Mauritius is a huge gap in the response. This NAP proposes to prioritize the formation of community networks to strengthen the community component of the response. These community networks will be provided appropriate capacities and funding to effectively fulfill their roles in the response.

Strategies:

- i. Support the creation of community networks among the key populations and use that as a platform for peer-led demand creation for HIV testing. Also strengthen the peer education system to serve as a mobilization platform for HIV testing especially among populations at higher risk of HIV.
 - ii. Provide appropriate individual and institutional capacity building for the community networks.
 - iii. Engage the community networks to participate in different areas of the response.
4. **Provide quality laboratory services for HIV, TB, viral hepatitis and STIs.** Apart from the rapid HIV tests, all the laboratory investigations are centralized in the CHL. While this arrangement may appear needful at present, it does not appear efficient as there have been several reports of delays in receiving laboratory results with the consequence that on occasions, instituting appropriate care to patients have been delayed for several weeks. For HIV management, especially in very ill patients, such delays could result in avoidable human costs. This NAP therefore proposes to invest on point-of-care rapid tests for some of the key investigations like hematology, CD4, and biochemistry. This will greatly facilitate rapid clinical decision making at the service delivery points and improve the quality of patient management. More specialized investigations like Toxoplasmosis tests and viral load tests could still be done at the CHL. The costing of the proposed point of care tests has not been included in this NAP but it is being proposed for discussion. Supplementary costing could be done once decision has been made on the proposal. There is also the need to increase the capacity of Rodrigues and Agalega to perform some investigations. To this end, the NAP recommends a capacity assessment in both islands to determine what is feasible and how this can be operationalized. This also implies that there will be investments in building the capacity of personnel in all the constituent islands to perform the recommended tests, while the CH will provide oversight and supervisory function as well as quality assurance/quality control.

Additionally, there is a need to expand and improve the quality of laboratory services in the private sector. Such private sector quality improvement will depend on developing a laboratory policy that will clearly spell out requirements for private laboratories that will be used to determine their licensing as well as a monitoring framework to regularly assess the quality of services provided. It will also include creating platforms where practitioners of private laboratories and personnel from the CHL and other public laboratories will meet, preferably on a quarterly basis to review challenges and exchange ideas. This will feed into the continuous quality improvement recommended in this Action Plan. Development of standard operating procedures will help to standardize laboratory processes and procedures in both public and private settings.

5. **Implement integrated service delivery and quality improvement across the HIV response program.** Presently, most of the units and implementing partners of the response operate largely in isolation with minimal interaction with other units. Such isolated working ultimately impacts on the quality of care received by the patient. To address this, and thereby improve the quality of care that clients of the response receive, the NAP is proposing an integrated service delivery and quality improvement system across the entire response. The central point of this would be the

establishment of a continuous quality improvement program that will cut across the entire response program. To be based in the National AIDS Secretariat, the continuous quality improvement program will conduct regular clinical audit of the services being provided and identify capacity building issues to be addressed. The program will also work to facilitate 'cross talk' among the different units and implementing partner by creating forums for interactions, exchange of ideas and discussions on common areas of service. Another key component of this recommendation would be the institution of supportive supervision and multi-stakeholder joint supportive supervision.

4.6.5 Strategic Objective 5: **Reduce structural and other barriers that hinder access to HIV and harm reduction services**

Priority Interventions

1. **Reduce the level of stigma and discrimination** in health care facilities, across different levels (social settings, institutional settings, prisons, healthcare, job/recruitment setting, individual setting/community level), and among the general population. The major strategy to do this is the establishment of an accountability system which ensures that service providers are held accountable for their actions, and provides a safe, non-threatening avenues for service beneficiaries to provide feedbacks to appropriate authorities on their experiences with the assurance that such feedbacks would be investigated, and appropriate remedial actions taken as necessary. Also, considering the difficulties PLHIVs and key populations have in openly seeking redress, the establishment of appropriate legal aid services would help to provide the safety net needed by these populations to have their challenges addressed in a use-friendly manner that does not expose them to further risks. Such legal aid services should be separate from what currently exists and provide interface between the PLHIVs and KPs on the one hand, and the relevant agencies on the other. For example, several aggrieved PLHIVs such as those sacked by their employers for being HIV positive, do not have the boldness to approach the State's redress mechanisms because of prevailing stigma and discrimination and fear of possible repercussions for disclosing their HIV status. However, a dedicated and sympathetic legal aid service, probably staffed by some PLHIVs or KPs, could serve as a go-between between these PLHIVs and the relevant state organs.
2. **Reduce socio-economic barriers to access to HIV services.** Social and economic challenges faced by many people living with HIV and AIDS have contributed considerably to reducing their access to services. Without addressing these challenges, the impact of the rest of the services provided by the program would remain minimal. Some of these challenges have been described under the situation analysis of this NAP. Some of the strategies for addressing these barriers have also been described in the earlier sections of this NAP. For example, addressing issues of stigma and social exclusion. Another strategy recommended is the implementation of economic empowerment programs for PLHIVs and KPs. This could take the form of providing vocational trainings to these populations to provide them with skills they could use to fend for themselves or linking them to companies that may require skill that they have to offer regardless of their status. The government could also establish some forms of affirmative actions for PLHIVs with respect to preferential employment opportunities. The basic argument behind these recommendations is that People Living with HIV, being mostly young and within the productive age groups, can still

contribute meaningfully to the socio-economic development of the country. Therefore, engaging them as suggested would reduce the burden on the country's economy.

3. **Review existing policy and legal frameworks** that impact on the implementation of the national response, including those that could potentially affect access to services, and addresses areas that have negative impact on the response. The recommended strategies for achieving this are: i) Conduct a detailed policy review of the HIV program and identify the real or potential impact of each policy on the HIV response. This should be done with the full collaboration of all the stakeholders, including community networks; ii) Conduct advocacy to the appropriate authorities on addressing any identified policy issues; iii) Educated all stakeholders and the public on the relevant policies regarding HIV in the country. Produce IEC materials and disseminate these widely, including among law enforcement agencies.
4. **Remove barriers to harm reduction services.** Since HIV in the Republic of Mauritius is still largely driven by PWIDs, improved access to harm reduction services by removing barriers to these services will greatly enhance the response. This would include addressing barriers such as poor social support, poor economic base, lack of employment and stigma and discrimination, especially for PWIDs that have just been released from the prison.

