EXTERNAL REVIEW REPORT

National Health Sector Response to HIV & Sexually Transmitted Infections in Sri Lanka

2017

NATIONAL HEALTH SECTOR RESPONSE TO HIV AND SEXUALLY TRANSMITTED INFECTIONS IN SRI LANKA, 2017

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EXECUTIVE SUMMARY

Sri Lanka's National Response for sexually transmitted infections (STI) and HIV is led by the National STD/AIDS Control Programme (NSACP) of the Ministry of Health (MoH). The National Strategic Plan (NSP) 2013-2017 has been the guiding document for the NSACP during the last five years through five strategic directions: Prevention, Diagnosis, Treatment and Care, Strategic information Management System, Health System Strengthening and Supportive Environment. The overall purpose of the present review was to assess whether the implementation of the national response to the HIV/AIDS epidemic and STIs, is going in the right direction and producing the desired results to meet the targets defined in the national strategic plan (NSP) (2013-2017) and to develop a new strategic plan for the next five-year period (2018-2022). The review was conducted by a team of seven consultants, five international and two national.

The review team carried out an exhaustive literature review to understand the current situation followed by meetings and discussions with key stakeholders, both formal and informal, using key informant interview and focus group discussion methodologies. The review addressed all five strategic directions of the NSP and identified major achievements, barriers and challenges faced in the last five years which provided the basis of recommendations that are presented in this document.

Sri Lanka, during these last five years, has successfully maintained its low HIV prevalence status although numbers of HIV positive cases have been slowly rising over the years. The main population groups with a rising number of HIV positive cases have been males having sex with males (MSM) and returnee external migrant workers. However, numbers are not high so that identifying the key populations (KPs) in Sri Lanka is not straightforward. Nonetheless, based on existing data the country has identified KPs to be MSM, transgender (TG) persons, female sex workers (FSW), people who use drugs (PWUD) /people who inject drugs (PWID) and Beach Boys (BBs) while prisoners, armed forces and police personnel, returnee migrants and tourist industry workers, are considered as vulnerable population groups.

A major achievement for Sri Lanka during this time has been the establishment of HIV prevention programmes for KPs who are receiving a package of HIV/STI prevention services through peer educators (PEs). This activity is being implemented by the Family Planning Association (FPA) of Sri Lanka which is a Principal Recipient (PR) of the Global Fund to Fight AIDS, TB and Malaria (GFATM) for providing services to KPs through various non-government organisations (NGOs) and community based organisations (CBOs). Another major achievement has been in the area of diagnosis, management and treatment of HIV and STI cases primarily through the 31 STD clinics across the different provinces. The procurement of all antiretroviral (ARVs) drugs and provision of free antiretroviral therapy (ART) by the government of Sri Lanka to all people living with HIV (PLHIV) shows strong commitment and ownership of the programme which will provide long term sustainability. Sri Lanka is aiming towards elimination of mother of child transmission (EMTCT) and also to end AIDS by 2025, five years before the global target of ending AIDS by 2030.

This review document presents achievements, gaps/barriers and recommendations for each strategic direction. These are summarised here:

STRATEGIC DIRECTION 1 (SD1): PREVENTION

There are six sub-themes under this and each is presented separately.

i) Prevention among KPs:

The implementation of the PE model in the last five years has been an achievement for Sri Lanka's response to HIV/STI prevention as it has led to greater access to KPs allowing provision of HIV/STI awareness and education, condoms and lubricants and HIV testing services (HTS) to these hidden and stigmatised population groups. This has resulted in better knowledge among KPs, with more using condoms and lubricants and more getting tested for HIV. KPs are attending STD clinics for HTS and most STD clinics are now sensitive to their needs. Three Drop In Centres (DICs) for KPs in Colombo are now active where community based testing using rapid HIV test kits is available; the DICs and rapid HIV testing with provision of immediate results is highly appreciated by the KPs. The major challenges/barriers identified were - lack of an enabling environment; need for enhanced capacity and HIV/STI testing using escorted visits. A conducive environment is essential for reaching KPs and for KPs to be able to access services freely but the prevailing legal, social and cultural environment is a major barrier to reaching KPs and providing them with HIV/STI prevention services. Although more KPs have been reached over the years it is well recognised that many remain hidden and do not access services. There is a need to build capacity of KPs, their networks as well as CBOs to strengthen their ability to deliver services. In addition, at the national programme level there is a need to expand human resource development and to build technical capacity of staff focused on KPs. HTS for KPs at present is mainly reliant on escorted visits to STD clinics which require two visits; this is not popular with the PEs and KPs as it is time consuming and can require long travel hours. Given these main challenges, four broad recommendations are provided – i) Enhance access to KPs by strengthening the PE model, expanding DICs, enhancing capacity of CBOs and KP networks and incorporating novel methods of reaching hidden people, ii) Increase testing among KPs by making available a range of testing options iii) Create an enabling environment for KPs by enhancing efforts at reducing stigma and discrimination and iv) Other special efforts including making available post exposure prophylaxis (PEP) for all KPs and pre exposure prophylaxis (PreP) for MSM and TG.

ii) Prevention among vulnerable groups:

Among the vulnerable population groups, the highest rates of HIV have been identified among migrants returning home from work abroad and the rates have been rising over the years. All other groups have absent or very low prevalence.

The main activity conducted for migrants travelling abroad for work is pre-departure training on HIV/STI prevention provided through the Sri Lanka Bureau of Foreign Employment (SLBFE) but these are limited to first time bound migrants. For females, special classes are held focussing on overcoming sexual challenges with negotiating skills and empowerment. Trainers are evaluated only at the end of the training and it is therefore recommended that trainings should be evaluated and strengthened. Also, as no services are offered to migrants when they return home there is a need to explore new strategies to encourage voluntary HIV testing and possibly making available self-testing HIV kits that employ oral fluid when these become available.

In prisons, advocacy and skill building sessions for welfare officers and medical staff on sexual health promotion is conducted. Prison inmates are trained as PEs to provide HIV/STI prevention messages to other prisoners. HTS is provided using rapid testing through mobile clinics however, the numbers of HIV test kits provided for prisons are not adequate. It is therefore recommended to make more HIV test kits available, increase the numbers of HIV test kits and testing frequency and to develop a clinic inside the prison where trained staff could conduct HIV tests. An HIV Treatment and Care Policy for Prisons is currently under consideration of the Cabinet for approval. However, although drugs are being consumed in prisons the policy does not recommend harm reduction programmes for PWID in prisons as the country has not yet adopted it as a policy. Moreover, condoms are not

available in prisons and it is recommended to make services (including condoms) available in prisons as they are available to the general public.

Training on HIV/STI prevention and HTS are provided to armed forces and police personnel and HTS is conducted by the armed forces medical team. As HIV prevalence is low in this group it is recommended to concentrate efforts on UN peacekeepers for HIV prevention and testing. Training for police is essential as they are key in ensuring an enabling environment for KPs and for HIV prevention efforts to be carried out smoothly. Further expansion of training programmes for the police is recommended as the majority have not received training.
Training is conducted for tourist industry students attending the tourist training institutes of the Sri Lanka Tourism Development Authority using a training curriculum that has been developed. This activity needs to be continued.

iii) Prevention among general population including young people

Youth Corp was established in 2013, under the direct control of the Prime Minister, with a focus on providing vocational training to young people (16-28 years) and HIV training is also conducted. This has empowered students to access HTS from STD clinics and HIV tests were also provided at a training centre. Despite these gains stigma continues to remain a challenge especially in some rural and conservative areas. It is recommended to ensure adequate and up to date training and refresher training of trainers (ToTs), provide more testing kits to meet the demand for HIV testing, identify outstanding students who could act as peers and help mobilize to raise the awareness efforts on HIV/STI the issues and replicate lessons learnt from the Youth Corp to other sites in the country.

iv) Elimination of Mother to Child Transmission of HIV (EMTCT) and Congenital Syphilis

Sri Lanka is aiming for the EMTCT and the targets for impact have been met with 0.01% of pregnant women being identified as HIV positive in 2016. Also, in 2016, 77 pregnant women were diagnosed with syphilis and they were provided adequate treatment before 36 weeks of pregnancy and congenital syphilis was reported in 11 cases of which nine had early congenital syphilis. Among the estimated number of pregnant women in 2016, 92% were registered for antenatal care (ANC) in government hospitals and only 8% attended private sector facilities but amongst the latter no information on HIV and syphilis are available. Including their information into the national database is pertinent for achieving EMTCT. HTS is not available at ANC sites and samples are sent to STD clinics for testing. Ideally HTS should be established at ANC sites which may enhance HTS uptake as presently only 89.6% of women with live births were tested for HIV. All HIV exposed infants undergo Early Infant Diagnosis (EID) and none were found to be HIV positive in 2016. Samples for EID are tested in India and it is recommended that EID facilities using DNA PCR be established in the country. The PMTCT guidelines have been widely circulated among healthcare providers and treatment is guided by viral load (VL) estimations. Option B Plus is being practiced across the country since 2014. Guidelines state that pregnant women should be offered infant feeding choices but all women chose the formula feeding option for their infants. The advantages of breast feeding are offset against the fear of possible HIV transmission through breast milk and it is therefore recommended that pregnant women should be counselled on advantages and disadvantages of both breastfeeding and formula feeding. It is also recommended to enhance the process for achieving EMTCT to reach the desired target of 95% for HIV testing.

v) Prevention of transmission through infected blood

In Sri Lanka the National Blood Transfusion Service (NBTS) is the sole supplier of blood and blood products to all state hospitals and some private hospitals registered with the NBTS. All donor units are tested for HIV, syphilis, hepatitis B and C and in 2016, over 400,000 blood units were screened.

All identified as HIV positive in the screening test are confirmed at the National Reference Laboratory (NRL) of NSACP. In 2016, 23 new confirmed cases of HIV were diagnosed in blood donors. As not all blood banks of private hospitals in Sri Lanka are registered with the NBTS information from these blood banks are not available. It is therefore recommended to register all blood banks with the NBTS and to obtain a complete picture of blood safety.

vi) Maintain Quality and Coverage of STI services

In Sri Lanka STI diagnosis is aetiological. A total of 21,973 new patients had received services from the NSACP during 2016 while a total of 65,820 clinic visits were made by all STD attendees. Among them 9,129 STI diagnoses were made. Syphilis testing increased significantly over the last five years among the different population groups. The National Reference Laboratory (NRL) participates in external quality assurance schemes (EQAS) for syphilis serology and gonococcal antimicrobial resistance. Within the testing network in Sri Lanka, the NRL sends EQAS packages for HIV and syphilis serology twice a year to the peripheral STD laboratories. However, cefixime antimicrobial susceptibility profiles for *Neisseria gonorrhoea* are still being developed and it is recommended to strengthen this is as a priority. Space, staffing are inadequate in the NRL as well as in the peripheral laboratories and safety practises and bio-medical waste management was insufficient – these need to be addressed for increased efficiency. At present the reporting formats for STI services at all levels are not computerised and are available only as hard copies and it is recommended to computerise the data.

STRATEGIC DIRECTION 2 (SD2): DIAGNOSIS, TREATMENT AND CARE

Under this section the aspects HIV testing and counselling, STI and ART services and HIV TB services have been reviewed.

i) HIV testing and counselling

HIV testing in Sri Lanka is done at all STD clinics. In addition, community based testing is carried out for KPs at DICs, in prisons, at the Youth Corp etc. and in some cases mobile HIV testing services have been provided such as during World AIDS Day and other special circumstances. Testing done at sites outside the STD clinics are conducted directly by STD staff or supervised by them.

Efficient and reliable HIV/STI testing services are pivotal to achieving the goal of Ending AIDS by 2025. Overall, out of the estimated 4000 PLHIV, only 2139 have been diagnosed so far, i.e. ~53%. The present algorithm utilises 4th generation kits by ELISA and all those found to be reactive are further tested with a rapid HIV test. All those reactive with these two tests are further tested with Western blot for confirmation done at the NRL. Testing results take one week or more and require at least two visits to get a confirmed HIV result. This can lead to losing people at the 2nd visit or people opting not to test at all. Moreover, HTS is not available at TB chest clinics or at ANC clinics from where samples are sent to STD clinics for testing. It is recommended to shorten the turnaround time and reducing the chances of loss to follow up (LFU) for providing HIV results by decentralising HTS and using Rapid test kits at all sites following the WHO algorithm as this may enable reaching the testing target of at least 90% by 2020.

Pre-test and post-test counselling is an important service component of HTS but there are no dedicated counsellors for this at the STD clinics. Counselling training is provided to medical officers and nurses of the STD clinics but this needs strengthening and decentralisation. It is also recommended to provide a ten-point counselling chart as a reminder of key points to be covered.

ii) STI and ART Services

The ART programme was initiated in November 2004 and ART is currently provided through 21 ART centres in 17 districts; the remaining districts are covered by monthly visits by medical officers from nearby ART centres. All PLHIV undergo baseline clinical and biochemical assessments carried out at district hospitals. A baseline CD4 count and a VL test is done before initiation of therapy and VL is also tested at 6 months after initiation of ART and every year thereafter. However, these are all centralized to NRL and although new equipment (BD FACS and GeneExpert) have been provided in two provinces, these are not yet operational. With the initiation of the "treat all" policy the requirement for a baseline CD4 count needs to be revisited. The Infectious Disease Hospital (IDH) has a standalone ART centre without testing services for STI or HIV but has excellent facilities for care and hospitalization of complicated cases and may be considered for upgradation to a Centre of Excellence in HIV care.

In 2016 of those who needed ART, only 27% were covered and although in 2015 64% of PLHIV initiated on ART achieved VL suppression but cumulative data shows 21% of all PLHIV were suppressed. In 2016 only 72% among those diagnosed were initiated on ART compared to 82% in 2015; Sri Lanka is therefore falling short of the target of 80% by 2020. The decreased initiation in 2016 despite adoption of "treat all" policy needs to be examined thoroughly to understand LFU using the details of each patient available at NSACP. Fortunately, LFU of patients on ART is low (6.3% after 12 months on ART). The system used for tracking LFU relies on the dedication of individual centres and their staff and it is essential to develop a systematic mechanism for tracking LFU. M&E tools at the ART/STD centres are not computerised and it is recommended to develop and install an electronic information system that can give instant updates on the status of 90:90:90 at the ART centres as well as at provincial level. Although the Positive Women's Network (PWN) is engaged with follow up of PLHIV on ART but it is recommended for them to actively engage them as it would contribute in reducing LFU.

At present 42 children are receiving ARVs but continuous supply of paediatric ARVs is a challenge. The facilities for diagnosis of Opportunistic Infections (OIs) are established and drugs for most OIs are available in the pharmacy. However, stock outs of ARV drugs occur and are related to long procurement processes. NSACP has a technical subcommittee on care and treatment and also a drug estimation and quantification committee but the latter committee does not have all the bodies involved with procurement represented; these need to be looked into.

Training of personnel at STD/ART sites needs to be regular with refresher trainings. As medical officers may not be able to come to Colombo for training, the training needs to be decentralized and other methods such as distance learning can be adopted.

iii) HIV and TB services

Tuberculosis is the second most common OI among PLHIV in 2016 accounting for 19% of all OIs among PLHIV. Blood samples from all TB patients are sent to the STD clinic for HIV testing as per national guidelines. However, it was observed that there is a gap between the number of TB patients diagnosed at the Chest clinic and number of samples tested for HIV at the STD clinics and at one site the gap was as high as 35% in a particular quarter. Therefore, HTS needs to be available at all Chest clinics. Centralized data of percentage of TB patients tested for HIV was not available and therefore it is recommended to strengthen the process for cross referral between Chest clinic and STD clinics and documentation of outcomes. PLHIV are provided with Co-trimoxazole Preventive Therapy (CPT) but the Isoniazid preventive therapy (IPT) is provided only at Chest clinics. Hence the uptake of IPT is low. It is important to provide IPT from STD/ART sites rather than from Chest clinics which will allow a single point for dispensing of ARVs, STI drugs, OI drugs, CPT and IPT. It is also

recommended to link all ART sites to the 10 sites of the TB programme where GeneXpert is available for ruling out TB at baseline and as required. Training of relevant staff at the Chest clinic on counselling and management of HIV-TB co-infection is required.

STRATEGIC DIRECTION 3 (SD3): STRATEGIC INFORMATION MANAGEMENT SYSTEM (SIM)

This section considers four aspects of SIM which are - HIV and STI Surveillance, Programme Monitoring and Routine reporting, HIV/AIDS Research and Knowledge Management.

i) HIV and STI Surveillance

Six areas are covered here - HIV Sentinel Surveillance (HSS), HIV Case Reporting, HIV Estimations, Size Estimations and Integrated Biological and Behavioural Surveillance among KPs, Understanding HIV Transmission Dynamics, Other components of 2nd generation surveillance (STI Surveillance; Incidence & Mortality Surveillance; Drug Resistance Surveillance).

In Sri Lanka HSS is being conducted regularly with 22 rounds completed till 2016. With changes in the local situation and availability of new information the groups sampled and the sampling strategies have changed over time. It is recommended to adhere to KPs, add BBs and strengthen MSM surveillance with wider coverage and using innovative methods of recruitment. Shifting sampling sites from STD clinics to KP intervention sites, with an effort on random sampling of the registered KPs is also recommended along with adding a few questions related to vulnerabilities and risk profile. Other sources of information should be utilised for the other population groups to triangulate and better understand the epidemic profile. It is recommended to standardise implementation, training and supervision protocols for HSS and improve the documentation and presentation of surveillance reports with wider dissemination.

HIV case reporting is monitored and cases tracked by the Epidemiology unit of NSACP by close coordination with the reporting centres and NRL. However, the system is entirely paper-based which is inefficient and creates delays in the chain of patient processing and impedes effective central monitoring. There is no Standard Operating Procedure (SOP) in place and while systems are largely uniform, *ad hoc* methods have been noted at some centres in recording, reporting and communicating the case details to other centres, NRL and Epidemiology Unit. It is therefore recommended to evolve a SOP for HIV case tracking and reporting, with clear roles and responsibilities for various facility staff, timeliness of reporting, actions to be taken for LFU tracking, alert mechanism, etc. with training of all the facility staff. Furthermore, as the case tracking system is divided between the Epidemiology and SIM units of NSACP it is recommended to integrate the entire system from screening till VL suppression into the new electronic data management system that is being developed. Also, to set up a strong alert response system that will immediately alert the facility staff as well as the concerned higher authorities on occurrence of LFU. The analysis of data from HIV case reporting is limited and more regular and robust epidemiological analysis is required for which capacity needs to be built across the data collection system from central to peripheral facilities.

HIV estimation in Sri Lanka has been carried out using the Spectrum software and in 2016 the inputs used needs review and modifications as size of PWUD was applied for PWID which resulted in a significant inflationary effect on the prevalence and incidence of HIV among PWID and up to date size estimations for KPs were not utilised. Publishing details of the processes and methods used for HIV estimation as a separate report is required with dissemination to the key stakeholders of the programme. It is also recommended to use other models based on transmission dynamics such as the AIDS Epidemic Model to study and project the epidemic and estimate key burden indicators.

Size estimations of KPs was conducted in 2013 and the IBBS in 2014. The process of starting the next round of size estimation and IBBS is underway. It is recommended that IBBS may be conducted every 5-6 years provided HSS is strengthened. And it is also recommended to consider developing a road map to integrate HSS and IBBS among KPs into one activity with simpler methodology, limited behavioural variables and feasible implementation approach to collect bio-behavioural data at district or provincial level, in places where HIV or vulnerabilities are high.

The probable modes of HIV transmission is currently analysed using data from reports of the HIV cases detected at STD clinics. However, triangulation with other data sources can enhance understanding of the transmission dynamics but such analysis is not carried out. For such in-depth analysis, capacities of NSACP staff as well as facility staff need to be enhanced. Understanding transmission dynamics at the district level by District Epidemiological Profiling carried out by the facility staff using all available data from the district would greatly benefit the HIV response and capacity needs to be developed for conducting such epidemiological analysis.

Other components of the 2nd Generation Surveillance system including STI surveillance, incidence surveillance, mortality surveillance and drug resistance surveillance need to be considered.

ii) ***Programme Monitoring and Routine Reporting***

The SIM Unit of NSACP manages the Programme Monitoring functions of NSACP and these include providing quarterly aggregate reports from STD Clinics and ART Centres, quarterly Individual reports of PLHIV on ART from ART Centres, quarterly Individual reports of Cohort data of PLHIV on ART from ART Centres, maintenance of NSACP website, analysis of programme and epidemiological data including HIV Estimations and Projections, providing support to the Epidemiology Unit of NSACP for IBBS and other epidemiological activities and preparing various programme reports including Annual Reports, GAM reporting to UNAIDS, WHO etc. For the reports from different ART and STD centres, standardised formats have been developed which are generally comprehensive and provide rich information. However, the system is often compromised for various reasons including staff shortages at some centres, inadequate data quality assessments and standard procedures to ensure and improve quality. It is therefore recommended to strengthen the overall M&E supervision of the facilities through more frequent visits and hold separate M&E review meetings. Furthermore, it would be helpful to conduct regular and in-depth analysis of quarterly reporting data in improving programme delivery and also to review the data received every quarter from FPA on the services provided to KPs. Providing adequate trained staff at the peripheral centres would allow local level analysis as mentioned earlier. Many of the indicators in the NSP 2013-2017 are not measurable and due to lack of any system to generate the required information and also because some of the indicators are not well defined. Finally, it is imperative to convert the M&E system from paper-based reporting to an electronic system through an integrated web-based data management system.

iii) HIV/AIDS RESEARCH

At NSACP research is limited to small scale studies and surveys to help bridge gaps in information. And most surveys and surveillance activities are contracted out to companies and international experts with very little effort of developing local expertise. Findings from some of the studies and analysis of programme data have been published as research articles in the Sri Lanka Journal of Sexual Health and HIV Medicine (Sri Lanka JoSHHM). However, larger research studies that could provide in-depth understanding in areas where there is a knowledge gap are not considered. For this, it is recommended to form a technical working group bringing together experienced social scientists, epidemiologists, laboratory scientists and clinicians from academic institutions, medical colleges, social sciences institutions, research institutes and other private research organisations and to make funding available for research.

iv) Knowledge Management Strategy

Although this was not specified in the NSP 2013-2017, the review team recommends that creating a knowledge management strategy for NSACP will strengthen evidence based programming. A unit combining the Epidemiological and SIM Units will need to be created that will encompass four components - knowledge creation, knowledge collection and storage (electronically), knowledge sharing (which includes dissemination and communication) and knowledge translation whereby data is used for programmatic actions and decision making.