4.7 Expected Impacts, Outcomes and indicators for the 2023 – 2027 National Action Plan

4.7.1 Impact Indicators

This NAP proposes that by 2027, the following impacts shall have been achieved:

Strategic Objective	Impact Indicator	2021 Baseline	2027 Target
Strategic Objective 1: Reduce by at least 25% New HIV Infections among the key populations, adolescents and young persons, and the general population	Number of new HIV infections per 1000 uninfected population among each of the key population groups	-	-
	Percentage of people living with HIV among each population group.	PWIDS- 21%, SW-15%, MSM-17%, TG-29%	PWIDS-15%, SW-10%, MSM-12%, TG- 20%
Strategic Objective 2: Reduce by at least 50% the number of AIDS related deaths among persons living with HIV	Number of AIDS-related deaths per 100,000 population	73	25
Strategic Objective 3: Reduce mother to child transmission of HIV to zero	Estimated percentage of children newly infected with HIV from mother-to-child transmission among women living with HIV delivering in the past 12 months	10%	0
Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems	Strengthening the resources for a better management– empowerment of the human resource in data management	40%	100%
	CHL – % of diagnostics and other biological tests for HIV and follow-up and OI as per request from HIV doctors.	75%	100%
	TB screening CXR- baseline and routine for patients with CD4 < 200. and CT-Scan/MRIs.	Baseline – 100% Routine – CXR-20%	100%
Strategic Objective 5: Reduce structural and other barriers that hinder access to HIV and harm reduction services	% of health and non-health care providers trained in customer care.	10%	100%
	% of patients with psychological and social evaluation	10%	50%
	% of patients accessing the HR, NEP and MST.	40%	75%

4.7.2 Outcome Indicators and Targets

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target					Data sources	
				(2021)	2022	2023	2024	2025	2026		2027
Goal: To reverse the trend of the HIV epidemic towards ending AIDS as a public health threat by 2030											
Strategic Objective 1: Reduce by at least 25% New HIV Infections among the key populations, adolescents and young persons, and the general population											
1.1	Increase awareness and knowledge of HIV among key populations, AGYP and general populations	Increased knowledge of HIV in Republic of Mauritius	% of the population correctly identify ways of preventing the transmission of HIV AND who reject major misconceptions about HIV transmission, disaggregated by gender, age, population groups, and geographic location	No KAP survey		50%	60%	70%	80%	85%	KAP surveys
1.2	Increase access to HIV prevention services among key populations, AGYPs and the general population	Decline in new HIV infections	% of the key population (FSW) reached with HIV prevention service package, disaggregated by age and geographic location	43%		50%	55%	60%	65%	75%	Surveys (IBBSS), outreach records, program data,
			% of the key population (MSM) reached with HIV prevention service package, disaggregated by age and geographic location	50%		55%	60%	65%	70%	80%	Surveys (IBBSS), outreach records, program data
			% of the key population (PWID) reached with HIV prevention service package, disaggregated by age, sex and geographic location	74%		55%	60%	65%	70%	80%	Surveys (IBBSS), outreach records, program data
			% of the key population (Transgender) reached with HIV prevention service package, disaggregated by age and geographic location	78%		40%	45%	50%	55%	60%	Surveys (IBBSS), outreach records, program data
			% of the key population (Prisoners) reached with HIV prevention service package, disaggregated by age and geographic location	100%		100%	100%	100%	100%	100%	Surveys (IBBSS), outreach records, program data

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target						Data sources
				(2021)	2022	2023	2024	2025	2026	2027	
			% of the adolescent girls and young persons reached with HIV prevention service package, disaggregated by age, sex and geographic location	0.6%		25%	35%	45%	55%	65%	Surveys (IBBSS), outreach records, program data
			% of the general population reached with HIV prevention service package, disaggregated by gender, age, and geographic location	2%		25%	30%	35%	45%	50%	Surveys (DHS), outreach records, program data
			% of persons reporting regular use of condom with a non-regular sexual partner, total and disaggregated by age, sex, population groups and geographic distribution	No pop-based survey		50%	55%	60%	70%	75%	DHS, other population-based surveys, IBBSS & BSS reports, program data
			% of PWIDs reporting safe injection practices, total and disaggregated by age, sex and geographic distribution	47.3%		55%	60%	65%	70%	75%	
			% of persons reporting having been engaged in high risk behaviors – total and disaggregated by age, sex, population groups and geographic distribution	No KAP survey		65%	45%	35%	30%	25%	
1.3	Increase knowledge of HIV status among key populations, AGYP and the general population.	Increased number of people living with HIV who know their status	% of key populations (FSW) who received HIV testing services and received their test results, disaggregated by age, and geographic locations.	10%		40%	50%	60%	70%	75%	Testing registers, client intake forms, program data
			% of key populations (MSM) who received HIV testing services and received their test results, disaggregated by age, and geographic locations.	18%		40%	50%	60%	70%	75%	Testing registers, client intake forms, program data.
			% of key populations (PWID) who received HIV testing services and received their test results, disaggregated by sex, age, and geographic locations.	40%		30%	40%	50%	60%	80%	Testing registers, client intake forms, program data

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target						Data sources
				(2021)	2022	2023	2024	2025	2026	2027	
			% of key populations (Transgender) who received HIV testing services and received their test results, disaggregated by age, and geographic locations.	20%		30%	35%	45%	50%	60%	Testing registers, client intake forms, program data
			% of key populations (Prisoners) who received HIV testing services and received their test results, disaggregated by age, and geographic locations.	80%		100%	100%	100%	100%	100%	Testing registers, client intake forms, program data
			% of general population who received HIV testing services and received their test results, disaggregated by sex, age, and geographic locations.	9%		20%	25%	30%	35%	45%	Testing registers, client intake forms, program data
1.4	Increased access to HIV prevention services among persons who test negative to HIV	Decline in new HIV infections	Same as for 1.2								Testing registers, client intake forms, program data
Strategic Objective 2: Reduce by at least 50% the number of AIDS related deaths among persons living with HIV											
2.1	Increase access to effective HIV treatment for all persons living with HIV	Increased number of people living with HIV receiving ART	% of newly diagnosed PLHIVs initiated on ART within two weeks of diagnosis, disaggregated by sex, age, population groups, and geographic location	15%		50%	60%	65%	75%	80%	ART registers, program data, drug supply monitoring data, screening registers
			% of newly diagnosed PLHIVs initiated on ART, disaggregated by sex, age, population groups, and geographic location	45%		50%	60%	70%	75%	80%	
			% of all persons living with HIV who know their status (old and new) that are receiving ART	46%		55%	60%	70%	75%	80%	
2.2	Reduce loss to follow-up	Increased retention of PLHIVs on treatment	% of PLHIVs who are still on treatment at 6 months after initiating ART	60%		70%	75%	78%	80%	85%	ART registers, program data?
			% of PLHIVs who are still on treatment at 12 months after initiating ART	60%		70%	75%	78%	80%	85%	ART registers, program data