STRATEGIC DIRECTION 4 (SD4): HEALTH SYSTEMS STRENGTHENING (HSS)

Seven aspects of HSS have been reviewed - Infrastructure and clinic facilities, Laboratory facilities, Service Delivery, Human Resources, Availability of medications and technologies, Governance and Leadership and Financing.

i) Infrastructure and Clinic Facilities

HIV/STI care services are delivered through 31 STD clinics and 23 branch clinics. Of the 31 STD clinics, 20 clinics and the IDH provide ART services. Several clinics, the NRL and IDH are all constrained in terms of space and other facilities. To better understand the capacities for delivering HIV/STI services, Sri Lanka has completed a national level Service Availability and Readiness Assessment (SARA) that will provide the basis on which improvements can be planned. There are also DICs in Colombo managed by NGOs and CBOs for KPs and PLHIVs which need to be increased in number and expanded geographically and the facilities in existing DICs need improvement.

ii) Laboratory Facilities

Laboratory services for HIV and STIs are provided by NRL of NSACP and the 28 peripheral laboratories in STD clinics. Space is restricted in all these laboratories. New equipment have been purchased but not all are not operational mainly for lack of reagents. Considerable delays occur in the delivery of kits and reagents which hampers smooth operation of laboratories. It is therefore recommended to expedite the procurement process, to analyse the reasons for delays and find solutions to overcome obstacles. It is also needed to carefully forecast needs to prevent shortage of kits/reagents.

iii) Service Delivery

STD clinics are responsible for condom distribution, screening for syphilis, HTS, and partner notification (contact tracing). However, not all clinics provide the full range of services, due to limitations in facilities and human resources. Although the peripheral STD clinics are supervised but in order to ensure quality of services it is important to streamline and strengthen supervision and monitoring with representation from all programme coordinators and the visits should take place based on an annual plan. Stigma is experienced by PLHIV visiting other laboratories and hospitals where they are referred to and to overcome this training of staff from those referral sites is required to raise awareness regarding the sensitivities related to PLHIV and KPs.

iv) Human Resources

Although there has been an effort to ensure providing designated staff to all sites, shortcomings persist and often a mismatch between needs and placements are observed. Lack of administrative staff in some of the programmatic areas of NSACP and lack of data management staff in STD clinics hamper efficient functioning. Training needs also require addressing as not all staff of peripheral clinics have received training on STD/AIDS, refresher training was not conducted regularly and there are shortcomings in training for counselling. Training needs to be decentralised to the district level. Staff motivation in the peripheral clinics is generally high and they take pride in being part of the NSACP and to improve this further a system to recognise and reward well performing staff may be

considered. With the goal of Ending AIDS in 2025, there will be a need to develop a well-considered plan for human resource needs.

v) Availability of medications and technologies

Shortages in supply of ARVs occur due to long procurement procedures as discussed earlier. STI drugs are procured through government systems and are run efficiently. Consumables such as condoms, lubricants and HIV rapid diagnostic kits are procured using GFATM funds and the procurement is coordinated by the GFATM coordination unit of the NSACP. Storage facilities for drugs at the central STD clinic pharmacy and in many peripheral clinics are inadequate and it is recommended to address these inadequacies.

vi) Governance and Leadership

Sri Lanka has a National AIDS Policy approved by the parliament in 2011. There are several committees at different levels - a National AIDS Council which was formed under the chairmanship of HE the President of Sri Lanka, National AIDS Committee (NAC) led by the Secretary of the MoH and at the provincial level, Provincial AIDS Committees (PACs) with the representation of provincial level governmental organizations, NGOs, KPs, PLHIV and health sector representatives. Unfortunately, the National AIDS Council has not met for several years now, NAC has not met regularly and the functioning of PAC is variable across the provinces. NSACP is guided by five year NSPs which are also used to monitor and evaluate progress of STI/HIV activities in the country. All activities, both centrally and peripherally are meant to be aligned to the NSP. In order to achieve the targets of the NSP, NSACP works in close collaboration with other programmes such as the NBTS, National Programme for Control of Tuberculosis and Chest Diseases and the Family Health Bureau (FHB). Given the goal of Ending AIDS in 2025 it is essential to revive the National AIDS Council, regularise meetings of NAC and activate its subcommittees, strengthen PACs and form District AIDS committees.

vii) Financing

At present the Government of Sri Lanka provides about 60% of the HIV/AIDS/STI programme cost which is an increase over previous years. It is expected that the contribution of the government will increase in the coming years as funding support from GFATM declines. The sustainability of the NGO based peer-led KP interventions at the end of GFATM support requires an interim plan before complete closure of the GFATM grant. The NSACP therefore needs to carefully plan its activities and budget to ensure all areas of prevention, treatment, care and support for HIV/AIDS/STI are covered in order to achieve the goal of Ending AIDS in 2025.

STRATEGIC DIRECTION 5 (SD5): SUPPORTIVE ENVIRONMENT

Seven aspects were reviewed for determining whether the environment for service delivery is supportive for KPs and PLHIV so that their human rights are protected. These are capacity development of health workers, accessibility and supportive environment in the government STD clinics, multi- sectoral coordination, sexual and reproductive health education in schools, involvement of PLHIV and positive network organizations for national response, condom accessibility and laws, regulations, policies, plans, programmes and committees related to supportive environment.

i) Capacity development of health workers

Training for different cadres of heath care providers including medical officers of STD clinics, the Post Graduate Diploma course in venereology, nursing students all cover issues on KPs and PLHIV but none sufficiently address stigma and discrimination so that it is necessary to update and modify all the training programmes. Training should include law and Human Rights, ethical professional

practice, special issues of KPs including sexual orientation and gender identity and expression. Training of health care providers in private hospitals is also required.

ii) Accessibility and supportive environment in the government STD Clinics

Staff at the STD clinics are generally sensitive to KPs who feel more comfortable now, compared to previous years, in visiting STD clinics although some KPs have experienced discrimination by minor staff and newly appointed medical graduates. It is therefore important to ensure training of all staff who provide services to KPs and PLHIV using relevant training material that adequately addresses issues on stigma and discrimination. KPs expressed the need for comprehensive counselling which is supported by the recent stigma report and ideally this requires support of a psychiatrist or psychologist.

iii) Multi- sectoral coordination

NSACP works closely with different government departments and sectors to ensure a multi-sectoral response to HIV/STI and to build a supportive environment. Programmes are predominantly restricted to ToTs and the training address issues on transmission of HIV/STIs, prevention and also increasing awareness regarding the need for a conducive environment for KPs and PLHIV. However, it is recommended that issues on HIV are included in sectoral policies to ensure commitment from the different government sectors to work towards the goal of Ending AIDS by 2025. It is expected that the National Communication Strategy on control and prevention of STI/HIV/AIDS which will be launched soon will contribute towards raising awareness on HIV/STIs in the country among a wide audience and will result in a positive response from different segments of society. The media particularly need training and sensitisation.

iv) Sexual and Reproductive Health Education in Schools

Several policy decisions have been taken recently to provide SRH education in schools and to young people. However, the SRH education curriculum in the schools in Sri Lanka is not at par with international standards and teachers lack skills in dealing with the sensitive subject of sexual health. Subjects of sexual orientations, MSM and TG population are not included. Teaching about condoms is prohibited in the schools except for the Advanced Level Bio stream. For increasing awareness about SRH issues in Sri Lanka among young people it will be necessary to advocate with policy makers to update the curriculum on SRH including HIV/STI so that it is in keeping with the needs of young people today and provide training to teachers to enable them to teach the topic of SRH including HIV/STI and gender orientation.

v) Involvement of PLHIV and Positive network organizations in the national response

The three PLHIV networks in Sri Lanka - Lanka Plus, PWN and Positive Hopes Alliance and PLHIV are Colombo-based but work throughout the country. Although NSACP is working closely with PLHIV in implementation of the AIDS policy and PLHIV are represented in NAC and its five sub committees, the networks feel their services are not adequately recognised. They can be better engaged in tracing LFU and require support for meeting travel expenses especially when visiting remote areas for LFU tracing. The insurance scheme initiated for PLHIV by Janashakthi Insurance Pvt Ltd. does not cover them for more than 10 years so that this insurance scheme needs revisiting.

vi) Condom accessibility

The Condom Strategy developed by the NSACP aims to ensure the availability of quality condoms of choice, either free of charge or at an affordable price, through an effective and responsive service delivery system. However, significant stigma is associated with condom use and FSW still fear carrying condoms although this is not illegal. It is therefore important to widely disseminate the Condom Strategy and make all aware of the legal status of condoms.

vii) Laws, Regulations, policies, plans, programmes and committees related to Supportive Environment

In Sri Lanka the constitution along with a number of supportive laws, policies, regulations, strategies and programmes along with a few favourable legal decisions can provide a supportive and conducive environment for PLHIV, KPs and other people who seek sexual health services. However, stigma is pervasive and law enforcement officers are often not sensitised on human rights and fundamental freedom for all. Schools discriminate against children affected by and infected with HIV and it is therefore recommended to consider issuing a specific guideline to the education sector for protection of human rights of children affected by and infected with HIV. There are a few severe laws that affect KPs and include the Penal code 365 and 365 A that criminalizes same sex relations and creates a barrier to MSM and TG accessing HIV/STI services as well as the Brothel and Vagrancy ordinances which affect FSW. It is recommended to revisit these laws and the legal and ethical subcommittee under the NAC should play an active role in this regard.

In conclusion Sri Lanka has made commendable strides in the last five years in its national response to HIV and some of the important steps taken are highlighted below:

- The PE model was initiated for reaching KPs utilising NGOs, CBOs and networks of KPs and different modalities of HIV testing have been tried with the KPs.
- The “treat all” policy was adopted in 2016, soon after announcement by WHO and VL testing is being employed for monitoring patients on ART
- EMTCT progress is on track
- IBBS among KPs has been initiated and several RSA among KPs and other special aspects of HIV prevention and diagnosis have been undertaken
- Diagnostic and treatment facilities were expanded and domestic resources are now being used for ARVs with a view towards sustainability
- Several supportive policies and guidelines have been developed for different sectors in the government for creating awareness and reducing stigma and discrimination.

All these measures will help Sri Lanka in controlling the HIV epidemic provided these are sustained, further strengthened and expanded. However, for Sri Lanka to achieve the goal of Ending AIDS by 2025, intensification of the programme will be required in all its different aspects and some special measures will have to be undertaken. For this five overarching recommendations are being provided here to address some key issues highlighted in this review:

1. Continue services to KPs and enhance reach to different marginalised and hidden population groups including young people
2. Simplify diagnostic algorithms and streamline ART delivery processes
3. Improve data gathering and analysis systems
4. Enhance capacity of NSACP and ensure adequate resources
5. Obtain commitment from the highest level for enhanced mobilisation of resources and buy in from different sectors

ACRONYMS and ABBREVIATIONS

AFB	Acid Fast Bacillus
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
BB	Beach Boys
BCC	Behaviour Change Communication
CBO	Community Based Organisation
CME	Continued Medical Education
CoE	Centre of Excellence
DBS	Dried Blood Spots
DIC	Drop in Centre
EID	Early Infant Diagnosis
ELISA	Enzyme Linked Immunosorbent Assay
EMTCT	Elimination of Mother to Child Transmission
EQAS	External Quality Assurance Scheme
ESR	Erythrocyte Sedimentation Rate
FDC	Fixed Dose Combination
FGD	Focus Group Discussion
FHB	Family Health Bureau
FPA	Family Planning Association
FSW	Female Sex Worker
GAM	Global AIDS Monitoring
GFATM	Global Fund to Fight AIDS, TB and Malaria
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
HSS	HIV Sentinel Surveillance
HTS	HIV Testing Services
IBBS	Integrated Biological and Behavioural Surveillance Survey
IDH	Infectious Disease Hospital
IEC	Information, Education and Communication
IPT	Isoniazid Preventive Therapy
ISA	In Service Advisor
IUCD	Intrauterine Contraceptive Device
KP	Key Population
LFU	Loss to Follow Up
LGBT	Lesbian Gay Bisexual Transgender
M&E	Monitoring and Evaluation
MLT	Medical Laboratory Technologist
MOH	Ministry of Health
MRI	Medical Research Institute
MSD	Medical Supplies Division
MSM	Males who have sex with males
MTR	Midterm Review
NAC	National AIDS Committee
NARI	National AIDS Research Institute
NGO	Non-Government Organisation

NIE	National Institute of Education
NMRA	National Medical Regulatory Authority
NOC	No Objection Certificate
NRL	National Reference Laboratory
NSACP	National STD/AIDS Control Programme
NSP	National Strategic Plan
OI	Opportunistic Infection
OST	Oral Substitution Treatment
PAC	Provincial AIDS Committee
PE	Peer Educator
PEP	Post Exposure Prophylaxis
PHLT	Public Health Laboratory Technician
PLHA	People Living with HIV and AIDS
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission
PR	Principal Recipient
PreP	Pre Exposure Prophylaxis
PWID	People Who Inject Drugs
PWN	Positive Women's Network
PWUD	People Who Use Drugs
RDHS	Regional Director of Health Services
RSA	Rapid Situation Assessment
SARA	Service Availability and Readiness Assessment
SD	Strategic Direction
SIM	Strategic Information Management
SLBFE	Sri Lanka Bureau of Foreign Employment
SOP	Standard Operating Procedure
SPC	State Procurement Centre
SRH	Sexual And Reproductive Health
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
TG	Transgender
ToT	Training of Trainers
TPPA	Treponema Pallidum Particle Agglutination
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
VDRL	Venereal Disease Research Laboratory test
VL	Viral Load
WHO	World Health Organisation
WHO SEARO	World Health Organisation South East Asia Regional Office

1. BACKGROUND

Sri Lanka continues to be a low prevalence country for HIV although the numbers of HIV positive cases have been slowly rising over the years [1]. The estimated numbers of adults living with HIV as of 2016 is 4000 and new infections were less than 1000 [1]. Overall prevalence among key populations (KPs) which include female sex workers (FSW), males having sex with males (MSM), beach boys (BBs), people who use drugs (PWUD) and people who inject drugs (PWID) is <1% but MSM prevalence is at 1.5% [1]. Moreover, among the reported cases, the numbers of MSM have also slowly been rising with close to half of those positive reporting male to male sex [1]. The other population group where HIV has been consistently documented are returnee migrant workers and where the number of cases detected has been rising over the years [1]. In all other population groups, only a few cases have been detected.

Programmes on HIV prevention, treatment and care are being carried out in the country and some are relatively new while others have a longer history in Sri Lanka. The new endeavour has been reaching out to KPs through funds from the Global Fund for AIDS TB and Malaria (GFATM) and the Principal Recipient 2 (PR2) Family Planning Association (FPA). KPs are being reached by employing peer educators (PEs) through non-government organisation (NGOs) and community based organisations (CBOs) with a package of services which is uniform across the different KPs. The package includes:

- education on sexual health/HIV prevention
- behaviour change communication (BCC) through distribution of Information Education and Communication (IEC) materials
- condom demonstration
- condom provision
- escorting to a state STD clinic for voluntary and confidential counselling and testing services

Attempts have also been made to create a conducive environment for KPs by the Government of Sri Lanka along with international partners including the United Nations Population Fund and with support from the multi-country South Asia Global Fund HIV project.

Other vulnerable population groups such as migrants, prisoners, armed forces, police personnel and tourist industry workers receive training and education regarding transmission and prevention of HIV and sexually transmitted infections (STIs) as well as HIV/STI testing services. Efforts at providing some of the same services to general population youth have also been undertaken. Sri Lanka has done a remarkable job in diagnosing, managing and treating HIV and STI cases primarily through the 31 STD clinics across the different provinces and these clinics have a long history of establishment. The “treat all” policy of WHO [2] was adopted in 2016 and the government provides free antiretroviral therapy (ART) to all people living with HIV (PLHIV) along with diagnosis and management of opportunistic infections (OIs). Prevention of Mother to Child Transmission (PMTCT) of HIV has also been a success story [1] and Sri Lanka is aiming towards elimination of mother of child transmission (EMTCT). Since 2004 there are no reported HIV cases following blood transfusions [1].

The low numbers of cases, the new and positive experience of working with KPs, the wide availability of testing sites and the ability to treat PLHIV including effective PMTCT services has encouraged the Government of Sri Lanka to declare that it will end AIDS by 2025, five years before the global target of ending AIDS by 2030.

Purpose and Focus of the External Review:

Purpose

The overall purpose was to review whether the implementation of the national response to the HIV/AIDS epidemic and STIs, is going in the right direction and producing the desired results to meet the targets defined in the national strategic plan (NSP) (2013-2017) and to develop a new strategic plan for the next five-year period (2018-2022).

Focus of the external review

The external review was tasked to specifically examine:

- Whether the national response to HIV/AIDS epidemic and STIs, is moving in the right direction, emphasizing the outcome, impact where this can be demonstrated and associated factors.
- This will inform necessary revisions to the national strategic plan which could involve but not limited to modifying strategic priorities, priority population groups or type of interventions.
- The review will provide evidence base and recommendations for the development of the NSP (IV) and a concept note and country proposal to the Global Fund for the allocation period 2019-2021.

2. METHODOLOGY

The external review team consisting of seven consultants, five international and two national, were chosen based on their expertise in their respective fields. Each reviewer was assigned specific areas of the strategic directions outlined in the NSP 2013-2017 [3] as shown in Table 1 below:

Table 1: Areas for each external reviewer

Key areas and strategic directions	External reviewers
Prevention of HIV among key, vulnerable and general population groups - SD1.1, SD1.2, SD 1.3	Dr. Gary Reid, Dr. Tasnim Azim
Elimination of mother to child transmission of HIV (EMTCT) and congenital syphilis - SD 1.4	Dr. Bharat Rewari
Prevention of transmission through infected blood - SD1.5	Dr. Priya Abraham
Maintain quality and coverage of STI services - SD1.6	Dr. Bharat Rewari Dr. Priya Abraham
Diagnosis, Treatment and Care - SD2	Dr. Bharat Rewari Dr. Priya Abraham
Strategic Information Management Systems - SD3	Dr. Yujwal Raj Dr. Tasnim Azim
Health System Strengthening - SD4	Dr. Dulani Samaranayake
Supportive Environment - SD5	Dr. Thalatha Liyanage

The review was conducted over a period of two weeks in September 2017 within Sri Lanka with an exhaustive literature review (annexure 1), meetings and interviews with key individuals at the policy and implementation level and 26 focus groups discussions (FGDs). Different sites were visited in Colombo, Galle, Kandy, Kurunagala, Ragama, Negombo, Gampaha, Kotte, Kalutara. Sites included those of KPs, Drop in Centres (DICs), NGO service providers, STD clinics, ART clinics, Infectious Disease Hospital (IDH), Blood Bank, government and private laboratories, Medical Supplies Division (MSD), State Procurement Centre (SPC), etc. The external review team members could not visit the provinces in the north and east but inputs regarding services was obtained through a telephonic

discussion with the STD clinic Venereologist from Jaffna. A list of people met for discussions and number of FGDs conducted with different groups are provided in annexures 2 and 3 respectively. Interviews and FGDs were conducted in English and when in Sinhalese a translator was provided.

Co-ordination between reviewers was ensured to limit overlapping of issues and prevent duplication as well as for drafting presentations and reports to ensure agreement and uniformity. This was done through regular debriefings amongst team members and sharing of findings.

Tools were used for interviews and FGDs and these are described under the findings of each section.

3. FINDINGS AND RECOMMENDATIONS

This section will present findings highlighting achievements, gaps/barriers and recommendations against the strategic directions of the NSP Sri Lanka 2013-2017 [3].

3.1. STRATEGIC DIRECTION 1 (SD1): PREVENTION

Under the theme of Prevention, the NSP 2013-2017 outlines six Strategic Directions (SDs). These are prevention and transmission of HIV among key affected populations, vulnerable groups and the general population including young people, elimination of mother to child transmission of HIV (EMTCT) and congenital syphilis, prevention of transmission through infected blood and maintain quality and coverage of STI services.