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target							Data sources
				(2021)	2022	2023	2024	2025	2026	2027		
			% of PLHIVs who are still on treatment at 18 months after initiating ART	50%		55%	65%	70%	80%	75%	ART registers, program data	
			% of PLHIVs who are still on treatment at 24 months after initiating ART	50%		55%	60%	75%	75%	70%	ART registers, program data	
			% of PLHIVs who are still on treatment at 60 months after initiating ART	50		55%	65%	75%	75%	70%	ART registers, program data	
			Increased number of PLHIVs on treatment	% of PLHIVs who were lost to follow up or who stopped treatment but were successfully led back to or who voluntarily returned to a service delivery point and re-enrolled on treatment	17%		10%	20%	30%	40%	50%	ART registers, program data
2.3	Improve treatment adherence	PLHIVs on ART have viral suppression	% of PLHIVs on ART with documented viral load result that showed a viral load of less than 1000 copies/ml at the end of the reporting period	43%		50%	55%	60%	70%	80%	ART registers, lab records	
2.4	Establish a strong TB/HIV collaboration	Increased number of PLHIVs who are receiving appropriate TB care	% of people living with HIV who know their status that have been screened for TB	100%		80%	85%	100%	100%	100%	ART registers, program data, screening registers	
			% of people living with HIV who know their status and are TB negative that are receiving isoniazid prevention treatment	0%		0%	5%	10%	15%	20%		
			% of TB patients screened for HIV	100%		100%	100%	100%	100%	100%		
			% of TB patients who received HIV prevention services	100%		80%	100%	100%	95%	100%		
			% of PLHIVs with TB co-infection who received effective anti-TB treatment	100%		100%	100%	100%	100%	100%		
2.5	Multi-disciplinary management of STIs and other opportunistic infections	Increased number of PLHIVs receiving effective management for their	% of people living with HIV who know their status that have been screened for STIs	95%		96%	97%	98%	99%	99%	ART registers, program data, screening registers.	
			% of people living with HIV who know their status that have STIs that have received appropriate treatment for their STIs	60%		70%	80%	90%	100%	100%	ART registers, program data, screening registers	

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target						Data sources
				(2021)	2022	2023	2024	2025	2026	2027	
		opportunistic and co-infections	% of people living with HIV who know their status that have been screened for opportunistic infections	15%		20%	35%	55%	75%	80%	ART registers, program data, screening registers
			% of people living with HIV who know their status that have opportunistic infections that received appropriate treatments for their opportunistic infections	70%		75%	80%	85%	90%	95%	ART registers, program data, screening registers.
Strategic Objective 3: Reduce mother to child transmission of HIV to zero											
3.1	Prevent HIV infection among women of childbearing age	Decline in new HIV infections among women aged 15 - 49 years	% of women aged 15 - 49 years newly diagnosed with HIV, disaggregated by age, population group and geographic	77%		60%	50%	40%	30%	25%	HIV testing register
			% of pregnant women tested for HIV during the index pregnancy, disaggregated by age, geographic location	75%		80%	85%	90%	95%	98%	ANC register, testing register
			% of HIV positive pregnant women who were newly diagnosed during the index pregnancy, disaggregated by age, population group and geographic location	34%		25%	20%	15%	10%	0%	ANC register, testing register
3.2	Increase access to ART for pregnant HIV positive women	Decline in HIV positive infants	% of HIV positive pregnant women who are receiving ART to reduce the risk of mother to child transmission and for their health, disaggregated by age, population group and geographic location	90%		92%	94%	95%	98%	100%	ART register, ANC register, program data
			% of HIV positive pregnant women who were newly initiated on ART to reduce the risk of mother to child transmission during the index pregnancy, disaggregated by age, population group and geographic location	95%		96%	97%	98%	99%	100%	ART register, ANC register, program
3.3	Increase access to breastmilk substitutes for	Decline in HIV positive infants	% of HIV exposed infants who were breastfed in the first six months of life	12%		8%	6%	2%	0%	0%	Program data
			% of HIV exposed infants who were breastfed in the first 12 months of life	12%		8%	6%	2%	0%	0%	Program data

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target						Data sources
				(2021)	2022	2023	2024	2025	2026	2027	
	HIV exposed infants		% of HIV exposed infants who were breastfed beyond the first 12 months of life	10%		8%	4%	0%	0%	0%	Program data
Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems											
4.1	Strengthen Strategic Information management system	Improved data quality for decision making	% of facilities (both public, private and NGOs) reporting data on time	75%		80%	90%	100%	100%	100%	Program data
			% of facilities (both public, private and NGOs) providing complete data reporting	75%		80%	90%	100%	100%	100%	Program data
4.2	Strengthen the supply chain	Reduced stockouts and expiries	% of facilities reporting stockout in 6 months	0%		0%	0%	0%	0%	0%	Program data
4.3	Strengthen the community systems to support the HIV programs	Increased service coverage	% of PLHIVs identified through community testing	15%		20%	25%	35%	40%	50%	Program data
			% of PLHIVs on ART enrolled through community testing (successful linkage to services)	5%		10%	20%	25%	35%	45%	Program data
			% of PLHIV retained in care through community support	25%		30%	35%	40%	50%	55%	Program data
4.4	Provide quality laboratory services for HIV, TB, viral hepatitis and STIs	Improved turnaround time for laboratory tests	% reduction in time to receive test result from the 2021 values	Turn around time in 2 weeks		50%	60%	100%	100%	100%	Program data
4.5	Implement integrated service delivery and quality improvement across the HIV response program	Overall improvement in quality of the HIV response program	Improved perception of internal and external stakeholders on the performance of the program	No KAP survey		50%	55%	65%	70%	80%	Program data
			Overall improvement in the performance indices	-		50%	60%	70%	75%	80%	Program data
Strategic Objective 5: Reduce structural and other barriers that hinder access to HIV and harm reduction services											

S/No	Priority Interventions	Outcomes	Outcome Indicators	Baseline	Target						Data sources
				(2021)	2022	2023	2024	2025	2026	2027	
5.1	Reduce the level of stigma and discrimination in health care facilities and among the general population	Reduced level of stigma and discrimination of PLHIVs	% of PLHIVs reporting discriminatory attitudes towards them in any setting – total and disaggregated by sex, age, population groups and geographic distribution.	9.0%		5%	4%	3%	2%	1%	Stigma index study reports, DHS, other population-based surveys, IBBSS & BSS reports, program data
			% of clients avoiding health care because of stigma and discrimination – total and disaggregated by age, sex, population groups and geographic distribution	47.1%		30%	25%	20%	15%	10%	
			% of persons reporting disease-related discrimination in health-care settings – total and disaggregated by age, sex, population groups and geographic distribution	10.4%		9%	6%	4%	2%	2%	
5.2	Reduce socio-economic barriers to access to HIV services	Improved access to HIV services	% of clients reporting inability to utilize harm reduction services because of social and economic barriers	---		50%	40%	30%	20%	10%	Reports of primary and secondary research, including survey reports
			% of clients reporting inability to HIV treatment services because of social and economic barriers	20%		15%	12%	10%	5%	2%	
			% of clients defaulting in their ARVs because of hunger or other social or economic reasons	---		10%	8%	6%	4%	2%	
			% of clients reporting inability to utilize specific HIV prevention services because of social and economic reasons	---		20%	15%	10%	8%	5%	
5.3	Review existing policy and legal frameworks that impact on the implementation of the national response and access to services	Favorable enabling policy and legal environment for efficient HIV services	Perception of key stakeholders on the conduciveness of the enabling environment for HIV programs	---		--	--	--	---	----	Program data, and reports of primary and secondary research
			Perception of key populations on the conduciveness of the enabling environment for HIV programs	---		---	---	---	---	---	

Chapter 5: Governance and Institutional Framework

Leadership and Governance Structure

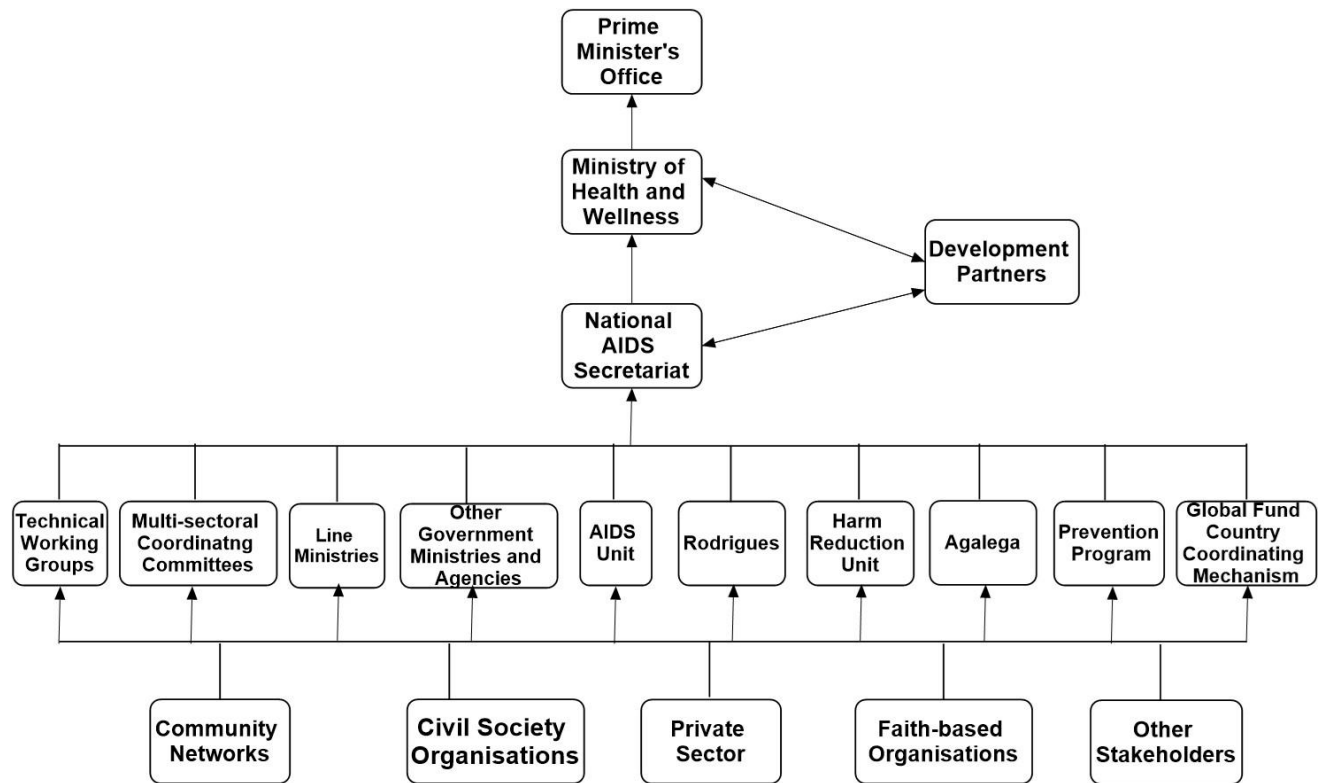


Figure 14: Republic of Mauritius National HIV Response Governance Structure

Governance and leadership are two critical ingredients that determine the success or failure of any strategic plan. This is even more so if the Plan has strong multi-sectoral multi-stakeholder components. This is because the leadership is responsible for ensuring that the operating environment is conducive for all the players to effectively deliver on their mandates in a mutually synergistic and efficient manner. The leadership is also responsible for convening the various conversations necessary to give effect to the actions recommended in the Plan. The governance structure should be strong enough to command the necessary convening power to galvanize the requisite partnerships and multi-stakeholder participation that can deliver on the goals and objectives of the Plan. For HIV in particular, the need for the involvement of civil society groups, including NGOs, community-based organizations, community networks and faith-based organizations, as well as the private sector makes such strong governance structure and leadership imperative. Strong governance and leadership is also important in ensuring that appropriate monitoring and evaluation of the activities are conducted and in a timely manner to inform adaptive management of the program.

For the Republic of Mauritius national HIV response, this leadership role is vested in the National AIDS Secretariat, the coordinator of the multi-sectoral response, under the supervision of the Honorable Minister for Health and Wellness. For NAS to effectively fulfill this role, its capacity needs to be strengthened. First, there is need to clearly delineate the roles and responsibilities of NAS and communicate same to all stakeholders. This will address the present confusion about the mandate of NAS

and how it is different from either the AIDS Unit or the CCM. Second, the NAS faces human resource challenges that must be addressed for it to effectively fulfill its mandate. The human resource challenges are not restricted to just the NAS; similar challenges are being experienced by the AIDS Unit, the harm reduction unit and Rodrigues. To this end, there is need for an institutional capacity needs assessment to be conducted on NAS, AIDS Unit, the harm reduction unit and Rodrigues. Such capacity needs assessment will provide information needed to provide a comprehensive solution to their capacity needs.