3.1.1. SD1.1. Prevention of Transmission of HIV Among Key Affected Populations

The KPs included here are FSW, MSM, transgender (TG) persons, PWUD/PWID and BBs. In this section we provide a background based on the literature review, and findings obtained through interviews with key individuals and FGDs. For the latter a question guide was used (annexure 4). All questions asked were semi-structured and included a series of probing questions to elicit more information on issues directly related to the experiences of key informants. Hand written note taking was undertaken, and in most cases these were accompanied by a tape recording of each interview, which were transcribed for analysis. In addition to these, insights were also obtained through meetings with key stakeholders.

a) Summary of the literature review

I) EPIDEMIOLOGICAL AND RISK BEHAVIOUR PROFILE OF KPS

The average estimated numbers of each KP as determined by the estimation exercise conducted in 2013 [4] are 14,132 FSW, 7,551 MSM, 17,459 PWUD of whom 423 are PWID and 873 BBs. The last HIV sentinel sero-surveillance(HSS) [1] was conducted in 2016 which has provided an updated data on HIV and syphilis among KPs including for the first time among PWID and clients of sex workers; the latter were sampled from among those attending STD clinics. The data are summarized in table 2:

Table 2: Prevalence of HIV and active syphilis among KPs (HSS 2016; [1])

	No. tested	HIV (No. positive and prevalence)	Active syphilis (No. positive and prevalence)
Female sex workers	1,332	0	0
Men who have sex with men (including TG)	739	11 (1.5%)	0
People who inject drugs	172	0	0
Clients of Sex Workers	906	1 (0.1%)	13 (1.4%)

The highest detection of HIV was among MSM where it is at 1.5%. Other KPs remained low. Case reporting data of 2016 showed that among all HIV positive males nearly 50% reported male to male sex and the percentage of male to male transmission is rising in this group [1]. Beach Boys were not sampled in the last HSS but the 2014 Integrated Biological and Behavioural Surveillance Survey

(IBBS) [5] showed none to be positive for HIV or active syphilis. Most cases of HIV detected have been in Colombo [1] which also has the highest estimated numbers of KPs [4] with the exception of BBs who are mainly found in five districts in three Provinces, at selected coastal areas where tourists congregate. So far in Sri Lanka TG persons have been considered together with the MSM population for estimates and surveys including surveillance. It is therefore not possible to determine their HIV prevalence or the estimated numbers separately.

In 2016, for the first time, the HSS tested for antibodies to hepatitis B (HBV) and C viruses (HCV) but the numbers tested were small. None other than 0.5% of clients of sex workers were anti HBV positive while 2.3% of PWID and 0.4% of FSW were anti HCV positive. However, the small number of samples tested requires that the data be interpreted with caution.

The main source of risk behaviour data among KPs is the IBBS of 2015 [5]. The KPs that were covered in IBBS included FSW, MSM, BB and PWID (PWUD were not included). For TG persons a recent rapid situation assessment (RSA) [6] has contributed to the understanding of TGs in Sri Lanka, distinct from MSM.

The average age of FSW was high (35-39 years in three different cities), much higher than in other countries e.g. in Bangladesh the average age of FSWs from different venues is 25-29 years [7] and in India this is about 30 years [8]. The majority of FSW solicit their clients at public places, including streets, but there were a variety of settings including brothel based, home/shanty-based, lodge/hotel-based, massage parlours and karaoke/night clubs [9, 10]. The IBBS showed that the mean number of all sexual partners in the last 7 days was seven and condom use at last sex with clients was high at 93 % [5]. In Colombo and in Galle using condom during last sex with non-paying partners was also high at 90% and 88% respectively. Lubricants were not commonly used

Many MSM sampled in the IBBS [5] were 18 – 24 years of age: between a third to two thirds. And the average age of first anal sex with a man was 19 years. Consistent condom use in the last six months was low among MSM in general for all ages: in Colombo, it was 32%. A third of MSM in Colombo had ever received money, goods or services in exchange for sex. Multiple sources show that many MSM engaged in sex with females; among MSM in Colombo approximately 29% were married and 60% had ever had sex with a woman [5], among the HIV positive males many who reported male to male sex were married [1] and a 2013 study with MSM in five districts found that one third of MSM had sex with both males and females [11].

Transgender persons in Sri Lanka include male to female and female to male but access is mainly with the male to female group. The term '*Nachchi*' was historically used to refer to 'cross dressers' and effeminate men but in the contemporary context it is being used more widely to refer to *transgender*, especially male to female transgender [12]. In 2016 a RSA [6] was conducted for the first time among 48 TG at three sites which found 46% engaged in sex work, of which for 28% it was a full-time occupation. The study found that 84% of male to female TG persons had sex only with men and the majority engaged in oral and anal sexual relationships. Consistent condom use was reported by 19% and 6% used frequently during anal sex; this despite 54% carrying condoms with them. Lubricant use was high (78%), with 54% using every time. Access to diagnosis and treatment for STIs was low and excluding HIV testing, only 37% of participants tested for other STIs at least once within the last two years.

Beach Boys are a group of males (homosexual, heterosexual or bisexual) found in and around beach areas of Sri Lanka, and associated with tourists as guides, but also offering sexual services. The average age of BB in Galle was 27 years, but 53% were aged 18-24 years. Among the BB of Galle, 99% had sex with a woman, and 16% had anal sex with a man. The majority clients of BB were foreigners [5]. Consistent condom use with casual partners (primarily tourists) over the last 12 months was reported by over a third of BB in Galle and during last sex 67% used a condom. A minority of BB in Galle (4%) had injected drugs in the last 12 months, but mostly once a month or less. Among those that injected drugs, 37% shared needles or syringes [5].

The average age of PWID sampled from Colombo for the IBBS was around 40 years and 60% initiated drugs at 18-24 years. Most PWID were males and the main drug injected was heroin. More than half of the PWID sampled in IBBS in Colombo had ever shared needles or syringes. Majority had access to new needle and syringe from a pharmacy for each injection. The IBBS 2015 found nearly all PWID had been arrested for injecting drugs; 16% injected while in prison and two thirds shared needles and syringes inside the prison. PWID were sexually active with an average of 2.7 sexual partners in the last 12 months, with 0.3 male partners, and 2.7 female partners. Some (7.6%) sold sex, 5.6% had ever had sex to obtain drugs and 34.9% bought sex. Consistent condom use in the last 12 months with women and men was low (8.7% and 3.5%, respectively). More in-depth understanding of PWUD and PWID is expected at the end of 2017 when the results of an RSA that is being conducted in six districts will become available.

II) COVERAGE BY HIV PREVENTION SERVICES AND HEALTH SECTOR INTERVENTIONS OF DIFFERENT KPS

Information on coverage of services was ascertained from two sources – IBBS and programme coverage data provided by FPA. There are several differences between the two data sources; in the definition of indicators, geographical coverage and the time frame so that although the two are not directly comparable but nonetheless together they provide an overview of HIV prevention services that are available to KPs.

Data from the IBBS 2015 assessing knowing where to go for an HIV test and receiving free condoms from NGOs or a health care centre in the last 12 months show the following coverage rates:

- FSW – 29.9 – 40.5% (highest in Galle)
- MSM- 11.5-23.8% (lowest in Galle and highest in Colombo)
- BB – 9.2%
- PWID – 4.3%

Programme implementation data of 2017 (up to September 2017) which assesses reach with a package of five services (receiving education regarding HIV and STIs, receiving condoms, condom demonstration, receiving IEC and BCC materials) in the different KPs is summarised in the table below (Table 3) (FPA personal communication):

Table 3: Performance indicator for reach among different KPs in the period up to September 2017

Key Population group and indicator	Programme target, N	Estimated number of KPs (national)	Reached in relation to programme target, N (%)	Reached in relation to estimated numbers of KPs, (%)
FSW reached with HIV prevention programs - defined package of services	8,036	14,132	1,482 (18.4%)	10.5%
MSM and TG reached with HIV prevention programs - defined package of services	4,914	7,551	1,514 (30.8%)	20.1%
PWID reached with HIV prevention programs - defined package of services*	10,750	17,459	3,959 (36.8%)	22.6%

*Results reported refer to PWUD but due to the use of standardized indicator definitions in the GF performance framework, they appear to be PWID

Whichever data set is taken into consideration; it is apparent that there are gaps in the services available to KPs. For PWID services started in 2016 so that it is likely that when IBBS was conducted, many PWID were not receiving services.

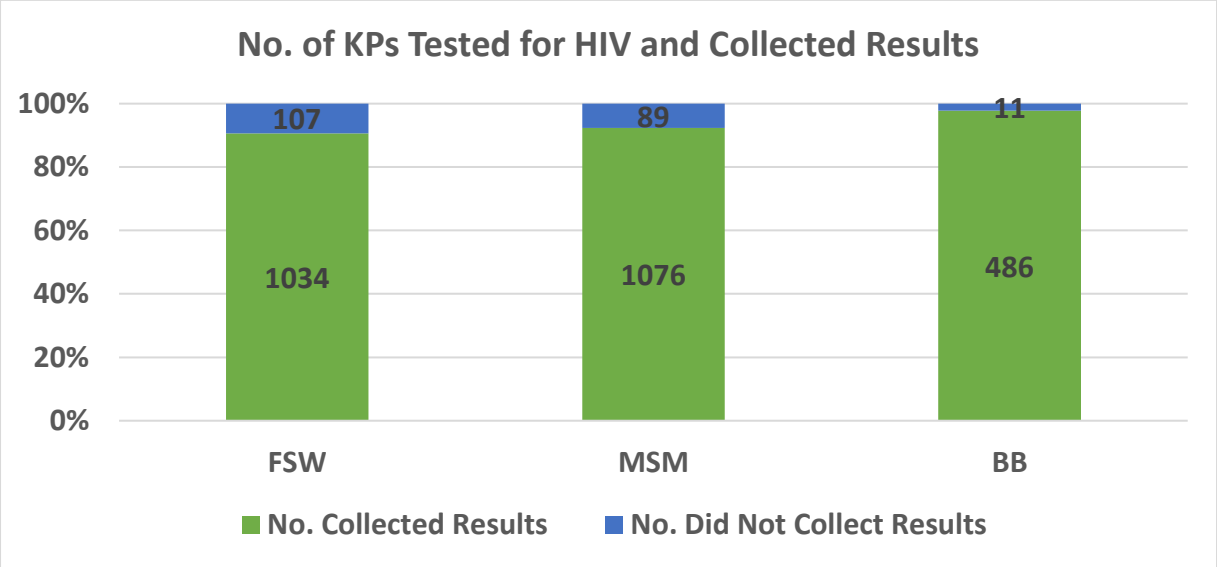
Testing for HIV and knowing the results is a key component of HIV prevention and is the first pillar in the 90-90-90 target of UNAIDS for 2020 [13]. This information was obtained from IBBS with a recall period of one year and the data from different KPs are shown below:

- FSW – 58.5-79.3% (highest in Colombo)
- MSM- 9.8-71.6% (lowest in Galle and highest in Colombo)
- BB – 45.8%
- PWID – 8.3%

For TG, the RSA 2016 found that the majority (83%) had been tested for HIV: 55% within the last 3 months.

The data from the intervention programme of the GFATM by FPA in 2017 (FPA, personal communication) show that most of who were escorted to STD clinics for HIV testing collected their results through a second visit (Fig. 1). This was not the case before where there was considerable drop out in the second visit for various reasons [14] but as the programme modality was adjusted to address the shortcomings, the drop out was remarkably reduced.

Fig.1. Proportion of KPs who received their result amongst those who tested for HIV (2017)



As of July 2017, community based testing for HIV using Rapid test kits was started as a pilot in the DICs for FSW, MSM and PWUD/PWID in Colombo.

The proportion of KPs who are positive for HIV and receiving ART is difficult to determine as the current monitoring and evaluation (M&E) system does not collect information on KPs receiving ART.

b) Findings

MAJOR SUCCESSES AND ACHIEVEMENTS IDENTIFIED OVER THE PAST FIVE YEARS TO MAINTAIN LOW HIV PREVALENCE AMONG KPs

- There is consensus among stakeholders that the current PE model to reach out to KPs is successful, and that it connects with many marginalized people that previously were isolated and not receiving services. Awareness about HIV/STI has increased as has understanding the routes of transmission. There are improved insights of the correct use of condoms. Engaging in safer sex is a more prominent thought among KP.
- There has been an increase uptake of condoms among all the KPs which are accessed primarily through the peer educator (PE). There has also been a new confidence among KPs to access condoms from pharmacies when required.
- More KPs have come forward to access services despite the adverse legal, social and cultural barriers that strongly persist against specific behaviours. There has also been an expansion in the number of districts where services for all KPs are implemented. However, stakeholders remain aware that large number of KPs nationwide remain uncovered and not engaged with services.
- There is increased confidence among KPs linked with PE services to undergo HIV testing and STI screening. KPs now feel that STD clinic staff, specifically the doctors and nurses, are more sensitive to their needs which was not the case earlier. Currently STD clinic doctors commonly attend meetings and share insights with PE and their clients about sexual health issues. Awareness of where STD clinics can be found and what they offer has increased among KPs.
- Many PE feel some empowerment because of training and education in HIV/STI. Knowledge has compelled them to educate KPs and others in the wider community.

- As of 2016, FSW have formed a network with the assistance of FSW in India and elsewhere in Asia allowing them to voice their concerns.
- MSM are now aware of the importance of using lubricants with condoms. Use of lubricants is more widespread and accepted.
- Accomplishments for TG in the HIV sector have been recent. It is now recognised that they should be treated as a group distinct from MSM. An effort is underway to start a network of TG with a view to building leadership and enhancing connectivity among TG people.
- For PWID there is a greater awareness of the high HIV risks from sharing contaminated needles and syringes used by others. Increased health seeking behaviour among PWID has been identified. PE currently connect peers with the STD clinic.
- Establishment of DICs in Colombo for FSW, MSM and PWUD has been much appreciated. The safe space offered by the DICs is particularly liked by KPs and many who are not registered under the programme visit DICs and learn about HIV and STIs. Community based testing at DICs which commenced in July 2017 is particularly attractive. Following suitability criteria, PE and affiliated staff have been trained and skilled in how to conduct HIV testing. It is planned in the future to expand this service. Community based testing is considered by the majority of KP as a progressive step in the right direction
- For young KPs a network has recently been formed coordinated by Young Out Here which will help develop their leadership. This is however restricted to people between 19-32 years. They have a social media app that has connected with >400 members mainly MSM and TG.
- There is a positive reciprocal relationship between government agencies, specifically NSACP, and the NGO and CBO within the sector that are aligned with KPs. Increased number of stakeholder meetings have been held. The KPs feel that their concerns and issues are listened to, and where appropriate a response is forthcoming to assist and alleviant concerns.

MAJOR CHALLENGES AND BARRIERS IDENTIFIED OVER THE PAST FIVE YEARS

The challenges and barriers identified that affect all KPs can be broadly classified into four heads:

a) Lack of an enabling environment
b) Need for enhanced capacity
c) HIV Testing – escorts
d) Additional factors relating to specific KPs

i) Lack of an enabling environment

- Legal barriers and lack of an enabling environment that criminalizes and imposes punitive measures related to the behaviours of KPs poses a major challenge
- Criminalizing of KP behaviours and societal stigma and discrimination has undermined the sense of community empowerment. Fear of exposure is pervasive. Registration requiring telephone number and residential address is problematic potentially encouraging false information for services
- The political establishment is hesitant to address the human rights perspective of KPs. Most politicians do not endorse necessary policy and legal changes for KPs fearing losing support from their electorate. Support for general HIV prevention, treatment and care exist but sensitive societal and cultural issues are avoided
- Among FSW, fear of being in possession of condoms remains, despite not being a criminal offence. There is resistance to store condoms in a massage parlour, a spa or a brothel as this may be construed as a venue for selling sex which is illegal. Police harassment of FSW at these sites appears widespread, resulting in there being fewer condoms at such sites. Harassment of FSW by the police varies but the fear of the police has not abated. However, compared to earlier years the police are generally less threatening to FSW
- Among MSM while such behaviour is illegal, and seen as a barrier to seeking services, of equal or more challenging for the community is the complete lack of social and cultural acceptance of MSM. Fear of exposure to others in society is widespread. Profound stigma and discrimination towards MSM contributes towards self-stigma resulting in adverse psychological consequences. The hidden MSM community is often considered considerably larger in number compared to those currently accessing services. Affluent MSM have no connection with such services. High coverage of MSM is challenging, that cause gaps in service delivery. This likely contributes towards rising HIV in the MSM community
- Main barriers for TG are stigma, both social and internal. They are subject to violence, drop out of school is common due to verbal and physical harassment. TG can also be discriminated against by MSM, who are uncomfortable with their presence and fear for their own exposure when desiring a secret identity. Many TG suffer from mental health issues such as depression and suicidal ideation
- For PWUD (more so for those using heroin) there is widespread fear of the police who commonly arrest, take them to court, and most get sent to prison or government administrated drug rehabilitation centres. Drug use is found inside the prisons and for those dependent on opiates, selling sex to other prisoners takes place to raise funds for drugs, but condoms are not permitted in such settings. Majority, of PWUD suffer from relapse upon discharge. Accessing services is a deterrent when punitive laws persist. Hostility towards drug users is pervasive. Harm reduction as a public health intervention for PWUD is not well understood

ii) Need for enhanced capacity

- Each PE from all KPs require training and technical capacity building to undertake the task within the time frame they have dedicated to servicing others. Turn-over of staff requires consistent training rounds for new PE recruits from all KPs
- At the national programme level there is a need to expand the human resource development and to build technical capacity of staff focused on KPs

iii) HIV/STI Testing

- Having a HIV test is commonly challenging and more so during the necessary second visit to collect the results for all KPs. Distances, travelling, waiting time and operational hours at STI clinics are structural barriers for HIV testing for some KP. Among FSW and BBs these factors can impact upon loss of income. TG are often deterred by the questions and physical examination conducted at the STD clinics
- Lack of options for STI testing within the DIC is seen by many as a negative aspect of the community based HIV testing where rapid test for only HIV are used. For STI tests KPs need to be accompanied by PEs to STD clinics

iv) Additional factors related to specific KPs

- Community empowerment is closely associated with solidarity of its members and generally appeared to be good among PWUD, FSW and BBs. However, the MSM community appear more divided. The challenge to minimize HIV infections in a fractured community that is currently more at risk than any other group is of concern
- At the DICs space is a major constraint especially for FSW and PWUD where a single room is available for HIV services. There is little privacy for counselling. There is no refrigerator (other than in the MSM DIC) and the ice packs provided cannot be cooled so that the test kits are being kept at room temperature which often exceeds 30^{o}C (which is the maximum temperature acceptable for the kits). Service registers are not streamlined especially for FSW. Many KPs who do not register with PEs come to the DIC for HIV testing – a separate register is maintained for them. Reporting clarity is lacking to the PR as they are not formally registered
- Reaching young KPs under 18 years of age remains a challenge as they are officially absent from targeted efforts to deliver services. For young PWUD, their risks can be greater as they enjoy using the drugs and sexual satisfaction is heightened. Many younger FSW are not getting adequate information about HIV/STI as they are not connected to the PE compared to the older FSW. Many young FSW do not identify with the profession, when receiving money and gifts, and teenage FSW working in spas and massage parlours where delivery of condoms is not permitted, remain at high risk being isolated from services and information. Most stakeholders believed young MSM are more likely to have multiple sexual partners and that the consistent use of condoms is less
- The use of social media and the virtual world of connecting with others has also intruded into the life of KPs. Particularly for FSW and MSM it is a communication tool in which sexual partners can be identified. The central task of the PE for distribution of information and health protecting tools has the potential to be compromised, as their peers reduce visits to traditional hotspots seeking sexual partners in other locations. Some MSM use different social media platforms to meet other MSM which include Facebook, Grindr, WhatsApp and Live Chat
- In Colombo, Galle and Kandy, among MSM there is a culture of group sex parties which are mostly organized through Facebook. At such gatherings several MSM attend a party of drinking, drug use and sex. Condoms are used but lapses are likely
- BB lifestyle revolves around seasons leading to migration to other districts. Linkages to services provided by PE can be severed. Taking a person to a STD clinic for HIV testing can result in a loss of income due to travel distance and time involved. BBs are challenged by the need to visit the STD clinic twice. Among the more affluent BB, connectivity with services is

less. Many BBs maintain a nocturnal life and are not always available or interested to engage with HIV/STI services operating standard office hours