The contextual analysis revealed that there was weak coordination between the AIDS Unit and the other clinical services as well as with the harm reduction unit. For example, the AIDS Unit and the TB Unit have very limited interactions resulting in the HIV clinics not routinely testing HIV patients for TB and some of the TB patients found to be HIV positive being lost to follow-up along the care pathway because of the limited cross-referral of patients between the two units. Similar coordination challenges have led to several HIV positive patients identified in the harm reduction centres being lost to follow-up. The disconnect between the different clinical units adversely affects the quality of care provided to the patients. Therefore, by strengthening the collaboration and coordination between these entities the quality of care provide to the patients will improve and the overall effectiveness of the response will equally improve.

Gaps were also identified with multi-stakeholder coordination and collaboration within the response. In the last quinquennium, only the Ministry of Health and Wellness derived its HIV programs from the 2017 – 2021 HIV Action Plan. The rest of the ministries and departments, and non-governmental organizations, developed their individual strategic and operational plans, contrary to the principle of *“One agreed HIV/AIDS action framework that provides the basis for coordinating the work of all partners”*. The success of the implementation of the 2023 – 2027 NAP will depend to a large extent on correcting this error. Correcting the error should begin by giving NAS the appropriate **legitimacy of authority** necessary to effectively pull all the stakeholders together and to bring them to the table to discuss the progress of the response, and to jointly plan on how to ensure success. Once this authority has been provided to NAS, the next step would be consolidation of the broad-based consultations carried out in preparing this NAP. The stakeholders need to be assured in concrete terms that they are important to the success of the response and that their voices matter. One of the barriers to a broad stakeholder involvement in the previous plan was the limited awareness of the Plan. To address this, there should be wide dissemination of the 2023 – 2027 National Action Plan. This dissemination should occur through multiple means, including stakeholder meetings, through the social media, and the webpages of the Ministry of Health and Wellness and other line ministries. The Action Plan should also be hosted in the webpages of the WHO, other development partners and the NGOs working on HIV in the Republic of Mauritius. Throughout the NAP, emphasis has been placed on collaboration and coordination. The idea is to encourage bilateral and multilateral stakeholder engagement throughout the life of the Action Plan. To what extent this is operationalized will be a key determinant of the success of the Plan. Below are some suggested interventions related to leadership and governance:

Intervention 6.1: Strengthen the governance and management capacity of the National AIDS Secretariat, AIDS Unit, the Harm Reduction Unit and Rodrigues HIV program to maintain and sustain the national AIDS response.

Strategies

- i. Define and delineate the roles and responsibilities of each of the entities and clearly define their mutual relationships.
- ii. Conduct capacity needs assessment of the four institutions and develop appropriate remedial measures.
- iii. Provide management and leadership training for the key personnel of all the entities.
- iv. Fill the gaps in human resources, especially in monitoring and evaluation.
- v. Establish internal coordination mechanisms among the four entities.

Intervention 6.2: Strengthen the governance and management capacity of the Civil Society Organizations to maintain and sustain the national AIDS response.

Strategies

- i. Conduct capacity needs assessment of the relevant CSOs and develop appropriate remedial measures.
- ii. Provide management and leadership training for the key personnel of the CSOs.
- iii. Support efforts to fill human resource gaps in the CSOs, especially the community networks. This could be done by linking the CSOs to potential donors and funding mechanisms that can support institutional capacity building.
- iv. Establish internal coordination mechanisms among the CSOs.
- v. Provide appropriate linkages with the Ministry of Health and Wellness, other line ministries, NAS, AIDS Unit and the harm reduction unit.

Chapter 6: Implementation of the 2023 – 2027 NAP

The implementation of the 2023 – 2027 National Action Plan will be led and coordinated by the National AIDS Secretariat supported by all the government and non-governmental stakeholders. Once the Action Plan has been approved, NAS will develop a roadmap for its implementation and engage the stakeholders to review its different components to identify roles for each stakeholder. Each stakeholder will then develop an annual operational plan based on its specific niche within the Plan. NAS will also lead the stakeholders to develop a common “country-level monitoring and evaluation system” agreed to by all stakeholders to ensure that everyone is working according to an agreed framework and that activities will be reported which will be essential in evaluating the response. Developing a common M&E system also demand that a monitoring and evaluation technical working group and a data governance committee would be necessary. This will ensure efficient and effective management of the country’s strategic information. Every year, each implementing partner would need to develop an annual operational plan based on the NAP and this should be shared with other stakeholders to identify areas where synergy can be built for more effective implementation.

Some of the **success factors** for the effective implementation will include:

1. **Political will, commitment, and support:** Most of the recommendations in this Action Plan requires some decisions at the policy level to realize them. The timeliness and extent to which these policy decisions are taken will determine how successful the activities that depends on such decisions will be. Additionally, some activities do not require policy decisions but require high level support from the various Principals to be achieved. For example, sometimes, high level interventions may be necessary to galvanize the level of multi-stakeholder engagements required for the successful execution of some critical components of the Action Plan.
2. **Governance and Leadership:** in addition to the leadership that will be provided by NAS, leadership and governance is required at each level of the implementation arrangements, including at the AIDS Unit, harm reduction unit, line ministries, the CSOs, community networks, private sectors, etc. The effectiveness of each of these leadership and governance units will affect the successful implementation of the Action Plan.
3. **Joint planning and implementation of the Plan by all the stakeholders** across the different components of the response to ensure joint ownership of the response and mutual transparency, responsibility, and accountability. This Action Plan cannot succeed without effective multi-sectoral, multi-stakeholder collaboration and coordination. Some suggested strategies for ensuring this are as follows:
 - i. Build proper understanding of the three one principle and secure the buy-in of all the stakeholders for its implementation.
 - ii. Promote the establishment of community networks among the key populations, including PWIDs, MSMs, SWs, TGs and AGYP. Provide appropriate support to build the organizational capacities of these community networks.
 - iii. Organize joint program planning and program review sessions with all the stakeholders.
 - iv. Design and implement a joint multi-stakeholder monitoring and evaluation framework for the national response.
 - v. Design and implement joint supportive supervision by multiple stakeholders
 - vi. Create and operationalize forums for regular exchanges of ideas and discussions around the Action Plan.

Chapter 7: Costing of the 2023 – 2027 National Action Plan

Tables 6 – 10 provides details of the estimated cost of running the national HIV program for each year as well as the five-year total. The cost covered were the cost of each of the activities described in the Plan, the cost of procuring the commodities and the cost of managing the program. These costs are only estimates based on the prices as of 2021 and did not consider inflation and other market dynamics that may come into play during the implementation of the Plan. It is anticipated that during the development of the annual operational plan, a more realistic budget based on the existing conditions will be developed. Additionally, certain items were not costed for different reasons. Point of care diagnostic equipment and reagents were not costed because further consultations are still required on the adoption of these as well as on the specific equipment to be purchased. Once these have been resolved, a supplementary budget should be developed to cater for them. The personnel salary and allowances as well as stipends to volunteers and peer-educators were not included in the costing because these are handled by specific government establishments and bound by government regulations. Furthermore, it is anticipated that there will be more staff recruits during the life of this Plan, the numbers, and grades of who are not presently known. Details of some commodities such as isoniazid and co-trimoxazole were not available and therefore were not included in the costing. It is anticipated that the costs of these will be included in a supplementary budget.