- Common mode of administrating heroin is primarily inhalation. The drug of choice for injecting is still heroin but morphine and methadone powder mixed with water and lime juice has been identified

c) Recommendations

Based on findings recommendations are provided under four broad heads:

i) Enhance access to KPs
ii) Increase testing among KPs
iii) Create an enabling environment for KPs
iv) Other special efforts

i. Enhance access to KPs

- Further strengthen and support the PE model for KPs as there is stakeholder consensus that the current PE model is the most effective intervention to ensure ongoing connectivity and delivery of HIV prevention services for KPs
- Conduct decentralized short and regular training programs (refresher trainings) to build capacity of PE and their supervisors. Such initiatives need to remain regular and relevant to their lives, and that of their peers, disseminating new information and updates. The development of skills to better navigate the routine challenges that confront the daily lives KPs requires technical guidance
- Expand the number of DICs in different provinces and districts as DICs attract more KPs by providing a safe space. Improve existing facilities so that there is more space with some privacy for HIV testing and counselling. Provide small refrigerators so that test kits are properly stored. Make available rapid duo kits for HIV and syphilis
- Promote and increase community empowerment through NGO, CBO, self-help groups and networks to strengthen sustainability and promote connectivity with HIV services. This includes developing their skills in management so that they are able to receive and manage funds
- Continue to treat TG as a group distinct from MSM and increase numbers of TG PEs so that access to TGs is enhanced
- Improve mechanisms to enable public health systems to reach out to KPs more effectively. Enhance capacity of NSACP so that it can work directly with KPs for providing services using the PE model
- Explore and strengthen the utilization of internet, social media and mobile applications to maximize service uptake and promote safe health messages. Innovation and creativity with modes of communication including use of new technology is required to reach out to greater number of KPs, including those that remain hidden
- Give greater emphasis to all young KPs particularly those under 18 years of age as commonly this community is largely omitted from targeted interventions. Issues of sexual behaviours and drug information is mostly not provided, diluted or lacking accuracy. This results in various risk-taking behaviours that may lead to adverse health consequences

ii) Increase testing among KPs

- Scale up HIV testing services and with the introduction of rapid tests ensure that syphilis tests can also be carried out at the same time
- Make available a range of HIV testing options for all KPs through
  - STD clinics
  - mobile clinics
  - community based testing
  - consider self-testing kits using oral fluid (saliva tests). For self-testing kits adequate supportive structures including comprehensive quality counselling, treatment and care services for HIV infected KPs must be easily accessible
- With expanding community based testing, have systems in place to ensure confidentiality
- Increase efforts to reach out to untested KPs rather than prioritizing target settings based on programme design. Streamline all registers so that information on all KPs attending DICs and getting tested is properly recorded and reported. A mechanism should be developed such that KPs who do not formally register are incorporated in the service delivery package by building in flexibilities to enrolling KPs
- Build capacity of NGOs and CBOs with HIV testing services in different districts and locations to address diverse KPs needs
- Document meticulously the experience of the pilot of community based testing so that it can provide the basis for planning for expansion

iii) Create an enabling environment for KPs

- Enhance efforts to reduce stigma and discrimination against KPs. The current legal environment remains highly punitive towards KPs, but equally oppressive are the societal and cultural norms that reject and judge such behaviours. Sensitivity and advocacy efforts are an ongoing requirement to better understand KPs and to ensure and secure their health, safety and human rights. Attempts to reduce police harassment towards PWUD, FSW, and MSM, can be facilitated by improved sensitization programs
- Attempt to reduce the societal stigma towards KPs by enhancing efforts to feature minority community issues in various educational curriculums such as in social work, counselling courses, law enforcement, medical and nursing texts as well as in appropriate areas of rural development. The wider community need to be better informed about KPs so as to propel a sense of sensitivity and empathy towards these communities
- Strengthen community empowerment and foster a sense of belonging among KPs. The development and guidance for the establishment of networks are required for PWUD, MSM, TG and FSW. Networks for BBs are also required but will need to take into consideration that issues such as discretion and protection of identity may be of greater importance for them
- Support multi-sector collaborations to protect, assist and foster greater understanding of KP lives, that will also promote dignity and sense of unity for all citizens. Some sectors that need encouragement for more open dialogue on KPs issue include labour, education, legal, tourism, and broader health, as well as the human rights commission
- Place trained counsellors/psychologists in government STD clinics who can provide psychological support to KPs and PLHIV to overcome internal stigma. Further sensitise staff in STD clinics to issues related to their sexuality as well as NGO staff
- Devise ways such that people younger than <18 years can be reached by conducting advocacy with policy makers and law enforcement and by sensitising society at large on

issues related to sexual and reproductive health. School education of talking about sex, sexuality and KPs is largely absent, which fosters misunderstanding, prejudice and non-acceptance of those not abiding by societal norms

iv) Other special efforts

- Consider making available post exposure prophylaxis (PEP) for KPs
- Consider a pilot programme on opioid substitution therapy (OST) for implementation Despite the low prevalence of injecting drugs, inhalation of heroin use is prevalent among the drug using community. Increased awareness of the elements of harm reduction amongst all in Sri Lanka is required
- Introduce the concept of pre-exposure prophylaxis (PreP) among MSM and consider introducing a pilot study to assess its viability
- Provide alternative livelihoods and vocational training for PWUD (specifically for those discharged from rehabilitation centres) and FSW to ensure economic sustainability
- Provide assistance to those PE that are experiencing difficulties to secure a National Identity Card, which is mandatory to establish a bank account. Without a bank account payment cannot proceed and consequently appropriate and best suited PE cannot be recruited
- Secure financial sustainability of current efforts by exploring alternative domestic and international funding options
- Improve communication to explain M&E needs to community members of KPs and sensitize M&E personnel to issues of KPs as many KPs are intimidated by the verification process undertaken by interventions programmes

3.1.2 SD 1.2. Prevention of Transmission of HIV Among Vulnerable Groups

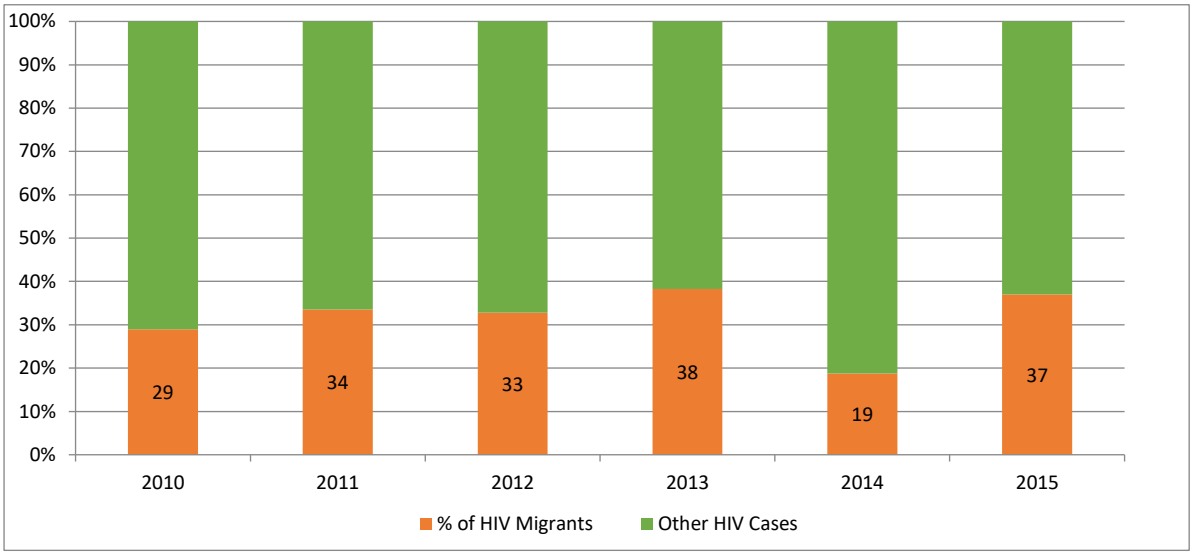
The population groups included here are migrant populations, prisoners, armed forces, and police personnel and tourist industry workers. In this section each vulnerable population group is described separately with a summary of the literature review and findings on achievements, gaps and barriers with recommendations. The methodology followed was similar as for KPs. However, the review among the tourist industry workers was restricted to a literature review [1, 15] and discussions with focal persons at NSACP.

3.1.2.I. Migrant populations

A) SUMMARY OF THE CURRENT SITUATION

Migrants who return home from work abroad mainly from the Middle East comprise a significant proportion of reported HIV cases [1] which is the similar to countries in the region such as Bangladesh and Pakistan [16, 17]. A steady rise in HIV cases has also been observed among both males and females who had a history of external migration during the past few years. Fig.2 shows the percentages (Preventive Need of Revision of the Curriculum for Prevention of HIV among Female External Migrant Workers [18].

Fig.2. Percentage of total HIV infected persons by history of external migration during five years up to 2015



The Sri Lanka Bureau of Foreign Employment (SLBFE) was established in 1985 under the Sri Lanka Bureau of Foreign Employment Act No.21. This Act was a response to the increasing levels of migration to the countries in the Middle East and the reported large scale exploitation, malpractices and to welfare protection of workers. The SLFEB provides pre-departure education to first time bound migrants. Structured skill development training programme based on a training module was started from 2006 with help of NSACP and later was internalized to SLBFE. In 2016, preventive assessment was done and training was restructured and the module revised addressing new challenges. The participatory based Training of Trainer (ToT) on HIV prevention curriculum for migrants was conducted for women and men using a training module and the provision of IEC materials in three languages. Increased efforts to expand pre-departure prevention were recommended [15].

b) Findings

MAJOR SUCCESSES AND ACHIEVEMENTS IDENTIFIED OVER THE PAST FIVE YEARS

- Within the 21-day training program for migrants leaving to work overseas, 16 hours of training is dedicated to HIV prevention which is delivered at all 19 centres around the country. At the training spouses and parents are also invited to attend for one day. In addition to the two-day training, a separate two-hour session is conducted by an STD clinic doctor explaining HIV, reproductive health and STI.
- Sexual health, drug use and MSM and various risk behaviours with explanation of transmission mode are discussed. Condom demonstrations are also conducted
- Materials were developed by NSACP in collaboration with SFLBE and curriculum was updated in 2016
- For females, there are special classes with focus on overcoming sexual challenges with negotiating skills and empowerment conducted by female staff of the centres
- Students are made aware of HIV/STI issues, and for the first time many are receiving information, experience and open dialogue about sensitive topics with an opportunity to discuss and ask questions

- Commitment by policy makers is strong and the topic is not considered too sensitive that it cannot be imparted

MAJOR CHALLENGES AND BARRIERS IDENTIFIED OVER THE PAST FIVE YEARS

- Trainees of different social class and attitudes attend the same training sessions. It has been identified that those of Muslim faith can be more sensitive towards topics on sexual relations. Some participants are disturbed and offended with the information
- There are no services available targeted to returnee migrants and this is challenging
- Trainers are evaluated at the end of the ToT but thereafter there are no further evaluation of the trainers
- Although STD clinics are well known many fear attending due to social stigma.

c) Recommendations

- Provide ongoing training and refresher trainings to trainers who are attached to Migrant Training Centres. Trainees need annual evaluations for uptake of knowledge.
- Update IEC packages to comprise of more short film documentaries, that have been vetted by NSACP
- Explore new strategies for effective approaches to encourage voluntary testing for returning migrants. Greater emphasis in IEC materials should be provided on this issue. Introduce self-testing kits sold at specific local pharmacies (once they become available)
- Some community groups require more sensitive handling such as those of the Muslim faith. Longer and separate training sessions may be required for such groups

3.1.2.II. Prisoners

a) Summary of the current situation

HIV prevention activities in prisons include advocacy, skill building sessions for welfare officers and medical staff on sexual health promotion and training of prison inmates as PEs who take a leadership role to prevent HIV/AIDS with IEC. HIV testing among prisoners using 30 mobile clinics visiting prisons each month has been conducted since 2012. The number of inmates undergoing HIV testing in 2014, 2015 and 2016 were 13,803, 11,382 and 12,776 respectively [1, 19, 20] and the sero-positivity rate was between 0.03 and 0.05%.

PE have provided peer education to 21,800 fellow inmates during 2014 [20], increasing to 24,037 fellow inmates in 2015. In 2015, a total of 30 PE training programs were conducted and each training consisted of 40 peers [20]. In 2016, there was on average, 19,108 prisoners occupying the prisons in Sri Lanka per day. Drug offenders consisted of 44% of the convicted prisoner admissions. All rehabilitation officers and counsellors (N= 130) in prison setup were given three days training with the use of revised training module on sexual health promotion for prisoners. NSACP developed a Prison HIV Prevention, Treatment and Care Policy in 2016 [21]. At present condoms are not distributed inside the prisons. Although the new policy does not specify its availability it mentions that all preventive measures that are available for the general population (outside prisons) should be made available and accessible inside prisons. However, the policy does recommend harm reduction programmes for PWID in prisons as the country has not yet adopted it as a policy. The midterm review (MTR) of the NSP 2013-2017 [15] reported inability to keep up with the demand for HIV testing in prisons, inability to provide test results in a timely manner and insecure funding for activities going forward at the time.

b) Findings

MAJOR SUCCESSES AND ACHIEVEMENTS IDENTIFIED OVER THE PAST FIVE YEARS

- Training has been conducted with 152 rehabilitation officers in the prisons using the updated training module. Once trained they train peer leaders in 30 prisons. Training is conducted three times per year and operates smoothly.
- Prisoners are trained on same sex behaviours, the risks and modes of HIV transmission and highlights the need to use condom upon release. There is increased knowledge of STI and its signs and symptoms as well as about HIV transmission, and importance of condoms. Screening of condom demonstrations always happen inside prisons.
- HIV blood testing in prison is conducted by outreach STD clinics. HIV testing is voluntary, with rise in number of HIV/STI testing over the years.
- Cooperation with the NSACP is good, quarterly meetings are held, considerable support to the needs of prisoners is offered. On each World AIDS Day prisons participate in street walks in various locations
- Preparation of HIV Treatment and Care Policy for Prisons between MoH and Prisons Reform is underway. Focus is on human rights, respect about HIV inside prisons, development of good public health environment, equal health for prisoners [21]. The policy will soon be presented to the Cabinet for approval

MAJOR CHALLENGES AND BARRIERS IDENTIFIED OVER THE PAST FIVE YEARS

- There are a large number of convicted prisoners and those under remand. The numbers of staff and HIV testing kits are inadequate as is the frequency of testing.
- Peripheral STD clinics can have transport challenges as they are not located near the prisons.
- PE, selected from among the prisoners often change as they are released from prison. More need training with appropriate replacement
- Drugs are used in prisons but the drug prevention and HIV programmes are conducted separately
- All prisoners are not open to PEs and resist HIV testing.
- There is no multi- media equipment in prisons so that training is unable to utilise alternative media such as film
- Condoms are not allowed inside prisons and the new policy also does not state this although it is recognised that sex is taking place inside prisons.

c) Recommendations

- Support the development of innovative IEC materials and approaches to inform prisoners of HIV issues, expanding the use of films (more animation), simplified reading material as graphic like comic books, and ensuring the materials remain updated and vetted by NSACP. A comprehensive multi-media IEC training package could be compiled and shared between multiple prisons as an educational travelling road show. The nexus of drug use, sexual behaviours and risk taking should be given greater emphasis within the training package.
- Support ongoing training and refresher trainings for rehabilitation officers and PEs in the prisons.
- Advocate for the implementation of a condom program to be piloted inside selected prisons to assess viability as all prisons globally that have implemented condom programmes to date have not reversed their policies.

- Increase the HIV testing frequency. Once a month HIV testing is insufficient. Develop a clinic inside the prison where staff could conduct HIV tests. Train health clinic staff in HIV testing.

3.1.2. III. Armed Forces and Police Personnel

A) SUMMARY OF THE CURRENT SITUATION

Since 2013 training has been conducted to achieve behaviour change to improve knowledge and safe sexual practices among the armed forces, and to promote HIV testing among them. A 3-day training program was implemented for ToT. In 2014, 90-Armed Force personnel were recruited as ToT [19], increasing to 167 trained in 2016 [1].

From 2010, NSACP implemented skill building and awareness programmes for police officers. A key component was to improve knowledge and attitudes with regard to HIV/AIDS prevention among police offices; develop positive attitudes toward condoms as a medical device and; improve harassment-free law enforcement practices for sex workers. Between 2012-2014 around 260 participants attended for each 3-day program. One-day advocacy program for senior police enrolled 260 participants in 2014. A booklet "Laws concerning sex work in Sri Lanka and HIV/AIDS prevention" was distributed among officers of the police department over the last few years [19].

In 2015, it was reported that law enforcement officers had sound knowledge on vagrant's ordinance and knew that the condom is not an illegal item according to the vagrant's ordinance. It was observed that they had a clear understanding that keeping condoms by sex workers is not an offence [20].

In 2016, an advocacy programme for high ranking police officers in Colombo district was conducted: 110 police officers participated. Three work shops were conducted to train police officers for prevention of HIV among sex workers.

b) Findings

Major successes and achievements identified over the past five years

- 20,000 armed forces members are educated on HIV issues each year and annually 40 ToT with 120 people are specifically trained on HIV. Condom demonstration is conducted, routes of HIV transmission is understood. Discussion about KPs such as sex workers, MSM and drug injecting are raised.
- HIV testing is carried out by the armed forces medical team and not the STD clinics. Very low HIV prevalence has been identified.
- Police have a very good relationship with the NSACP, are routinely invited to steering committee meetings and are updated on the HIV situation.
- Earlier the use of condoms was a sign it may be a tool for prostitution. The police no longer make an arrest just based on suspicion. Possession of a condom by a woman will not lead to arrest.
- Violations of the rights of sex workers has decreased substantially
- Training curriculum developed between police and NSACP outlined various laws that apply to FSW, and education is provided about MSM, PWID, TG and all issues associated with lesbian, gay, bisexual and transgender (LGBT). Sensitization about KPs is part of the training.
- Awareness about HIV/STIs has increased among the armed forces and the police

Major challenges and barriers identified over the past five years

- Armed forces do not buy their own condoms to supply to their personnel and it is also not provided by NSACP. They get condoms from the Family Health Bureau (FHB), MoH. This creates funding challenge as armed forces have other priorities. Support from NSACP has declined over the years and advocacy from the NSACP is lacking to raise the issues among armed forces where HIV is not a strong agenda. Generally political commitment at high levels is not strong on HIV issues for armed forces.
- Traditional HIV testing is conducted but rapid testing is preferred option.
- Police are under pressure by the wider community who request the arrest of KP members primarily FSW and PWUD
- Police are bound to uphold outdated laws which do not take into consideration the human rights perspective of the 21st century.
- Stakeholder cooperation can be a challenge when line ministries are not always uniform in understanding the issues for the best way forward
- Discretionary laws in Sri Lanka for the police do not exist. If a person breaks the law there is no warning given to the offender and they must be arrested. However, if a person commits a minor traffic offence police often ignore

c) Recommendations

- Advocate for enhancing engagement of the armed forces in HIV training and testing. NSACP needs to advocate and be more engaged with the armed forces targeting high ranking officials to ensure HIV still remains a priority issue. NSACP can assist to sustain the interventions and highlight the availability of rapid testing for HIV, and ensure flows of condoms do not become disrupted by allocating funds from the armed forces
- Consider gradually phasing out armed forces from among the vulnerable population group and concentrate efforts on UN peacekeepers for HIV prevention and testing activities.
- Ensure routine reporting of all test results to NSACP
- Review educational training package by NSACP to examine for gaps, inclusion of updated information, include more insights of KPs, and ensure information remains relevant for target audience
- Support further expansion of training programme for the police as the majority have not received training on understanding HIV issues in general, and how it adversely impacts upon the lives of KPs
- Advocate with high level political and legal bodies and personnel to further review and repeal antiquated laws that discourage an enabling and safe environment for all KPs. Ultimately the decriminalization of behaviours such as drug use/ injecting, sex work, same-sex activity and non-conforming gender identities (TG people) will be required to achieve elimination of HIV by 2025.
- Sensitize police to be more flexible in their decision-making and employ different actions depending on the circumstances and nature or gravity of the offence. This will assist to minimize HIV risk behaviours and encourage access to services that have been designed specifically for KPs.

3.1.2. IV. Tourist Industry Workers

The intervention for HIV/STIs amongst the tourism sector was formally started in 2016 prior to which there were *ad hoc* programmes. The tourism sector is vast and managed by different

authorities including the hotel sector, tourist guide associations, tourist training institutes, etc. NSACP developed communication materials for the tourist sector and distributed those in different hotels (e.g. stickers, posters, folders, booklets). In 2016, NSACP conducted a preventive need assessment among new recruits into this sector who were mainly young people and who were attending the tourist training institutes managed by the Sri Lanka Tourism Development Authority. A curriculum was developed based on that assessment for all students and a ToT has been completed. The trainers are requesting for more communication materials which is in the process of being developed.

In addition, NSACP has also conducted a small scale preventive need assessment among tourist guides, data from which is presently being analysed. These assessments follow the recommendations provided by the MTR of the NSP 2013-2017.

3.1.3. SD 1.2. Prevention of Transmission of HIV Among General Population Including Young People

Under the general population the review restricted itself to young people and to a single source of information based on Youth Corp. The methodology applied was similar to the other groups described before.

a) Summary of the current situation

Detection of HIV among young persons (15-24 years) has seen a slow but increasing rise since 2003 but numbers fell in 2016 when 20 cases were detected [1]. A Youth Steering Committee for HIV Prevention was established under the guidance of the Secretary of Health at the National AIDS Committee (NAC) and a series of training programmes were conducted in 2014. After the trainings, all trainers implemented HIV/STIs programmes in their local areas using various methods [19]. A variety of IEC materials have been developed for medical officers attached to STD clinics in 2015, and there has been a series of IEC activities conducted for youth, children, universities, factory workers through various forums. In 2016, training was conducted for Youth Parliamentarians, Youth Corp and Youth Council Officers. NSACP, in partnership with other organizations have been developing IEC materials and advocacy programmes around Sri Lanka for young people. They have been involved in World AIDS Day events in several locations around the country.

b) Findings

The findings on achievements and barriers are based on discussions with members of Youth Corp.