The total cost estimate for the Plan, considering the caveats described above was three hundred and sixty-eight million, nine-hundred and fifty-six thousand, one hundred and ninety-three Mauritian Rupees (Rs 368,956,193.24) over the five years or an annual average of approximately seventy-three million, seven hundred and ninety-one thousand, two hundred and thirty-eight Rupees (Rs 73,791,238.65). Of this figure, commodities, including ARVs, all the test kits, condoms, lubricants, and harm reduction commodities, infant milk formula, among others, make up 73% of the costs. The cost of implementing the different activities constitutes 22%, while program management costs make up 5% of the total cost.

Table 6: Budget: Activity Costs

S/No	Strategic Interventions	Costs Per Annum					Total Cost (5yrs)	Comments
		2023	2024	2025	2026	2027		
Goal: Stop the current trajectory of the epidemic and begin to reverse the epidemic								
Strategic Objective 1: Reduce by at least 25% New HIV Infections among the key populations, adolescents and young persons, and the general population								
1.1	Strategic Intervention 1.1: Increase awareness and knowledge of HIV among key populations, AGYP and general populations	2,240,000.00	2,150,000.00	2,110,000.00	2,110,000.00	2,150,000.00	10,760,000.00	
1.2	Strategic Intervention 1.2: Increase access to HIV prevention services among key populations, AGYPs and the general population	3,708,000.00	3,388,000.00	3,204,000.00	3,174,000.00	3,238,000.00	16,712,000.00	
1.3	Strategic Intervention 1.3: Increase knowledge of HIV status among key populations, AGYP and the general population	754,000.00	537,000.00	530,000.00	441,000.00	498,000.00	2,760,000.00	
1.4	Strategic Intervention 1.4: Increase access to HIV prevention services among persons who test negative to HIV	97,000.00	42,000.00	10,000.00	10,000.00	10,000.00	169,000.00	
	Total	6,799,000.00	6,117,000.00	5,854,000.00	5,735,000.00	5,896,000.00	30,401,000.00	
Strategic Objective 2: Reduce by at least 50% the number of AIDS related deaths among persons living with HIV								
2.1	Strategic Intervention 2.1: Increase access to effective HIV treatment for all persons living with HIV	483,000.00	350,000.00	318,000.00	318,000.00	318,000.00	1,787,000.00	
2.2	Strategic Intervention 2.2: Reduce loss to follow-up	224,000.00	224,000.00	199,000.00	199,000.00	199,000.00	1,045,000.00	
2.3	Strategic Intervention 2.3: Improve treatment adherence	213,000.00	213,000.00	213,000.00	213,000.00	213,000.00	1,065,000.00	
2.4	Strategic Intervention 2.4: Establish a strong TB/HIV collaboration	1,600,000.00	1,440,000.00	1,440,000.00	1,440,000.00	1,440,000.00	7,360,000.00	
2.5	Strategic Intervention 2.5: Multi-disciplinary management of STIs and other opportunistic infections	246,000.00	246,000.00	246,000.00	246,000.00	246,000.00	1,230,000.00	
	Total	2,766,000.00	2,473,000.00	2,416,000.00	2,416,000.00	2,416,000.00	12,487,000.00	
Strategic Objective 3: Reduce mother to child transmission of HIV to zero								
3.1	Strategic Intervention 3.1: Prevent HIV infection among women of childbearing age	445,000.00	405,000.00	405,000.00	405,000.00	405,000.00	2,065,000.00	
3.2	Strategic Intervention 3.2: Increase access to ART for pregnant HIV positive women	830,000.00	726,000.00	701,000.00	765,000.00	701,000.00	3,723,000.00	

S/No	Strategic Interventions	Costs Per Annum					Total Cost (5yrs)	Comments
		2023	2024	2025	2026	2027		
3.3	Strategic Intervention 3.3: Ensure access to breastmilk substitute for HIV exposed infants	25,000.00	25,000.00	25,000.00	25,000.00	25,000.00	125,000.00	
	Total	1,300,000.00	1,156,000.00	1,131,000.00	1,195,000.00	1,131,000.00	5,913,000.00	
Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems								
4.1	Strategic Intervention 4.1: Strengthen Strategic Information management system	1,006,000.00	10,774,000.00	2,346,000.00	3,989,000.00	846,000.00	18,961,000.00	
4.2	Strategic Intervention 4.2: Strengthen the supply chain	75,000.00	75,000.00	75,000.00	75,000.00	75,000.00	375,000.00	
4.3	Strategic Intervention 4.3: Strengthen the community systems to support the HIV programs	716,000.00	391,000.00	341,000.00	341,000.00	341,000.00	2,130,000.00	
4.4	Strategic Intervention 4.4: Provide quality laboratory services for HIV, TB, viral hepatitis and STIs	274,000.00	114,000.00	114,000.00	114,000.00	114,000.00	730,000.00	
4.5	Strategic Intervention 4.5: Implement integrated service delivery and quality improvement across the HIV response program	909,000.00	724,000.00	724,000.00	724,000.00	724,000.00	3,805,000.00	
	Total	2,980,000.00	2,078,000.00	3,600,000.00	5,243,000.00	2,100,000.00	26,001,000.00	
Strategic Objective 5: Reduce structural and other barriers that hinder access to HIV and harm reduction services								
5.1	Strategic Intervention 5.1: Reduce the level of stigma and discrimination in health care facilities and among the general population	448,000.00	373,000.00	333,000.00	333,000.00	333,000.00	1,820,000.00	
5.2	Strategic Intervention 5.2: Reduce socio-economic barriers to access to HIV services	375,000.00	375,000.00	375,000.00	375,000.00	375,000.00	1875000	
5.3	Strategic Intervention 5.3: Review existing policy and legal frameworks that impact on the implementation of the national response, including those that could potentially affect access to services, and addresses areas that have negative impact on the response	150,000.00	-	-	-	-	150,000.00	
	Total	973,000.00	748,000.00	708,000.00	708,000.00	708,000.00	3,845,000.00	
Strengthen the Institutional and Governance structure of the HIV response program								
6.1	Conduct capacity needs assessment of the three institutions and develop appropriate remedial measures	250,000.00	-	-	-	-	250,000.00	

S/No	Strategic Interventions	Costs Per Annum					Total Cost (5yrs)	Comments
		2023	2024	2025	2026	2027		
	Management and leadership training for the key personnel of National AIDS Secretariat, AIDS Unit, and Harm Reduction Unit	400,000.00	250,000.00	-	-	-	650,000.00	
	Conduct capacity needs assessment of the relevant CSOs and develop appropriate remedial measures	250,000.00	-	-	-	-	250,000.00	
	Management and leadership training for the key personnel of the CSOs	450,000.00	-	-	-	-	450,000.00	
	Joint planning meetings by all stakeholders	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00	1,500,000.00	
	Joint supportive supervision	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	1,000,000.00	
	Total	1,850,000.00	750,000.00	500,000.00	500,000.00	500,000.00	4,100,000.00	

Table 7: Summary of Activity Costs

Strategic Objective	Total Cost					Total
	2023	2024	2025	2026	2027	
Strategic Objective 1: Reduce by at least 25% New HIV Infections among the key populations, adolescents and young persons, and the general population	6,799,000.00	6,117,000.00	5,854,000.00	5,735,000.00	5,896,000.00	30,401,000.00
Strategic Objective 2: Reduce by at least 50% the number of AIDS related deaths among persons living with HIV	2,766,000.00	2,473,000.00	2,416,000.00	2,416,000.00	2,416,000.00	12,487,000.00
Strategic Objective 3: Reduce mother to child transmission of HIV to zero	1,300,000.00	1,156,000.00	1,131,000.00	1,195,000.00	1,131,000.00	5,913,000.00
Strategic Objective 4: Strengthen Resilient Sustainable Systems for Health (RSSH) and community systems	2,980,000.00	12,078,000.00	3,600,000.00	5,243,000.00	2,100,000.00	26,001,000.00
Strategic Objective 5: Reduce structural and other barriers that hinder access to HIV and harm reduction services	973,000.00	748,000.00	708,000.00	708,000.00	708,000.00	3,845,000.00
Strengthen the Institutional and Governance structure of the HIV response program	1,850,000.00	750,000.00	500,000.00	500,000.00	500,000.00	4,100,000.00
Total	16,668,000.00	23,322,000.00	14,209,000.00	15,797,000.00	12,751,000.00	82,747,000.00

Table 8: Budget: Cost of procuring commodities

S/No	Commodity Description	Total Costs					Total Cost	Comments
		2023	2024	2025	2026	2027		
1	Antiretroviral drugs	19,959,297.60	19,959,297.60	19,959,297.60	19,959,297.60	19,959,297.60	99,796,488.00	
2	Test Kits (HIV, Syphilis, Hepatitis B & C, CMV)	14,775,529.05	14,775,529.05	14,775,529.05	14,775,529.05	14,775,529.05	73,877,645.24	
3	Male and female condoms and lubricants	1,748,000.00	1,748,000.00	1,748,000.00	1,748,000.00	1,748,000.00	8,740,000.00	
4	Laboratory consumables	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	7,500,000.00	
5	Needles, syringes, and alcohol swabs	1,100,300.00	1,100,300.00	1,100,300.00	1,100,300.00	1,100,300.00	5,501,500.00	
6	Methadone	10,358,712.00	10,358,712.00	10,358,712.00	10,358,712.00	10,358,712.00	51,793,560.00	
7	TB Infection control materials	2,000,000.00	2,000,000.00	1,000,000.00	500,000.00	500,000.00	6,000,000.00	
8	Infant milk formula	3,200,000.00	3,200,000.00	3,200,000.00	3,200,000.00	3,200,000.00	16,000,000.00	
	Total cost of commodities	54,641,838.65	54,641,838.65	53,641,838.65	53,141,838.65	53,141,838.65	269,209,193.24	

Table 9: Budget: Program Management Costs

S/No	Program Management Costs	Total Costs					Total Cost	Comments
		2023	2024	2025	2026	2027		
1	Coordination and management of the national response	1,050,000.00	1,050,000.00	1,050,000.00	1,050,000.00	1,050,000.00	5,250,000.00	
2	Costs associated with distribution of commodities	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	750,000.00	
3	Costs associated with logistics for service provision	1,700,000.00	1,700,000.00	1,700,000.00	1,700,000.00	1,700,000.00	8,500,000.00	
4	Other incidental and management costs	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	2,500,000.00	
5	Total Program Management Costs	3,400,000.00	3,400,000.00	3,400,000.00	3,400,000.00	3,400,000.00	17,000,000.00	

Table 10: Total costs

S/No		Total Costs					Total Cost	Percentage Contribution
		2023	2024	2025	2026	2027		
	Activity Cost	16,668,000.00	23,322,000.00	14,209,000.00	15,797,000.00	12,751,000.00	82,747,000.00	22%
	Cost of commodities	54,641,838.65	54,641,838.65	53,641,838.65	53,141,838.65	53,141,838.65	269,209,193.24	73%
	Program Management Costs	3,402,023.00	3,402,024.00	3,402,025.00	3,402,026.00	3,402,027.00	17,000,000.00	5%
	Total costs	74,709,838.65	81,363,838.65	71,250,838.65	72,338,838.65	69,292,838.65	368,956,193.24	100%

Costed HIV and AIDS Action Plan

The **annual average** estimated cost of the National HIV and AIDS Action Plan amounts to **Rs 73,791,238.65**. The costs covered are those of each of the activities described in the Plan, the cost of procuring the commodities and the cost of managing the program as per the table below:

	2023	2024	2025	2026	2027	Total costs
Activity Cost (Rs)	16,668,000.00	23,322,000.00	14,209,000.00	15,797,000.00	12,751,000.00	82,747,000.00
Cost of commodities (Rs)	54,641,838.65	54,641,838.65	53,641,838.65	53,141,838.65	53,141,838.65	269,209,193.24
Program Management Costs (Rs)	3,402,023.00	3,402,024.00	3,402,025.00	3,402,026.00	3,402,027.00	17,000,000.00
Total Costs (Rs)	74,709,838.65	81,363,838.65	71,250,838.65	72,338,838.65	69,292,838.65	368,956,193.24
Average Cost (Rs)	73,791,238.65					

According to the National Budget 2022-2023, **the average annual budget** allocated to Vote Item 18-104: Treatment and Prevention of HIV, AIDS and Drug Abuse amounts to **Rs 79,125,000** as per the table below. This annual budget also includes the amount received from the external donor (Global Fund) for the HIV disease component. It should be highlighted that the amount allocated to the programme ‘Treatment and Prevention of HIV and AIDS’ under the annual health budget is not representative of all HIV interventions provided by the MOHW. Additional expenditures are borne from other vote-items of the Ministry’s Budget (Votes 101, 102 and 103).