MAJOR SUCCESSES AND ACHIEVEMENTS IDENTIFIED OVER THE PAST FIVE YEARS

- Youth Corp was established in 2013 with a focus on providing vocational training to young people (16-28 years). The training activities are conducted in a formal setting in 50 sites in the country and will expand to 75 sites. Approximately 300 students enrol every 6 months at each centre (but numbers will vary among the sites) and HIV training is conducted over three days. Majority of students are aged 16-20 years. Youth Corp is under the direct control of the Prime Minister and is well funded.
- After training students are more confident to share HIV/STI information with their peers even to those not enrolled with Youth Corp

- Earlier demonstrations of condoms raised much concerns and complaints. Currently there are no complaints due to sensitization and normalization of the training
- Earlier students feared visiting STD clinics. Following HIV training confidence has increased and more students approach STD clinics for HIV/STI testing. STD clinics are seen more positively as a doctor from the clinic is a trainer. At one Youth Corp centre in 2017, after the training up to 70% of students within a 6-month period, had HIV/STI test. At the same site doctor brought 100 HIV Rapid test kits and all were utilised by the students.
- Stigma amongst the trainees appears to have declined as one student who was HIV positive did not face any barrier in continuing his studies
- Following training the students are better informed about issues relating to LGBT – the terminologies used, their rights and issues of discrimination. Education about KPs is provided. Discussion about the use of condom and lubricants (for MSM) is conducted in the training.
- There is at present no resistance from the parents but in the beginning, there were social and cultural barriers but this has been overcome
  Collaborations between the government agencies and the Youth Corp is good. NSACP and Provincial AIDS Committees (PACs) share updates and materials about trends in the country and the district when available

MAJOR CHALLENGES AND BARRIERS IDENTIFIED OVER THE PAST FIVE YEARS

- Training for additional trainers is required and it is a challenge to meet the demand. No refresher trainings have been conducted since the training commenced in 2013.
- More HIV test kits are required. Annually 15,000 students enrol into Youth Corp, and in 2018 this will rise to 25,000.
- Visiting a STD clinic in some rural areas may be associated with stigma
- There are no counsellors to address more complex issues for students
- With expansion to 25 sites and many in rural areas challenges may arise with conservative thinking by some religious groups such as those of the Muslim faith. A strategy will be required to address more sensitive issues

b) Recommendations

- Encourage and expand the model of Youth Corp to other institutions, organisations (e.g. youth clubs) and agencies that are working with young people. The educational training module currently implemented by Youth Corp is reaching out to a generation of youth that previously received minimal HIV/STI education. This training is now widely accepted in the general community. Such a model sets a healthy precedent and should be encouraged to be expanded to all institutions and agencies that are servicing young people
- Replicate lessons learnt from the Youth Corp to other sites in the country
- Ensure adequate and up to date training and refresher training for trainers
- Provide more testing kits to meet the demand for HIV testing
- Identify outstanding students who could act as peers and help mobilize to raise the awareness efforts on HIV/STI the issues
- Develop phone apps on HIV/STI in collaboration between NSACP, Ministry of Youth, Ministry of Health, and the Ministry of National Policy and Economic Affairs

- Conduct a national adolescent and young people Sexual and Reproductive Health (SRH) survey

3.1.4. SD1.4. Elimination of Mother to Child Transmission of HIV (EMTCT) and Congenital Syphilis

To understand the progress on EMTCT and elimination of congenital syphilis in Sri Lanka triangulation of information was carried out from literature review, insights gained through interviews with key individuals including a HIV positive woman who had undergone delivery and through site visits. Data were also checked at different sites for clarity. Based on these activities the achievement, gaps and barriers were identified. The tools used during interviews are provided in Annexure 5.

a) Summary of the current situation

Sri Lanka is aiming for the elimination of mother to child transmission of HIV and syphilis (EMTCT) and has so far achieved satisfactory impact indicators but there is still the need to reach the process targets for the validation of EMTCT and syphilis in the country. So far Thailand is the only country in the region [22] which has achieved EMTCT and Sri Lanka could be the second country in the region.

Sri Lanka has a very low prevalence of HIV among pregnant women, around 0.01%. There was an estimated 3,93,447 pregnant women in 2016 and out of this 361089 (92%) were registered for antenatal care (ANC) in government hospitals (data from FHB). The remaining 8% pregnant women availed ANC in the private sector but their HIV testing information is currently not available.

According to the data on live births in 2016 from FHB, 99.9% antenatal women had a VDRL test done and 89.6% were tested for HIV. The MTR of the NSP [15] had recommended making available HTS at ANC clinics which has so far not been established but needs urgent attention in order to reach the 95% coverage of pregnant women. There were 16, 15 and 7 pregnant women who were detected as HIV positive in 2015, 2016 and 2017 (up to June 2017) respectively and the average time of detection was at around 11-16 weeks of pregnancy.

The guidelines for prevention of transmission from mother to child (PMTCT) [23] have been revised over the years and option B Plus was introduced in 2014 and is practiced across the country. A number of initiatives have been undertaken to generate awareness among healthcare providers and educate pregnant women [1]. The PMTCT 2016 guidelines recommend testing viral load (VL) every trimester till it becomes undetectable but if the VL is unknown or it is >100,000 copies /ml the guidelines recommend adding a fourth ARV drug such as raltegravir. As per Guidelines all pregnant women detected positive are initiated on ART with a single pill of fixed dose combination (FDC) of tenofovir plus emtricitabine plus efavirenz and undergo VL test at 4 weeks after starting ART and at 36 weeks. However, at one visit site it was informed that they perform VL test every month till VL becomes undetectable (<50 copies). VL is then repeated at 36 weeks of pregnancy.

The PMTCT guidelines [23] recommend normal vaginal delivery if VL is undetectable and caesarean section is recommended only if there is an indication. However, most women undergo elective caesarean section. This was justified by the reasoning that an elective caesarean section makes it easier to start the infants on syrup nevirapine soon after delivery and to collect dried blood spots (DBS) for Early Infant Diagnosis (EID).

Though the guidelines state that antenatal women are counselled for choice of infant feeding, all babies get replacement feeding for one year using infant formula food to prevent HIV transmission through breast milk. The infant formula is provided by AIDS Foundation. Some health care providers fear that adherence to ART may decline post-delivery in which case HIV may be transmitted to the infant through breast milk. However, it is recommended that pregnant women should be counselled on advantages and disadvantages of both breastfeeding and formula feeding.

EID facilities are not available in the country and DBS are sent to National AIDS Research Institute (NARI), India. Testing is done at birth for RNA and 8 weeks and 16 weeks for DNA. The turnaround time for receiving the results is 3 weeks on an average. One infant was found positive in 2015. There were 16 HIV exposed infants in 2016 all of whom received prophylactic syrup nevirapine for 6 weeks, all were tested for HIV and none was found to be positive.

Almost 99% of the pregnant women underwent VDRL testing. There were 77 pregnant women diagnosed with syphilis and they were provided adequate treatment before 36 weeks of pregnancy [1]. Congenital syphilis was reported in 11 cases during 2016 and of these 9 had early congenital syphilis [1].

b) Findings

Major successes and achievements identified over the past five years

- HIV testing rates among pregnant women is high at 94.7% among pregnant women registered in 2016. Out of live births 89.6% were tested for HIV
- 92% are registered in government ANC clinics and only 8% attend private sector facilities
- All HIV exposed infants undergo EID and none were found to be HIV positive in 2016
- Impact targets for EMCT have been met and most process indicators are close to achieving the targets

Major challenges and barriers identified over the past five years

- There is loss of pregnant women between registering in government ANC clinics and being tested for HIV as 92% of pregnant women were registered but only 89% were tested for HIV as per data from live births. Country wide testing of HIV for pregnant women was rolled out in 2016
- Information on pregnant women attending private sector facilities is not captured anywhere. Although only 8% attend private facilities but including their information into the national database is pertinent for achieving EMTCT.
- Facilities for EID are not available in the country and DBS are sent to NARI, Pune, India. This is time consuming and a lost opportunity for in-country capacity building
- Guidelines state that pregnant women are offered infant feeding choices but all women chose the formula feeding option for their infants. The advantages of breast feeding are offset against the fear of possible HIV transmission through breast milk and needs more counselling

c) Recommendations

- Make available HIV testing services at all antenatal clinic sites so that the coverage of HIV testing can be increased

- Collect data from the private sector on all pregnant women testing and delivering in that sector. This will allow comprehensive assessment of PMTCT in Sri Lanka which will be required for the validation of the EMTCT process
- Make available facilities for EID using DNA PCR in the country. This will prevent delays in diagnosis and also build in-country capacity.
- Enhance the process target for EMTCT so that the validation process can be initiated.

3.1.5. SD1.5. Prevention of Transmission Through Infected Blood

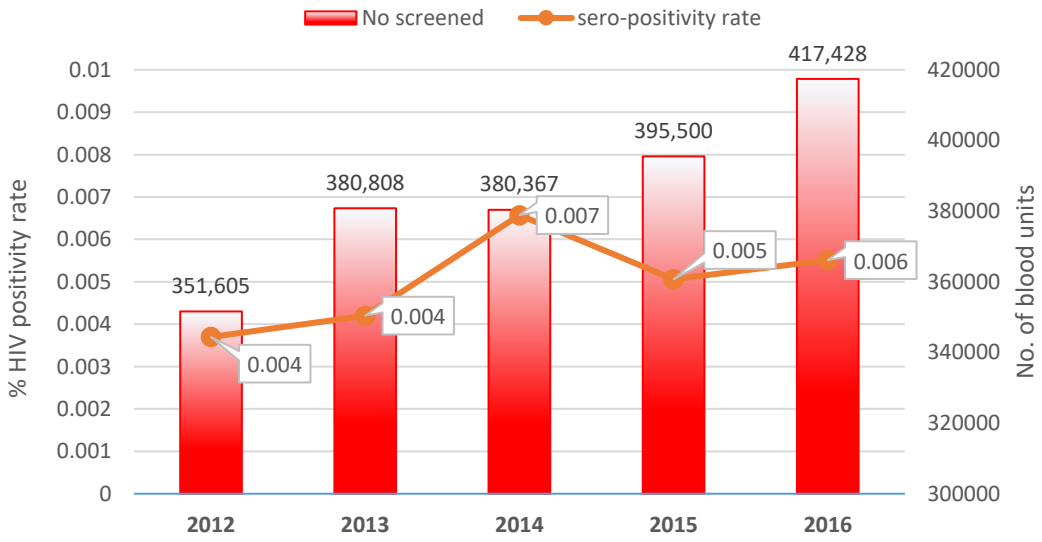
As for earlier sections, assessment of SD 1.5 used similar methodologies of literature review, interviews with key individuals and site visits with observations of laboratory files. At the laboratory, laboratory records including SOPs for tests were reviewed. The tool used for laboratory assessment is provided in Annexe 6.

a) Summary of the blood transfusion services

The National Blood Transfusion Service (NBTS) under the MoH, Sri Lanka is the sole supplier of blood and blood products to all state hospitals and some private hospitals registered under the NBTS for supply of blood and blood products. Currently, it supplies blood/blood products to 100 blood banks distributed in 19 clusters. All blood donations are from volunteer and non-remunerated donors. In 2016, over 400,000 blood units were screened for HIV and other blood borne infections.

Recommended tests to prevent transfusion transmitted infections (HIV, syphilis, HBV and HCV) are done on all donor units using latest testing methods. All identified as HIV positive in the screening test are confirmed at the National Reference Laboratory (NRL) of NSACP. The rate of confirmed HIV seropositivity in blood donors is low (Fig. 3) **[1]** and in 2016, 23 new confirmed cases of HIV were diagnosed in blood donors [1].

Fig. 3. Trend of confirmed sero-positivity (%) in donated blood (2012-2016)



Post-exposure prophylaxis (PEP) is available for all health care workers (HCWs) as elaborated in the National HIV testing Guidelines (2016) [24]. A circular has been issued by the Department of Health

Services to Provincial Directors of Health Services, Deputy Provincial Directors of Health Services, Directors of Teaching Hospitals, Heads of Specialized Campaigns, Heads of Government Medical Institutions and Heads of each Institution which outlines recommendations for post exposure management. The mechanism for PEP is clearly outlined and includes information on immediate management of wounds, who to consult, availability of starter packs, taking consent for PEP and follow up of HCWs on PEP.

All categories of staff have been vaccinated against HBV.

b) Findings

Major successes and achievements identified over the past five years

- Over 400,000 blood units are collected per year of which 100% are voluntary and non-remunerated
- At the NBTS, almost 100% of blood units are separated into components
- Nucleic acid tests are also done for each donor unit at the National Blood Centre of the NBTS for ultra- sensitive screening of blood products for all three blood borne viruses. This reduces the serological window period of detection. HIV serology screening test positives are sent to NRL for confirmation using Western Blot which only serves to centrally test and record all positives in the country
- The NBTS is accredited by the Sri Lankan Accreditation Board and takes part in External Quality Assurance Schemes (EQAS) with the United Kingdom and Australia
- It has received the International Society of Blood Transfusion award among developing countries for “best transfusion service”
- PEP is available for all HCWs after blood borne exposure
- All cadres of staff have been vaccinated for HBV

Major challenges and barriers identified over the past five years

- Not all the all the blood banks of private hospitals in Sri Lanka are registered with the NBTS, they collect and test blood and blood units using their own systems. Information from these blood banks are therefore not available
- No instructions of steps of PEP are displayed in clinics and labs.
- Post-vaccination titres for HBV of the staff are not available for staff at each HIV/STI laboratory

c) Recommendations

- Register all blood banks in the private sector with the NBTS
- Further strengthen and sustain stringent screening practises among blood donors. Good screening practises have to be sustained to prevent any transmission of HIV through blood units. In 2016, they had 23 blood donors confirmed HIV positive. If good screening was not in place, these units could have been issued and caused blood transfusion related HIV transmission
- Ensure adequate training in PEP. Ensure steps of PEP are displayed in every clinic and laboratory
- Maintain HBV Post-Vaccination titres of each HCW at each centre

3.1.6. SD1.6. Maintain Quality and Coverage of STI services

Although this strategic direction is dedicated to STIs, in this review this section will cover HIV testing services as well as the two are usually performed in the same laboratories under the same conditions. The methodology used to review these services was the same as outlined in section 3.1.5. The tool for laboratory assessment is also the same and is provided in Annexe 6.

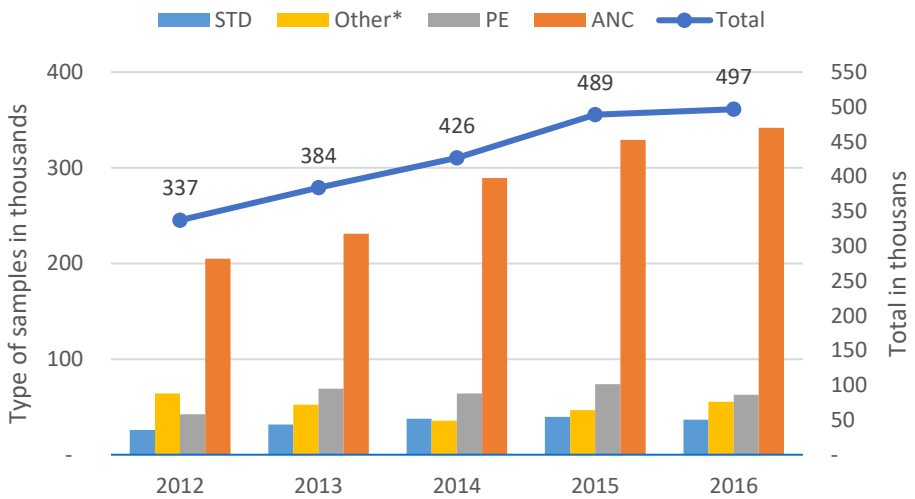
a) Summary of the HIV and STI testing services

HIV testing is available as Provider Initiated and Client Initiated services at the NSACP and in the peripheral laboratories. HIV screening tests are routinely offered by health care providers to all persons seeking care in the government health care settings for STIs, TB and pregnant women attending ANC services. Client initiated HIV testing can be accessed at government STD clinics (free of charge) or in the private sector health facilities. Community level HIV testing (using rapid tests) is being done for PWUD, MSM and FSW (see section 3.1.1.b) and is also promoted for other groups: vulnerable populations, people living in difficult geographical areas, people who find it difficult to attend services during working hours and on World AIDS day and for exhibitions. HIV testing by outreach in the STD clinics increased over the first quarter and the second quarter in 2017 (HIV Testing and Counselling 2017 [1st and 2nd Quarters]-Key population).

Confirmation of HIV screening tests (fourth generation ELISA and Rapid tests) is done at the NRL by Western Blot. Additionally, the NRL performs HIV RNA titres for determination of VL, and sends DBS from infants born from HIV positive mothers to NARI, India (see section 3.1.4.a). Plasma samples for drug resistance testing are also sent to NARI, India. Diagnosis of OIs such as cytomegalovirus, Toxoplasma is done at the Medical Research Institute (MRI). HBV and HCV testing is done for HIV positive individuals.

For STIs, diagnosis and management is aetiological rather than syndromic. A total of 21,973 new patients had received services from the NSACP during 2016 while a total of 65,820 clinic visits were made by all STD attendees. Among them 9,129 STI diagnoses were made. Syphilis testing increased significantly over the last five years among the different population groups (Fig. 4) [1].

Fig. 4. Numbers and categories of persons screened for syphilis



The peripheral laboratories provide syphilis testing (dark ground microscopy, VDRL and TPPA), gonococcal testing (Gram stained smear with or without culture; laboratories send swabs in Amies Transport medium if they do not have facilities for culture), herpes simplex testing (Tzanck smear) Trichomonous vaginalis (wet smears), Gardneralla vaginalis (Clue cells) and sometimes Papanicalou smears (cytology). Some peripheral clinics forward specimens in the Qiagen transport medium for Chlamydia trachomatis PCR. The NRL performs all the STI tests but additionally performs antimicrobial susceptibility testing for gonococci, IgM antibody testing by ELISA for syphilis and is in the process of standardizing PCR for Chlamydia trachomatis and Herpes simplex.

Assessment of the quality of laboratory services showed constraints in space and human resources. The peripheral laboratories are manned by a single or part-time Medical Laboratory Technologist (MLT) and a Public Health Laboratory Technologist (PHLT) who have specific job descriptions. Supply of Rapid kits (Alere Combo/Alere Determine) is inadequate. Space is a constraint to performing testing in some peripheral laboratories. Biomedical waste disposal is unsupervised.

The NRL is working towards accreditation and many quality processes are being introduced such as streamlining of documentation and records, maintenance of inventory and stocks registers with forecasting, induction training of new recruits, use of external quality control in each assay, instructions for specimen collection, preparation of standard operating procedures (SOPs) and calibration of some equipment. The NRL participates in external quality assurance schemes (EQAS) for HIV serology (Australia), CD4 estimation (Thailand), syphilis serology (USA) and gonococcal antimicrobial resistance (Australia). Within the Testing network in Sri Lanka, the NRL sends EQAS packages for HIV and syphilis serology twice a year to the peripheral STI laboratories. Smears for microscopy are also sent out twice a year. All positives and 20% of all negative samples are sent from the peripheral laboratories for verification at the NRL.