Sub-Head 18-104: Treatment and Prevention of HIV, AIDS and Drug Abuse	2021/22 Estimates Rs	2022/23 Estimates Rs	2023/24 Planned Rs	2024/25 Planned Rs	Average Budget Rs
Recurrent Expenditure	79,800,000	80,400,000	77,900,000	78,400,000	79,125,000
Capital expenditure	-	-	-	-	-
Total Expenditure	79,800,000	80,400,000	77,900,000	78,400,000	79,125,000

According to the Plan, it is anticipated that during the development of the annual operational plan, a more realistic budget based on the existing conditions will be developed. Moreover, there will be more staff recruits during the life of this Plan, the numbers, and grades of who are not presently known. The costing of additional items will be undertaken at a later stage and will be funded through a supplementary budget as and when required.

The cost estimates of this Action Plan is in line with the annual budget of MOHW that is allocated to the Treatment and Prevention of HIV, AIDS and Drug Abuse under Vote Item 18-104.

Chapter 8: Monitoring and Evaluation

Once this Plan has received cabinet approval, the stakeholders, under the leadership of the National AIDS Secretariat will meet to develop a common national monitoring and evaluation system that will form the basis for the monitoring and evaluation of this Action Plan. The common monitoring and evaluation system will spell out how the Plan will be monitored. However, while multi-stakeholder monitoring of the implementation of the NAP is recommended, ultimately, the overall responsibility for the monitoring and evaluation of the Action Plan lies with the NAS. Regardless of the involvement of the stakeholders, NAS has the responsibility for conducting ongoing analysis of the program data and sharing of these data, as required, with the stakeholders, including policy makers. The impact and outcome indicators have already been described. It is NAS' responsibility to ensure that these are monitored, and any gaps identified early for remedial actions. To effectively meet this role, NAS needs to be appropriately capacitated with sufficient M&E officers.

Development of national output indicators: While some outcome indicators have been recommended in this National Action Plan, these are not exhaustive, and the program is encouraged to develop other indicators it considers important to track. Additionally, output indicators should be developed which will be used to track the annual operational plans that will be developed from this strategic plan. Once the output indicators have been developed, all the stakeholders should subscribe to it and adopt it to track their activities and for reporting to the National AIDS Secretariat.

Development of national monitoring and evaluation tools: National data monitoring tools should be developed to be used to collect both outcome and output data. This will be the responsibility of the M&E technical working group led by NAS. It is recommended that all implementing partners and stakeholders use only these national tools for reporting HIV and related data. It is recognized that some donors have specific data reporting requirements. Such donor reporting requirements should be additional to the national reporting requirements, and not supersede the national reporting requirements. The NAS should actively ensure that all stakeholders are reporting on their activities timely and completely. Regular follow-ups should be made to organizations failing or delaying on this responsibility.

Quarterly data validation meetings: at least once a quarter, it is recommended that all the stakeholders, under the leadership of NAS, should meet to review all the available data collected during the quarter and any prior pending data. These quarterly data validation meetings should be used to clean up the program data from all the implementing partners, including the NGOs, line ministries, AIDS unit, harm reduction unit, Rodrigues, among others; all the data will be reconciled to produce a single national program dataset that can be shared with policy makers, development partners and other key stakeholders, and also for course correction within the program. While the quarterly data validation meeting will be led by NAS, it is recommended that this activity should be overseen by a monitoring and evaluation technical working group. If one does not presently exist, this TWG needs to be set up. If one already exists, it needs to be strengthened and provided adequate resources to make it fully functional. It is recommended that prior to the quarterly data validation meeting, there should be a joint supportive supervisory or joint oversight visit to provide context to what will be discussed during the data validation meeting. This can be varied to occur after the quarterly data validation meeting as the TWG deems necessary.

Periodic surveys and primary research: Several surveys have been recommended in this National Action Plan. These surveys should receive priority attention as they will help to fill several data gaps in the program. Additionally, primary, and secondary research should be encouraged to interrogate different aspects of the program. The funding for this can come from NSIF or other government and non-government funding mechanisms and the results of such research should be widely disseminated as well as published in local, regional and international peer review journals. Such research reports, when available, should form part of the quarterly data validation meeting discussions. The M&E TWG can also help to facilitate such research by identifying priority research questions which will assist individuals and organizations to focus their research interests.

Annexes

Annex 1: Notes on One Stop Shops

One-Stop shops (OSS) can be used to bridge gaps in services provided to people living with HIV and key populations. It has the advantage of having all or most of the services provided under one roof, thus avoiding the need for the clients to visit different service delivery points to obtain HIV services. It also has the advantage that it can be established in any facility, including facilities located in rural communities without requiring extensive changes in infrastructure. One-Stop shops can therefore be established at a minimal cost, especially if it is being nested within an existing healthcare facility. The most important components of a One-Stop shop are the need for a facility to house the program, personnel with appropriate knowledge and skills, adequate commodities to meet the needs of the clients, and a monitoring plan for the services being provided. Some of the services that can be provided at a OSS include:

- Combination HIV Prevention services, including sexual and reproductive health education, methadone dispensing and needle and syringe program
- HIV testing services
- TB, STI and viral hepatitis screening services
- ARV pills, HCV, HBV and STIs treatment and refill and basic treatment and care services. Treatment initiation can be done at more specialized centers, but if the OSS is located at a regional hospital of DCCI, then treatment initiation can be done at such OSS.
- Psychosocial support and other mental health services and treatment literacy including patients' education.
- Prevention of mother to child transmission of HIV services and follow-up as per the MTCT protocol.
- Other services may be included based on the needs and local contexts. For example, the OSS can assist PLHIVs with services for non-health-related issues and other barriers to care that may be identified while providing the services.

As part of this National Action Plan, the following steps are suggested if the program is considering setting up a One-Stop shop:

1. Agreement by the relevant authorities to set up One-Stop shops.
2. Development of guidelines for establishing the OSS, including minimum requirements for setting up a OSS, manual of operation, and monitoring plans.
3. Agree on the scope of services to be provided by the OSS.
4. Identify the facilities that will host the OSS. It is recommended to start with a few and scale up gradually over the period of Action Plan, as experiences are gained.
5. Assess the proposed host facilities and identify infrastructure and personnel upgrades that would be required to make the OSS functional.
6. Prepare a plan and budget to operationalize the OSS.
7. Implement the plan.
8. Evaluate the performance of the OSS. Six monthly performance assessment is recommended for the first 24 months of operation to enable rapid course correction when necessary.
9. Adjust the operation as necessary.
10. Identify Human Resource needs and capacity-building of the Health Care Providers.