At present the reporting formats for STI services at all levels are not computerised and are available only as hard copies.

b) Findings

Major successes and achievements identified over the past five years

- HIV testing by outreach in the STD clinics has increased in 2017 and syphilis testing has increased significantly over the last five years
- The NRL has a CD4 machine that has the capacity to measure both absolute counts as well as percentages. Two more machines are available in Kandy and Galle. VL tests are currently being done regularly. Three GeneXpert machines have been procured for expansion of VL monitoring and are placed in the NRL, Galle and Anuradhapura.
- Standardization of chlamydia and herpes simplex PCRs is underway.
- The National HIV testing guidelines for 2016 is available and are currently under further revision.
- The NRL is working towards accreditation of the laboratory. Documentation of supplies and inventory, forecasting of supplies is mostly in place. SOPs for all assays have been prepared. The laboratory participates in four EQAS schemes. The NRL currently provides EQAS services to 26 laboratories in the peripheral STI clinics.
- Floor plans for space expansion have been prepared
- Reporting formats for STI services at all levels are not computerised

Major challenges and barriers identified over the past five years

- Turnaround times of confirming an HIV infection are long and need to be drastically reduced and recommendation to revisit the HIV testing algorithm is provided in section 3.2.1.a (fig. 6).
- The staffing in the peripheral clinics and in the NRL is inadequate for the throughput of tests being done.
- Space is limited at the NRL and some of the peripheral laboratories. Designated Class 1 work-stations to prepare culture media in laboratories are not available.
- Cefixime antimicrobial susceptibility profiles for *Neisseria gonorrhoea* are still being developed. This it is the first line antimicrobial being used for gonococcal infections in adults in Sri Lanka.
- Three GeneXpert machines that have been made available at NRL, Galle and Anuradhapura have not been commissioned for routine HIV RNA load estimation due to lack of reagents. The NRL currently estimates RNA VL using the Roche Cobas Taqman platform and without functioning of the GeneXpert, there is an absence of back-up for VL measurements.
- CD4 estimations are currently done at the NRL. There are two BD FACS Prestos installed in Kandy and Galle but neither are currently in use due to lack of supply of reagents.
- In the peripheral laboratory in Ragama, there was a shortage of Rapid kits (Alere Determine) (A2).
- There are considerable delays with procurement of PCR kits due to pool procurement processes and interruption in VL estimation services have occurred. Currently requirement needs to be forecasted two years ahead of the anticipated need.
- Safety practises and bio-medical waste management was insufficient. Technologists were in the practise of consuming food and beverage in the laboratory. Sharps were being discarded in red plastic bag in a red bin. In the clinic it was mostly collected in a cardboard box. Puncture proof (yellow with red stripes) bins with capacity to decontaminate sharps with bleach solution at source were not seen
- Regular temperature logs of refrigerators, walk-in coolers and freezers were not maintained.
- HIV RNA viral load estimation is not currently in an EQAS scheme
- Computerise STI reporting

c) Recommendations

- Reduce turnaround times to confirming HIV infection. Suggested algorithms are provided under SD.2 (section 3.2.1)
- Enhance infrastructure in the laboratories. Expand staffing structure in NRL and peripheral laboratories. Expand and re-organise space in the NRL, including adding the necessary infrastructure for performing molecular tests such as PCR
- Commission the three GeneXpert machines as soon as possible to shorten turnaround time as well as to serve as back-ups for the existing Roche machines
- Commission CD4 machines at the other centres to decentralise this test
- Streamline supply of VL kits and rapid test kits for use in peripheral laboratories
- Kits for community testing needs to be better monitored for supply and storage
- Provide training and re-training of laboratory personnel in good laboratory practices and waste management. Laboratories that maintain best practices can be given recognition and an award. Puncture proof sharps containers have to be provided to all laboratories and clinics
- Maintain logs for monitoring temperatures of refrigerators/coolers/freezers. Consider replacing the old refrigerators that do not maintain appropriate temperature

- Start antibiotic susceptibility tests for cefixime for *Neisseria gonorrhoea* as that is the first line treatment of choice for gonorrhoea
- Ensure that NRL participates in an EQAS for HIV VL estimations
- Develop capacity to perform pro-viral DNA estimations and HIV drug resistance in Sri Lanka to ensure sustainability
- Expedite accreditation processes for NRL as it plays a pivotal role in HIV/STI testing services in Sri Lanka

3.2. STRATEGIC DIRECTION 2 (SD2): DIAGNOSIS, TREATMENT AND CARE

This section provides a review of the aspects of diagnosis, treatment and care under the following topics:

3.2.1. Review of HIV testing and counselling (including laboratory aspects of testing)
3.2.2. Review of STI and ART services
3.2.3. Review of HIV TB services

For all these subsections the methodology used included a comprehensive a desk review of various documents and reports as well scrutiny of epidemiological and programme data updated up to 2nd quarter of 2017. The desk review was followed by field visits and interaction with focal persons at NSACP, at different provinces and facilities including STI and ART clinics in Colombo, Galle, Kandy and IDH, Colombo, the National Hospital, DIC run by the Positive Women's Network (PWN), MSD and SPC. Discussions were held with medical registers, nurses, pharmacists, and other service providers at these sites as well as with PLHIV. The tools used are provided in Annexes 5-8.

3.2.1. Review of HIV testing and counselling (including laboratory aspects of testing)

a) Summary of HIV testing and counselling

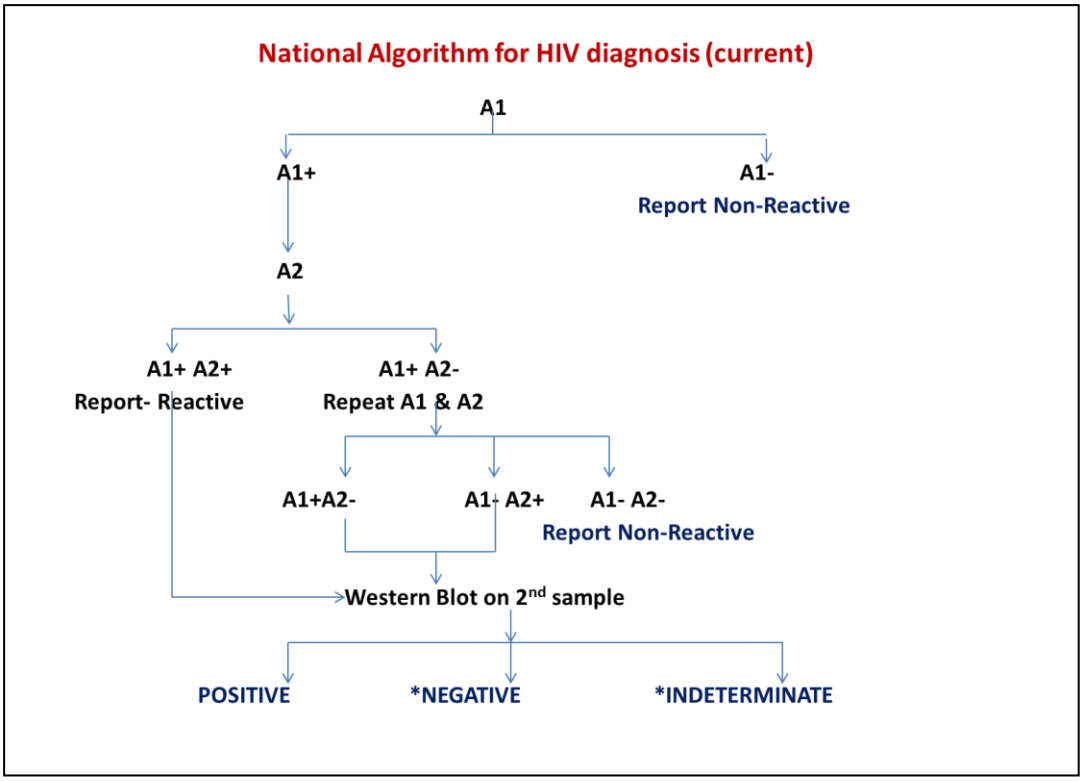
The HIV testing in Sri Lanka is done at all STD clinics. In addition, community based testing is carried out with KPs at DICs (see section 3.1.1.b), tests are also carried out in prisons (see section 3.1.2.II.b.), at the Youth Corp (see section 3.1.3.b), etc. and in some cases mobile HIV testing services have been provided such as during World AIDS Day and other special circumstances. Testing done at sites outside the STD clinics are conducted directly by STD staff or supervised by the MLT.

The HIV testing is done using 4th generation kits by ELISA at 27 out of 31 STD clinics spread over in 26 districts. All those found to be reactive with ELISA are further tested with a rapid HIV test which is either Alere combo or Alere Determine test. All those reactive with these two tests are further tested with Western blot for confirmation. The samples for Western Blot are sent to NHL at NSACP. Samples are transported from high load sites every day or alternate days while from sites with a low client load, samples are sent once in a week. The result from Western blot are provided to PLHIV found reactive at STD clinic after one week so the person has to visit the STD clinic again after a week to get the confirmed report in case the first test is reactive. In STD clinics far away from Colombo this period can be 2 to 3 weeks and this delays the initiation of treatment as well. Many KPs do not like to go to STD clinics for HIV testing because of the need for at least two visits, which is difficult for them in terms of time lost and possible income loss as well (see section 3.1.1.b.iii). The PEs of NGOs also avoid registering KPs for HIV prevention services if they are reluctant to visit the

STD clinic twice and hence many KPs miss the opportunity for HIV testing. HIV testing is not done at the chest TB clinics. This leads to inadequate testing of TB patients for HIV and although the MTR of the NSP [15] recommended rapid testing at TB clinics, this has not been instituted yet.

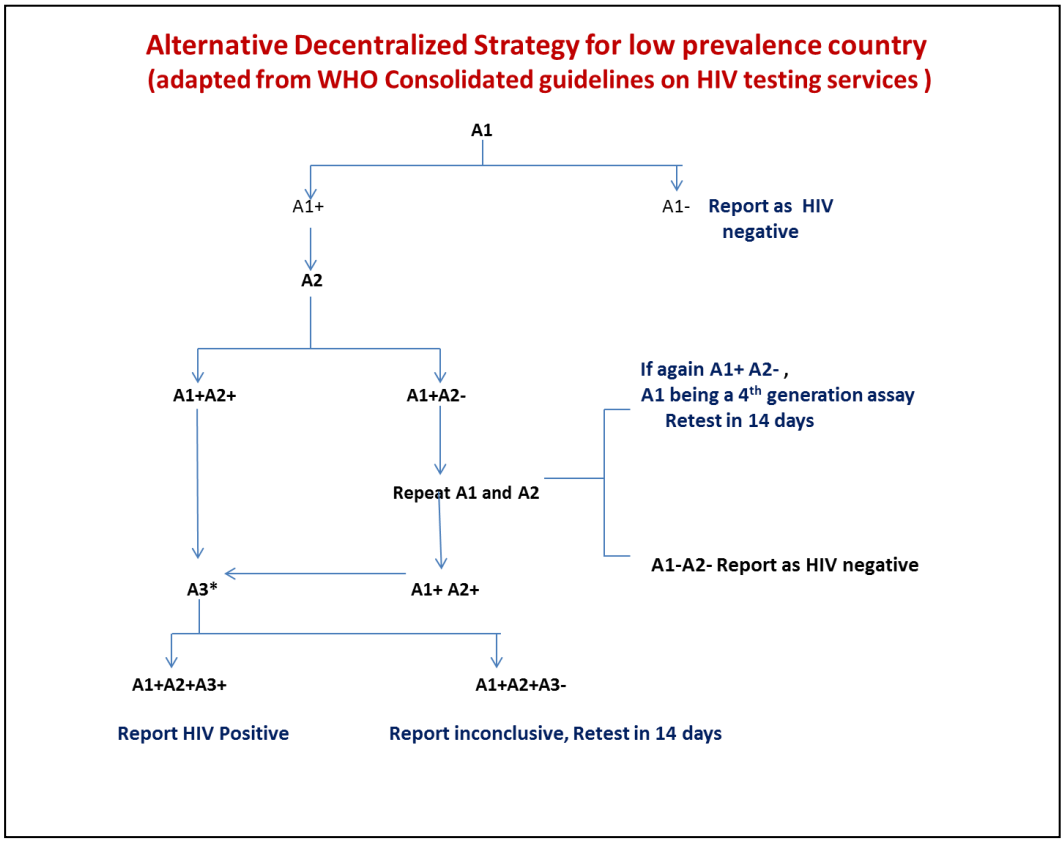
Efficient and reliable HIV/STI testing services are pivotal to the activities to the NSACP. Overall, out of the estimated 4000 PLHIV, only 2139 have been diagnosed so far. Thus, to realise the target of "ending AIDS" in Sri Lanka by 2025, innovative testing strategies need to be considered. Clearly the turnaround time from the first screening test to the confirmation of HIV infection has to be reduced. Also a fast tracked, decentralized approach may reduce the loss to follow up (LFU). Fig. 5 outlines the current testing strategy [24] and Fig. 6 gives an outline of an alternative decentralized strategy.

Fig. 5. Current testing strategy in Sri Lanka (National Protocol)



*Time to getting second sample is usually one week
**Repeat testing in 2 months OR HIV Viral RNA test
A1- Screening assay 1- 4the generation ELISA
A2-Screening assay 2- Particle agglutination test (NRL) and Alere Determine/ Alere Combo at Peripheral STI laboratories

Fig. 6. Alternate testing strategy



A1- 4th generation Rapid test
A2- 3rd/4th generation Rapid test
A3-2nd /3rd generation Rapid assay, able to distinguish HIV1 and HIV 2

There are merits and de-merits of both algorithms. However, attempts must be made to de-centralize, shorten turnaround times so that LFU is minimized.

The merits of the current HIV testing algorithm (Fig.5) are that it allows centralised documentation of all HIV positives in the country because Western Blot is used for confirmation and this is done only in the NRL. Also (A1) in this algorithm is a 4th generation ELISA which is very sensitive and currently cheaper than the 4th generation Rapid test.

The merits of the suggested algorithm (Fig.6) are that all three tests (A1, A2, and A3) are Rapid tests. This lends itself to considerable decentralization and faster reporting of samples, particularly from the peripheral clinics. Additionally, some of these Rapid tests can be used using whole blood. This makes it useful in community testing setting and in mobile clinics. In addition, it is very useful in cases where PEP may be needed for exposure of HCW to infected samples as it allows decisions to be taken rapidly.

The demerits of the current HIV testing algorithm are that it leads to delays in diagnosis because A1 (an ELISA) needs to be batch tested, leading to a longer turnaround time.

The demerits of the suggested algorithm (Fig. 6) are that centralized reporting will not be possible unless there is an electronic reporting system. Additionally, current 4th generation Rapid tests are

more expensive than ELISAs. The WHO guidelines on HIV testing does not recommend Western Blot for confirmation [25]

There are no dedicated counsellors for pre-test and post-test counselling. The counselling is done by the medical officers at the STD clinic who have been trained on counselling as recommended in the MTR of NSP [15]. However, it was observed that the training is not uniform across the country and is mostly done in Colombo and many medical officers do not attend the training.

b) Findings

Major successes and achievements identified over the past five years

- The STD clinics are well established and recognised as HIV testing sites. The staff are well trained and respected by all. Testing coverage has increased for KPs and they are happy with service providers at STD clinics
- The medical officers and senior nurses have been trained on counselling as recommended in the MTR of the NSP
- Nearly 53% of estimated PLHIV have been detected for HIV
- Current HIV testing algorithm provides centralised documentation of confirmed HIV positives
- Availability of haematological and biochemical parameters of patients are streamlined. In addition to blood picture and ESR, the auto-analyser in the NRL handles testing of most of the other parameters such as liver function tests, blood urea and serum creatinine and lipid profile. In the peripheral hospitals, the blood sample is sent to the relevant peripheral hospital laboratory or private laboratories for these tests.
- HIV VL estimations are carried out regularly

Major challenges and barriers identified over the past five years

- Protracted turnaround time to confirmation of HIV positives. Testing results take one week or more and person has to make at least two visits to get a confirmed HIV result. This can contribute to LFU and may hinder reaching the testing target of at least 90% by 2020
- HIV testing is not available at TB chest clinics and samples are sent to the STD clinics for an HIV test. This leads to inadequate testing of TB patients for HIV and although the MTR of the NSP [15] recommended rapid testing at TB clinics, this has not been established yet
- Counselling training is not adequate for staff and at many sites staff have not been trained. There has been no refresher training for many years
- Testing is not sufficient for HBV and HCV and this needs to be further expanded in KPs
- Pap smear is not systematically done in every new HIV positive female patient and annually in every known HIV positive patient

c) Recommendations

- Decentralise HIV testing urgently. The Rapid test kits should be used for testing at STD clinics instead of ELISA as the patient load is low and Rapid test can be performed easily without much expertise compared to ELISA. The confirmation should also be done at STD clinics by performing second and third Rapid tests so that the report is available to the patient on the same day. This can be initiated at high load sites to begin with and then expanded to all sites. Western blot is not recommended as confirmatory test in WHO guidelines [25] except for indeterminate cases and is not required routinely
- Consider adopting the 2nd algorithm (Fig.6) presented here for HIV testing keeping in mind that tests need to be easily available and results more timely. One of the major gaps in the

90:90:90 in Sri Lanka is in the first 90 as only 2139 PLHIV out of 4000 estimated PLHIV (53%) have been diagnosed and it is critical to reach the remaining 1861 so that those can be identified and linked to the second and third 90

- Expand the HIV testing to base hospitals and general labs in the hospitals and use rapid test kits as planned. This will further promote decentralization of the testing services
- Expand community based testing especially for KPs using this as test for triage and also discuss self-testing keeping in mind the quality of such kits and associated support services
- Provide Rapid HIV test kits to Chest clinic (see section 3.1.1.c.ii)
- Provide a ten-point counselling chart to all medical officers and nurses so that key points in counselling are not overlooked
- Strengthen and decentralize counselling training and use distance learning seminars, monitor training status annually, short two day CMEs etc.
- Scale up HBV and HCV testing to reach all HIV positive patients

3.2.2. Review of STI and ART services

a) Summary of STI and ART Services

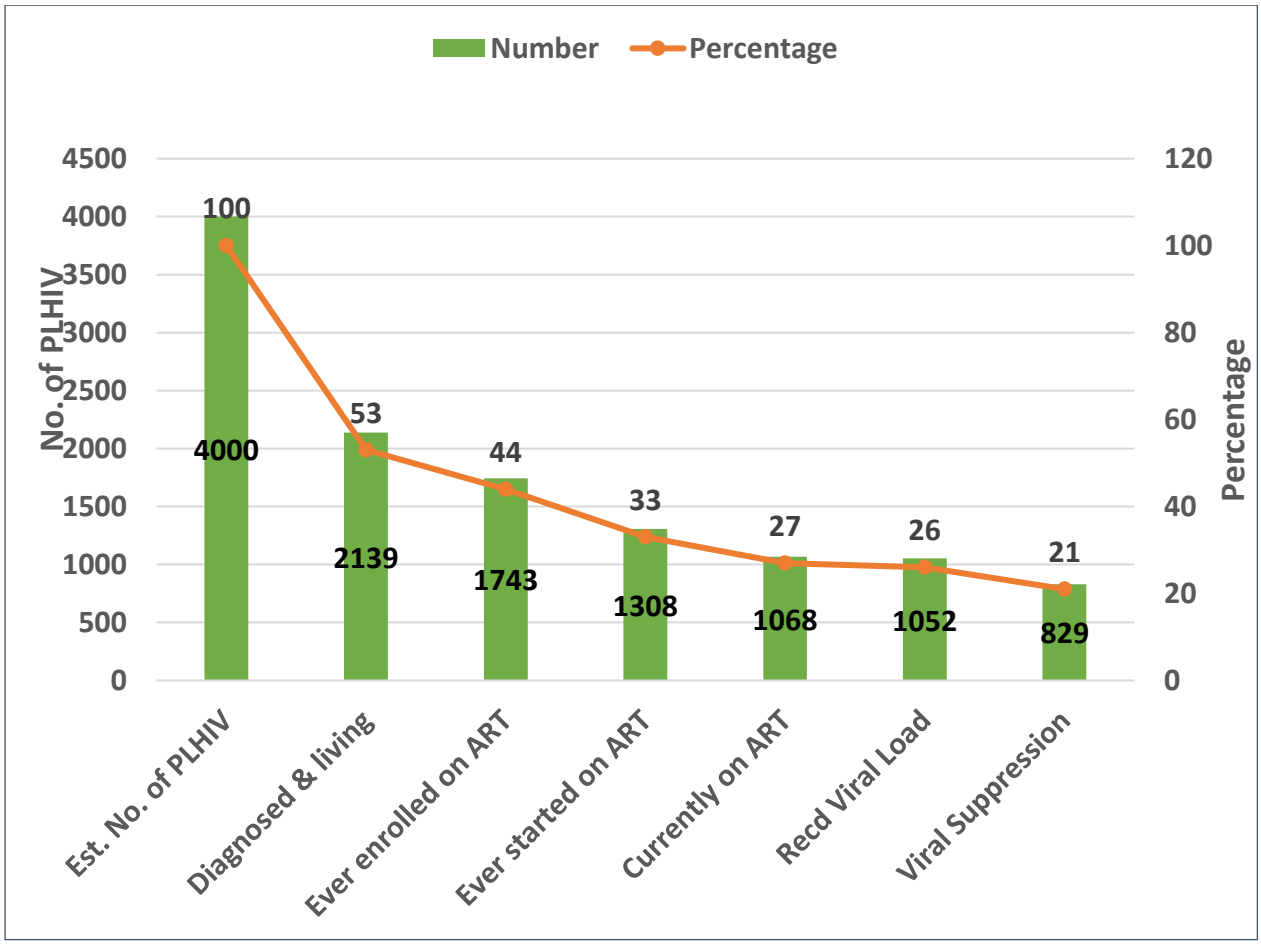
The antiretroviral treatment (ART) programme was initiated in November 2004 and ART is currently available in all provinces. There are 21 ART centres located in 17 districts and the remaining districts are covered by monthly visits by medical officers from nearby ART centres. The ART programme is closely integrated with STI services in 25 districts. The IDH has a standalone ART centre without testing services for STI or HIV.

A person attending the STD clinic is first registered in the clinic by the Public Health Inspector (PHI) and evaluated by the medical officer. The STD screening carried out for different STIs and HIV testing is offered. Persons found positive for HIV are linked to STD centres. Consultant Venereologists head the ART centres which also have an assistant consultant, senior registrar and one or two medical officers depending on the patient load. Staff nurses and PHIs are available but there are no dedicated counsellors. The staff nurses, PHI, doctors and consultants have been trained in counselling and they have been conducting counselling. However, at some sites no refresher trainings have been conducted.

ARVs are procured by the Government of Sri Lanka and provided free of cost to PLHIV. NSACP is responsible for the distribution of ARVs to all ART centres. For procurement and supply of the ARV drugs and kits, the NSACP gives its requirement to MSD who then forwards to the SPC. Once the orders are placed, the suppliers send the drugs to MSD who in turn provides the drugs to NSACP. An effort is made to maintain the buffer stock of 3 months for all the ARV drugs but there are challenges with forecasting and for drugs required in small quantities.

In 2016 the estimated number of PLHIV was 4000, 2139 were diagnosed with HIV, 1308 PLHIV had ever been started on ART and 1068 were currently on ART. This shows that of those who need ART, only 27% are covered. Data further shows that only 21% of all PLHIV are virally suppressed (Fig. 7).

Fig .7. Cumulative cascade of HIV diagnosis and Care---2016



The current ART coverage of 27% is expected to increase as Sri Lanka has adopted the "treat all" recommendation in 2016 and currently all patients diagnosed with HIV are being initiated on ART. However, initiation into ART declined in 2016 compared to 2015. In 2015, 235 new cases of HIV were identified of whom 192 were initiated on ART which is nearly 82% initiation among those detected (Fig. 8). While in 2016 a total of 249 cases were identified and 181 were initiated on ART, which is 72% initiation among diagnosed (Fig. 9). Therefore, Sri Lanka is falling slightly short of achieving 2017 target of 80% of those eligible being initiated on ART. This decreased initiation despite treat all recommendation needs to be examined thoroughly to understand LFU given that details of each patient is available at NSACP. A close examination of individual patients' details revealed that LFU was greater among those who were not initiated on ART.

Fig. 8. Cascade 2015

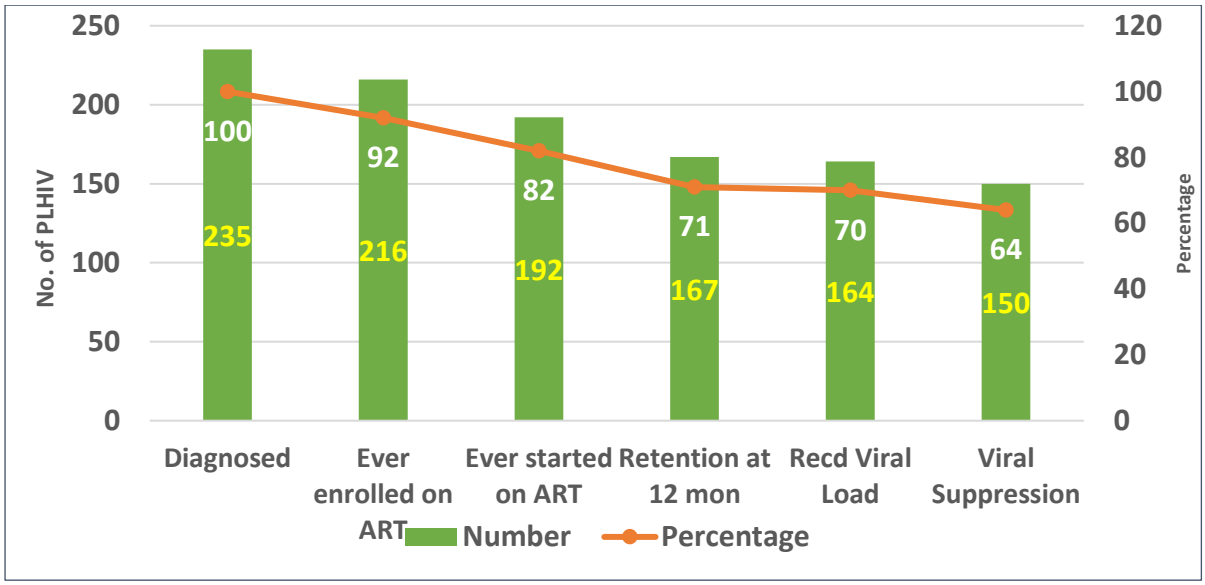
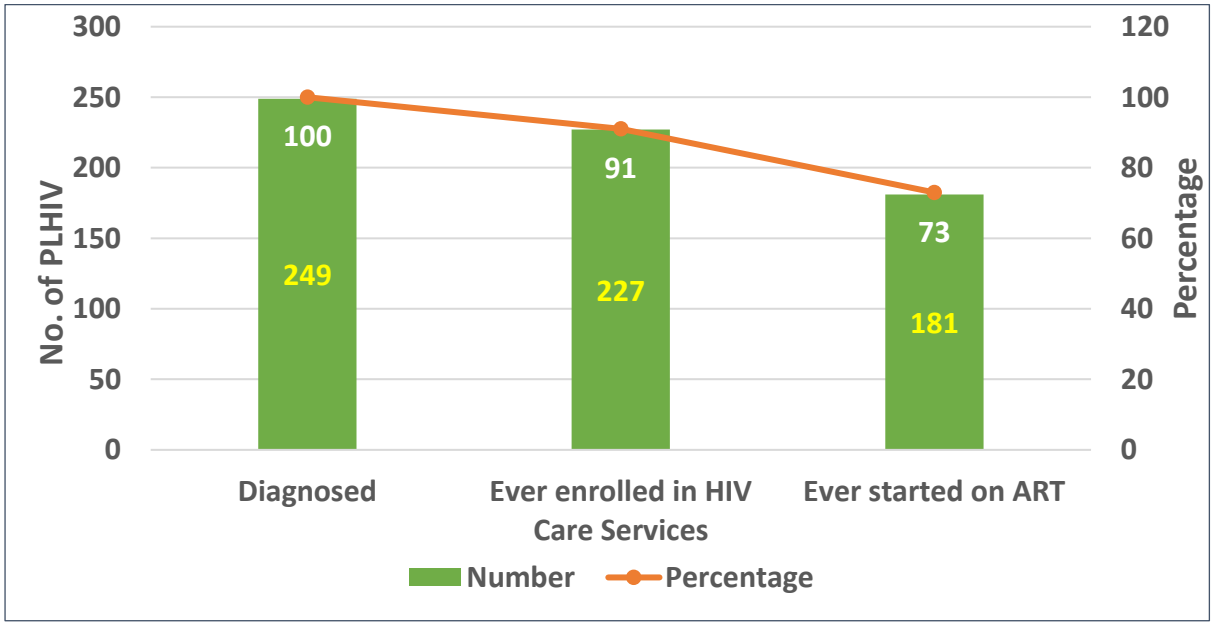


Fig. 9. Cascade 2016



b) Findings

Major successes and achievements identified over the past five years

- All PLHIV undergo baseline clinical and biochemical assessment that includes sputum for AFB, X ray chest and GeneXpert test for TB. These tests are carried out at district hospitals. A baseline CD4 count and a VL test is done before initiation of therapy and VL is also tested at 6 months after initiation of ART and every year thereafter. However, these are all centralized to NRL at NSACP in Colombo

- The mechanism for sample transport for CD4 and VL from peripheral sites to Colombo has been established. Vehicles when available are used otherwise public transport with an accompanying person or courier service is used
- The Government of Sri Lanka procures all ARV drugs which are provided free of cost to patients. This shows strong commitment and ownership of the programme and will provide long term sustainability. All possible ARV regimens are available in programme including second and third line drugs
- The ART is initiated by Venereologists and patients are seen every month. Stable patients are dispensed drugs for 2 months. All new patients are initiated on tenofovir plus emtricitabine plus efavirenz FDC unless there is a specific contraindication to use of any of these drugs. Around 56% of PLHIV are on this regimen. The patients who were earlier on a Zidovudine plus lamivudine and efavirenz /nevirapine regimen are being continued on the same regimen as long as they are doing well. They account for around 28% of all PLHIV on ART. Some patients are on other regimens due to issues of toxicity or other contraindications to standard first line regimen
- All patients failing on first line treatment diagnosed by rising VL undergo a drug resistance testing by sending samples to NARI Pune India and second line regimen is initiated based on the drug resistance report. Around 53 patients are on second line ART and nearly 20 patients are on third line drugs
- The “treat all” recommendation has been adopted across the country uniformly. The median CD4 count has increased over the years and only around 20% of patients had AIDS among all those diagnosed with HIV in 2016
- Children infected with HIV are on ART and at present there are 42 children receiving ARVs
- The facilities for diagnosis of OIs are established and drugs for most OIs are available in the pharmacy. Candidiasis is the most common OI followed by TB and PCP. The diagnostic facilities for infections like CMV, toxoplasmosis and other investigations are available at the MRI. Complicated cases are managed at National Hospital or at IDH which has a designated ward for PLHIV
- All STI, ARV and OI drugs are dispended from a common pharmacy. The drug store at the STD clinic at NSACP follows the system of First In First Out
- LFU of patients on ART is low (6.3% after 12 months on ART, Fig. 8). The system used for tracking LFU relies on the dedication of individual centres and their staff which works better for the larger centres. At these centres PHI first attempts to reach the patient through telephone and then by visiting at home
- The DIC run by PWN has 568 PLHIV registered with them. They provide a travel grant of Rs 750 to every registered PLHIV. PLHIV travelling from outside can stay at the DIC for a short period where they are provided with food. Relatives of PLHIV admitted in the hospital can also stay at the DIC. PLHIV appreciate the service provided by the DIC and want the DIC to be sustained
- Differentiated care options were discussed in one of the technical subcommittee meetings. PLHIV support groups favoured getting ARV drugs monthly and it was agreed to give one month of drugs for patients who want to get the travelling allowance and the rest will be given according to need
- NSACP has a technical subcommittee on care and treatment. This committee was also responsible for revision the ART and PMTCT guidelines of 2016 [23, 26]. There is also a drug estimation and quantification committee with representatives from MSD and SPC

Major challenges and barriers identified over the past five years

- In 2015 64% of PLHIV initiated on ART were virologically suppressed (Fig 8) but cumulative data shows 21% of all PLHIV were suppressed. Sri Lanka needs to reach at least 72% viral suppression by 2020
- These are major LFU at all steps of the treatment cascade (Figs. 7-9). NGOs and PLHIV networks are not actively engaged with the ART centres. The ART centres provide numbers and names of patients to the network to track LFU but there is no mechanism that allows the two entities to collectively work to prevent LFU
- ART services are available only at 21 districts and the remaining 5 (low patient load centres) are linked for services by monthly visits by medical officers from nearby STD clinics. Some PLHIV have to travel up to 6-8 hours to get drugs
- Transport of biological samples from the peripheral sites to Colombo especially from low load sites is infrequent and leads to delays in ART initiation
- The rationale for doing baseline VL testing is not clear as the guideline is to start ART irrespective of CD4 counts or VL
- At low load centres there is no dedicated PHI for ART, so that tracking LFU is mainly reliant on telephone calls and not home visits
- M&E tools at the ART/STD centres are not computerised and revised tools developed although simpler, are all paper based. Some of the centres maintain these in an excel sheet but this is not uniform as some sites do not have dedicated computers or internet facilities. The simpler revised tools are less comprehensive and do not provide a clear picture of patients at the centres
- Stock outs of the ARV drugs can occur and at present there is a stock out of Atazanavir. tenofovir plus emtricitabine stocks are available only for another month. These stock outs occurred despite NSACP alerts to MSD several months beforehand. The issue is related to long procurement processes because ARVs are not registered in Sri Lanka so that local agents are not able to purchase and provide on an urgent basis and international tender is required each time. Although the National Medical Regulatory Authority (NMRA), which is an autonomous body for drug approvals, can provide waivers, pharmaceutical companies are deterred by the fee that it charges. The drug estimation and quantification committee at NSACP does not have representation from NMRA
- Continuous supply of paediatric ARVs is a challenge as number of patients is low
- Lack of adequate space is an issue at Colombo and Galle ART centres and this will worsen as all PLHIV will now be initiated on ART irrespective of CD4 or VL counts. The resultant crowding will hinder confidentiality and impact the quality of counselling

c) Recommendations

- Strengthen the mechanism for tracking LFU. Optimal utilization of the PWN is needed and this requires a coordination with the STD /ART clinics for the tracking
- Examine the treatment cascade not only at the national level but also at high load facilities as this will provide better insight into the process and prevent LFU. Separate treatment cascades for KPs and children are also required.
- Decentralise CD4 and VL testing as this will reduce delays in initiating ART. The technical committee at NSACP should consider the relevance of CD4 testing as VL estimation is being done for all PLHIV once a year. The utility of a baseline VL test needs to be revisited as it does not have much benefit and delays ART initiation.
- Expand ART services to all districts such that those with low patient load can only dispense to patients who are stable on ARVs and not initiate ART which can be reviewed every 6

months at nearby ART centres. Provide ARVs for three months to patients who are stable on ART and who need to travel far and long to reach ART centres and ensure that there is adequate stock of drugs at the centres.

- Prevent stock outs of ARV drugs. Efforts to this end could be to include NMRA in the drug estimation and quantification committee of NSACP so that they are aware of the issues and provide a waiver for ARV drugs so that they can be supplied urgently. There has to be a strong mechanism for urgent procurement of ARVs. Improve mechanisms for forecasting of drugs as this remains a challenge due to lack of drug toxicity data. Increase the buffer stock from 25% to 50% and consider procuring drugs for two years at a time. Build in flexibility into the bid document so that there is allowance to increase amounts if required at any time at the same rates and to receive drugs in 2-3 batches with provision for increasing or reducing the quantities in subsequent batches based on stock position and consumption patterns. Also ensure a mechanism for local procurement of drugs when there is a short supply.
- Update ART guidelines as newer drugs such as dolutagrevir are now available and is recommended by WHO in the first line ART (July 2017) and others like TAF, and EFV 400 mg are likely to become available soon. Also, since Atazanavir and ritonavir are available as FDC in the market (but not in NSACP), these need to be used as preferred second line regimen rather than Lopinavir/ritonavir.
- Conduct a drug resistance surveillance to see the prevalence of HIV drug resistance in the country. A baseline surveillance for the pre-treatment drug resistance is required to understand whether circulating HIV strains are already resistant before starting an ARV regimen. WHO SEARO has supported some countries in the region for this activity and Sri Lanka needs to add this in the next GFATM grant application
- Train personnel at STD/ART sites regularly and ensure refresher training. As medical officers may not be able to come to Colombo for training the training needs to be decentralized and other methods such as distance learning can be adopted. WHO can support this distance learning mechanism through coordination with the I-Tech that has been conducting distance learning seminar very successfully in many countries for HIV programme.
- Develop and install an electronic information system that can give instant updates on the status of 90:90:90 at the ART centres as well as at the provincial level and provide real time data on number of patients accessing services including those from the KPs. This will also be helpful in real time monitoring of LFU and gaps in the geographical and population coverage.
- Consider upgradation of the ART clinic at IDH to a Centre of Excellence (CoE) in HIV care as it has excellent facilities for care and hospitalization of complicated cases. As a CoE, IDH will need to be provided with HIV testing facilities, STI services and can also be the nodal institution for training and capacity building of healthcare providers across the country. In addition, as a CoE IDH can undertake operational research on relevant issues and provide inputs for midterm correction of the programme. For achieving this status there can be sharing of concepts and exposure visits to similar centres in India.

3.2.3. Review of HIV and TB services

a) Summary of HIV and TB Services with achievements and gaps/barriers in the last five years

Tuberculosis was the second most common OI among PLHIV in 2016 accounting for 19% of all OIs among PLHIV. The STD clinics send the patients to the Chest clinic for TB screening. All patients registering in HIV care undergo a baseline screening consisting of sputum collection, Manteaux test,

X-ray chest and GeneXpert wherever possible. On all subsequent visits the PLHIV are screened for TB using the symptomatology score but there was no record of these in the M&E tools for HIV/TB and the quarterly report.

Blood samples of all TB patients are sent to the STD clinic for HIV testing as per national guidelines. However, it was observed that there is a gap between the number of TB patients diagnosed at the Chest clinic and number referred to STD clinics for HIV testing and at one site the gap was as high as 35% in a particular quarter. It is essential to plug this gap so as not to miss HIV-TB co- infected persons as non-detection of HIV status affects ultimate outcome of TB patients. Centralized data of the percentage of TB patients tested for HIV was not available.

PLHIV are provided with Co-trimoxazole Preventive Therapy (CPT) but the Isoniazid preventive therapy (IPT) is provided only at Chest clinics. Hence the uptake of IPT is low.

b) Recommendations

- Provide HIV testing services at all Chest clinics. This recommendation has also been provided in section 3.2.1.b.
- Train the nurses at the Chest clinic to provide the pre-test and post-test counselling
- Train the chest physician at the Chest clinic in the management of HIV TB coinfection
- Strengthen the process for cross referral between Chest clinic and STD clinics and improve documentation of these referrals and outcomes
- Provide IPT from STD/ART sites rather than from Chest clinics which will allow a single point for dispensing of ARVs, STI drugs, OI drugs, CPT and IPT. Link all ART sites to the 10 sites of the TB programme where GeneXpert is available for ruling out TB at baseline and as required

3.3. STRATEGIC DIRECTION 3 (SD3): STRATEGIC INFORMATION MANAGEMENT SYSTEM

The Strategic Information Management (SIM) System is the key system that is responsible for providing information and evidence to guide the country in its health policy and planning, resource allocation, programme management, service delivery and accountability. A robust SI system is critical for strong evidence driven programming. Evidence from surveillance, programme monitoring and HIV/AIDS research together complement each other in providing direction to programmatic decision making.

This section considers four aspects of SIM. The first three areas were outlined in NSP but an additional section on Knowledge Management has been added:

3.3.1. HIV and STI Surveillance

I. HIV Sentinel Surveillance (HSS)
II. HIV Case Reporting
III. HIV Estimations
IV. Size Estimations & Integrated Biological & Behavioural Surveillance among KP
V. Understanding HIV Transmission Dynamics
VI. Other components of 2nd generation surveillance - STI Surveillance; Incidence & Mortality Surveillance; Drug Resistance Surveillance

3.3.2. Programme Monitoring and Routine reporting
3.3.3. HIV/AIDS Research
3.3.4. Knowledge Management

The methodology employed was an exhaustive literature review along with a desk review of various reports and documents including review of existing data, data processing systems, data reporting formats at different levels, data inputs with robustness, data quality assessment, etc. Secondary analysis was also undertaken for AIDS death reporting, Spectrum projections and better characterisation of transmission dynamics. Interviews and field visits were conducted with different stakeholders at different sites. The tools employed for review of data and interviews are provided in Annexes 9 and 10 respectively.

3.3.1. Review of HIV and STI Surveillance

Surveillance activities under NSACP are largely coordinated by the Epidemiology Unit at NSACP. The key functions of this Unit are as follows.

1. Regular monitoring and coordination of HIV case reporting with peripheral facilities and NRL
2. Identification, contact and counselling of HIV positive cases and linking them with care services
3. Analysis of HIV case based data and reporting in annual reports
4. Planning, coordination and monitoring of HIV Sentinel Surveillance activities
5. Analysis of HIV Sentinel Surveillance data and publication of reports
6. Planning, coordination and monitoring of size Estimation and IBBS among KPs
7. Compilation of data on HIV and Syphilis testing from various centres and reporting
8. Coordination with SIM unit on strategic information activities including HIV estimations, Global AIDS Monitoring (GAM) reporting, etc.

All the subsection under 3.3.1 are addressed through these functions of the Epidemiology Unit. Each of the subsections are described separately showing achievements, gaps and barriers over the last five years as well as recommendations.

3.3.1.I HIV Sentinel Surveillance (HSS)

a) Background

Sri Lanka has a long history of HSS with 22 rounds been conducted till 2016. Only one round of HSS was conducted during the NSP period, in 2016 after a gap of five years (2011). This was reportedly to avoid overlap with the IBBS that was conducted in 2014-15 (see section 3.1.1a). Target sample size was 400 for FSW in Colombo and 250 per province for all other groups. FSW, MSM and PWID were recruited from STD clinics and through outreach. Clients of FSW were recruited from STD clinics only.

b) Findings

Major successes and achievements identified over the past five years

- PWID and clients of FSW were included for the first time in HSS. At the same time population groups that are less relevant for epidemic monitoring (TB patients, STD patients, army personnel) were dropped. In addition, for the new groups sites were selected based on estimated size of KPs. These changes were based on response to the recommendations of MTR of the NSP
- HBC and HCV testing was also done

- Training was given to the facility staff before the implementation of last round of HSS. Efforts were made to coordinate with KP NGO interventions to enhance the reach of KPs during surveillance

Major challenges and barriers identified over the past five years

- Beach boys are a KP identified in NSP but were not included in HSS
- In order for routine HIV/STI data for STD patients, TB patients and ANC clinic attendees to replace HSS in these groups data need to be regularly analysed from the surveillance point of view to provide a complete picture of the epidemic; however, this is not happening
- There is no prevalence survey among returnee Sri Lankan immigrants from other countries. They represent a substantial proportion of the HIV positive cases that are reported and therefore epidemic monitoring among them is important
- The sampling design and methodology of HSS are not documented in detail in the reports so that it is difficult to gauge the representativeness of the sampling method. The sites selected for sampling and allocation of numbers of samples in different districts is also not clear. It appears that in addition to the main STD clinics, samples are also collected from the branch clinics or mobile clinics. This will lead to variation in the sites involved in sample collection over the years which may affect the nature of samples collected every year and the representativeness. Moreover, the present sampling design includes only those who attend clinics or are visible in different sites and the more hidden KPs are not accessed. When sampling sites change over the years, monitoring of trends is difficult. Process data related to recruitment of respondents in surveillance is not thoroughly documented
- Case definitions of the KPs recruited for surveillance are not clearly spelt out. It is also not clear how the case definitions are applied and verified in the field at the time of recruitment of the KPs
- HSS has had difficulties in achieving the desired sample size except in Colombo. With such low sample sizes, representativeness becomes questionable
- No separate data is collected during surveillance from the respondents other than the on age and sex. This limits any further analysis or extrapolation of surveillance data
- There are no training modules available and no information on duration of training and its participants. Similarly, supervision of surveillance activities in the field is not documented. It is not clear to what extent the recruitment of samples is monitored in the field
- The 2016 HSS report has not yet been published

c) Recommendations

- Continue to restrict HSS to the KPs and some vulnerable population groups. Include BBs as a sentinel group. Fix the groups and definitions and keep them consistent over years to monitor trends and identify emerging epidemics
- Give priority to surveillance among MSM, as they account for a significant number of HIV infections currently, and the numbers appear to be rising. Ensure wider coverage of MSM, by location, by sub-typologies and by modes of solicitation. Employ innovative methods of recruitment of MSM wherever needed to reach out to hidden MSM
- Conduct periodic analysis of positivity rates among STD patients, TB patients and ANC clinic attendees from routine data for epidemic monitoring purposes
- Conduct subset analysis using data on STD patients with history of international migration to monitor HIV trends among immigrants, in view of high occurrence of HIV cases among them. Conduct in-depth analysis of HIV case data to assess the risk behaviours among immigrants, in

other country as well as in Sri Lanka. Conduct an assessment on past behavioural data from the PLHIV who are currently under HIV care and treatment and who had a history of international migration. The findings can help develop a model for epidemic monitoring among returnee migrants, ensuring that the sensitivities and rights of the individuals are duly respected and protected

- Shift the sentinel sites from STD clinics to NGO interventions, as that will be more appropriate and feasible for KPs. Data collection may still be done through STD clinic staff, but with close coordination and involvement of NGO staff
- Wherever adequate number of KPs are available, consider a district as a unit for surveillance. Where not adequate, province or group of districts can be considered a unit. In latter case, allot pre-fixed sample size to each constituent district
- To enhance reach of various sub-typologies of KP and representativeness of surveillance sample, adopt random sampling of KPs from the list of KPs registered and reached through NGO interventions. While this will still restrict the sample to those reached through interventions, it will be better than the current approaches of outreach, which are more *ad hoc* and inconsistent. Since IBBS will adopt methodologies to reach out to all KPs in the province (irrespective of interventions) through RDS, TLS, etc., the trends from HSS can be adjusted with the data from IBBS conducted once in 5-6 years. This will give a consistent methodology and enable better interpretation of data
- Collect some more information from the respondents related to their vulnerabilities and risk profile for better interpretation of HIV data and to improve epidemiological understanding. Add questions related to sub-typology, place of recruitment in case of outreach recruitment, education level, partner volume, dual risks, etc. from the KPs would be useful to add. In case of prison settings, it is important to collect data on the type of risk they are exposed to, for better interpretation of data
- Undertake system strengthening for 2nd generation surveillance. Standardise implementation, training and supervision protocols for HSS. Define clearly the roles of STD clinic staff and NGO staff and train them accordingly. Ensure close supervision during the surveillance activities in the field to ensure adherence to case definitions, methodology, data quality, etc. Standardise the laboratory protocols for testing and quality assurance of blood samples collected during surveillance. Use electronic systems for collection and reporting of surveillance data to enhance quality of data and timeliness of reporting
- Improve the documentation and presentation of surveillance reports with more information on the processes, sampling strategies, methodology, sample achievements, etc. besides good epidemiological analysis of levels and trends of HIV over time, distribution of characteristics, risk profiles, etc.
- Disseminate the HSS reports widely including with the peripheral field staff involved in surveillance
- Strengthen the epidemiology Unit at NSACP with another epidemiologist and bio-statistician to support the senior Epidemiologist in all the surveillance and case tracking activities
- Consider developing a road map to integrate HSS and IBBS among KPs into one activity with simpler methodology, limited behavioural variables and feasible implementation approach to collect bio-behavioural data at district or provincial level, in places where HIV or vulnerabilities are high
- Establish a strong case-based surveillance which is more appropriate which is suited to a low prevalence setting and therefore, is more appropriate for Sri Lanka. Fortunately, the existing systems will allow a robust case-based surveillance system to be established (see section 3.3.1.II)

however, continue HIV Sentinel Surveillance among KPs and selected vulnerable groups, till the routine HIV testing coverage among them goes beyond 80% consistently, and number of new HIV cases detected every year stabilises over time. Till then, the above recommendations may find applicability

3.3.1.II HIV CASE REPORTING

a) Background

HIV Case Reporting or HIV Case Surveillance or Case-based Surveillance are terms used to refer to a system where every HIV case is documented and followed up from the stage of detection till adherence on ART and VL suppression, with capture of demographic, epidemiological and clinical information at various stages of follow up. A robust HIV case reporting system can fulfil the requirements of patient care, programme planning and management as well as epidemic monitoring. It is an essential component of the end game strategy to reach the goal of ending AIDS where every case of HIV is closely tracked and connected to treatment and care services.

b) Findings

Major successes and achievements identified over the past five years

- HIV case reporting has improved significantly since 2011 with better reporting from STD clinics, private hospitals/laboratories and blood banks, that are the three primary sources of HIV screening in Sri Lanka
- HIV case reporting is monitored and cases tracked by the Epidemiology unit of NSACP by close coordination with the reporting centres and NRL
- A new case reporting format (revised 1214 form) has been introduced recently and is being widely used by all the reporting centres. This form captures the demographic and epidemiological information required for surveillance purposes. The data from this form is entered into computer database at the Epidemiology Unit, NSACP for further analysis
- Considerable effort is made to avoid duplication of cases by scrutinising multiple variables, triangulation of data from the reporting centres and matching the aggregate reports from the reporting centres with the number of individual cases reported
- The Epidemiology Unit on receiving information on an HIV positive case, immediately reviews the case reporting format, identifies the reporting centre, enquires about any missing information and contacts the HIV positive person for further follow up. Efforts are made to prevent LFU and to link the PLHIV to care and treatment services
- At the ART centres documentation of HIV positive out-patient and in-patient case records, registers and patient reports are robust. STD/ART Medical officers maintain a risk and clinical profile of the patients with all the required details of clinical management, that is constantly updated. Case record maintenance by the staff nurses at most of the ART centres is good. All ART centres report aggregate statistics to SIM Unit of NSACP along with individual patient-wise data in Excel sheets, every quarter. This data is further analysed by SIM Unit to understand LFU and ART adherence
- Epidemiology Unit publishes the case reporting data every quarter in the form of a one-page update. Aggregate numbers of HIV testing are reported every year in the NSACP annual report. More detailed analysis of case reporting data is shared with other NSACP officers, STD clinics and those who request for the data once in six months

Major challenges and barriers identified over the past five years

- The case monitoring system is complex and fragmented between different units and sites. The HIV case tracking system is divided between the Epidemiology Unit and SIM unit of NSACP. Epidemiology Unit is responsible for the stages from confirmatory test till linking of PLHIV to HIV care. Epidemiology unit coordinates with the peripheral screening sites to identify the patient and counsel him/her to link to HIV care and collects the case related information through a separate case reporting form that is sent in hard copy to the Epidemiology unit by the screening sites. The data is entered into excel at the Epidemiology unit. Once the patient is linked to HIV care, the follow up is done by ART centre and it is reported through individual excel sheet to SIM unit. LFU during pre-ART care and on ART are tracked by SIM unit. The two datasets are not connected and a combined analysis is not done. The stages before confirmatory test, i.e. referral for screening, screening and follow up for confirmatory tests, are not monitored.
- The reporting system is entirely paper-based. Such a system is inefficient and creates a lag time between steps in the chain of patient processing. Also with a complicated paper based system a central monitoring system cannot be effectively instituted. Issues that make a paper based system for case monitoring complicated are multiple and examples include inadequate documentation by some staff at some centres, delay in identification of linkage losses, delay in responding to LFUs, and greater chances of errors
- There is no Standard Operating Procedure (SOP) in place and while systems are largely uniform, *ad hoc* methods have been noted at some centres in recording, reporting and communicating the case details to other centres, NRL and Epidemiology Unit. There are no standard formats for reporting the information from one centre to the other. They vary from place to place and is largely dependent on the individual managing the centre. There is no alert mechanism defined to immediately raise an alert about a LFU or linkage loss
- The system of patient flow is depicted in the schematic diagram in Fig 10 from referral to screening till VL suppression on ART adherent cases. The figure highlights the points (numbers 1-7, circled in red) where linkage losses are likely to occur. These are explained in detail in Table 4.

Fig. 10 Patient flow in HIV case detection and follow up and linkage losses at various steps

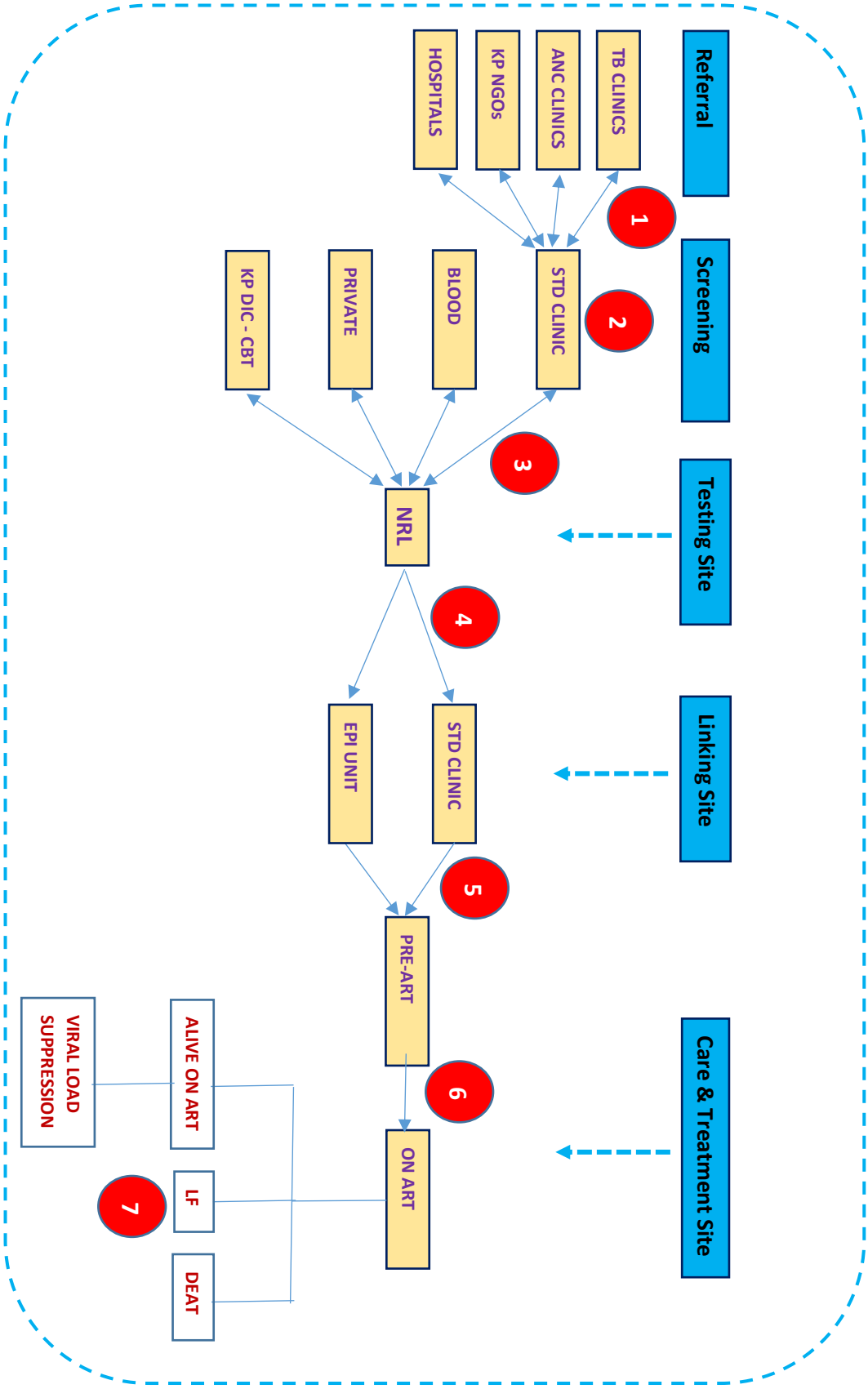


Table 4. Linkage losses at various steps

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
	Linkage Loss Area 1: Between Referral Centres (TB/Chest Clinics, ANC Clinics, KP NGOs) & Screening Site (STD Clinic)					
1	TB Patients, Pregnant Women & General Patients	TB/ Chest Clinics, ANC Clinics, Hospitals	STD Clinic	HIV Screening	Person sent for screening Sample sent for screening	Patients don't reach; No documentation to cross-check; No one designated to cross-check No issues at this step, when samples are sent;
2	KPs	KP NGOs	STD Clinic	HIV Screening	Person escorted for testing	Timings not suitable; Waiting time at clinic; Distance; Limited no. of screening sites
3	TB Pts, Preg Women, KPs & General Patients	STD Clinic	TB/ Chest Clinics, ANC Clinics, KP NGOs, Hospitals	Issue of screening results	Screening test report; Request to send second sample, if positive in screening; (sent to the source centre from where sample is received usually in one week)	- Time lapse between blood collection and issue of results (1-2 weeks); - Need for the patient to visit 2nd time to collect results - Requests for second sample not followed up; Not sure if 2nd sample is sent back in all cases; - Not able to reach the patient to collect 2nd sample;

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
	Linkage Loss Area 2: At Screening Sites (STD Clinics, Blood Banks, Private Labs, KP DIC where CBT is done)					
4	STD Clinic Attendees (STD Patients, Visa screening, Pre-employment screening, PEP);	STD Clinic	STD Clinic	Screening & Issue of results	Screening test report; Person called for 2nd sample if screened positive	Same as above
5	STD Outreach rapid testing (Prisoners, Armed Forces, KP, Gen Pop, Labourers, etc.)	STD Clinic	STD Clinic	Screening & Issue of results	Screening test report & immediate collection of 2nd sample for confirmation, if positive on screening	No loss in this case due to use of Rapid tests in the field during outreach activities
6	Blood Donors	Blood Bank	Blood Bank	HIV Screening	Screened (EIA/ EIC) but result not informed; If positive, repeat testing done with two tests (EIA & EIC) at blood bank; If any one test positive, sample sent to NRL for confirmation	Usually, no loss at this stage in blood banks
7	Private patients & general population	Private Lab	Private Lab	Screening & Issue of results	Screening test report if negative; If positive, repeat testing done at private lab; Person called for 2nd	- Not able to reach the patient to collect 2nd sample

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
					sample if screened positive, and sample sent to NRL for confirmation;	
8	KPs	KP DIC where community based testing (CBT) is done	KP DIC where CBT is done	Screening & Issue of results	Screening test report & immediate collection of 2nd sample for confirmation	No loss in this case due to use of Rapid tests in the field for Community Based Testing
	Linkage Loss Area 3: Between Screening Sites (STD Clinics, Blood Banks, Private Labs & KP DIC-CBT) & Confirmatory Testing Site (NRL)					
9	All the above undergoing screening	STD Clinics, Central Blood Bank, Private Labs, KP DIC-CBT	NRL	Confirmation of HIV Positive	- Sample sent along with case reporting form (earlier 1214 form); - Central Blood Bank receives positive samples from all 100 blood banks that are then forwarded to NRL; - Case reporting form is sometimes missed, more in case of blood donors due to camp based collection	Cases for which 2nd sample for confirmatory test could not be collected are missed
10	All the above undergoing screening	NRL	STD Clinics, Central Blood	Issue of Confirmatory	- Confirmatory test result report handed over physically	- Not able to reach the person for 2nd confirmatory

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
			Bank, Private Labs, KP DIC-CBT	Test result report	to the LT/ representative of the concerned screening site in one week; - If Western Blot is indeterminate or weakly positive, 2nd sample is requested for RNA testing. - In case of confirmed positive blood donor, blood bank calls donor and sends to NRL for repeat of confirmation test from fresh blood.	test using RNA or for repeat fresh sample in case of blood donors - All those positive in screening test will receive final result after confirmation from NRL, usually after 2 weeks; - Requests for second sample not followed up; Not sure if 2nd sample is sent back in all cases;
	Linkage Loss Area 4: Between Confirmatory Testing Site (NRL) & Linking Site (STD Clinics & Epi Unit)					
11	Confirmed Positive Cases	NRL	STD Clinics; Epi Unit	Intimation of Confirmed Positive for intimation to the patient & linking with HIV care services	- All confirmed positive cases are informed back to STD clinics for further intimation to the patient and linking to HIV care - In case of blood donors, intimation to the patient is done by either	Usually, there is no linkage loss at this stage. NRL informs all cases to Epi Unit every month; However, it is paper-based, hand-written note without a fixed format. This reporting is monthly and sometimes, it may be too late

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
					blood bank or Epi Unit if case reporting form is filled - In case of private lab cases, intimation to the patient is usually done by Epi Unit - Every month, NRL sends a hand-written list of patient IDs who were confirmed positive in that month to Epi Unit for their follow up.	to contact the patient
	Linkage Loss Area 5: Between Linking Site (STD Clinics, Epi Unit) & ART Centre/ HIV Clinic for Pre-ART Care					
12	Confirmed Positive Cases	STD Clinics; Epi Unit	ART Centres/ HIV Clinics	Linking to Pre-ART Care	- STD Clinics contact the patient over phone or through home visits by PHI to intimate the result and link the person to Pre-ART care - Epi Unit verifies the case reporting forms received from the NRL, calls the screening site from where sample was	- Cases where case reporting form is not filled or tel numbers are not collected may be missed for follow up. This is more often in the case of blood donors due to camp-based blood collection where there may not be time to fill the case reporting form.

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
					sent & collects additional information about the patient - Epi Unit also calls the patient and provides counselling to get linked with HIV care at the nearest centre	- In some STD clinics, PHI posts are vacant or they are not very effective in conducting home visits. Sometimes, even phone follow ups may be missing. - No documentation about the follow up efforts; No monitoring or reporting of this activity
	Linkage Loss Area 6: Between Pre-ART Care & Initiation of ART at the ART Centres/ HIV Clinics					
13	Positive cases linked to Pre-ART Care	ART Centre/ HIV Clinic: Pre-ART Care	ART Centre/ HIV Clinic: Initiation of ART	Counseling & Clinical Evaluation of patient before initiation of ART	- Clinical evaluation is carried out on all patients before initiation of ART - All the required tests are done at HIV clinic except screening for TB, for which, the patient is referred to Chest Clinic. - Patient case sheet is opened and all updates are documented in	- Some patients are lost to follow up due to personal or psychological reasons in spite of best counselling - Referral to chest clinic for TB screening is another area for loss to follow up. Some patients do not come back after TB screening - In some HIV clinics, PHI posts are vacant or they are not very effective in

S. No.	Pop Group	From	To	Purpose	Process/ Document	Reasons for Loss
					the case sheet including clinical updates and LFU tracking updates	conducting home visits. Sometimes, even phone follow ups may be missing. - Documentation maintained well in patient case sheets; but no separate recording or reporting of individual LFU cases and the efforts for LFU tracking - No tight monitoring on LFU tracking and individual case follow up of LFUs; No alert response mechanisms in place

	Linkage Loss Area 7: After ART Initiation at HIV Clinics					
14	Positive cases initiated on ART	ART Centre/ HIV Clinic: On ART Follow Up	ART Centre/ HIV Clinic: On ART Follow Up	For treatment adherence and assessment of viral load suppression	Patients on ART are followed up on monthly or bi-monthly basis, based on their clinical needs; LFU are tracked through phone calls and home visits;	- Transfer out cases are not followed up to check if they have registered at the new ART centre or not Issues highlighted in 13 are applicable here as well

- Case reporting analysis is done once in six months and shared only with NSACP. It is not published nor disseminated widely and also not used actively in the programme for the purpose of planning, policy making or epidemic monitoring
- The analysis of data from HIV case reporting is limited to summarisation of numbers that are published in the quarterly update on HIV and STI Surveillance. Further epidemiological analysis covering the risk profile and behavioural parameters, geographic patterns, trends, etc. is not carried out.

c) Recommendations

- Integrate entire HIV case tracking from screening till viral suppression into the new electronic data management system that is being developed. Set up a strong alert response system to immediately alert the facility staff as well as the concerned higher authorities on occurrence of LFU. While data uploading of respective sections can be carried out by Epidemiology and SIM Units, central common database will lend a critical support in eliminating losses, as well as enhancing epidemiological understanding
- Ensure electronic reporting of cases referred for screening to be part of the M&E system as well as for all requests for 2nd sample; set up inter-coordination mechanisms between the facilities to tease out the missing cases. Medical officers may be made responsible for this. Set up central monitoring of such cases once in a month
- Set up real time, electronic reporting of confirmed cases from NRL to STD clinics and Epidemiology unit. Till this is established use an Excel-based standard format
- Mandate a separate register to be maintained at each ART centre for LFU tracking and staff (Medical officers, Nurse and PHI) should all be responsible for tracking cases. Ensure that all the tracking efforts are documented. Ensure monthly reporting of this in Excel sheet, till an integrated electronic system is established
- Ensure review of LFU data every month at the central level and make telephonic enquiry with the facility staff, to emphasise the importance of this activity
- Mandate the ART medical officers to follow up and ensure the registration of transfer out cases in the new ART centre and record the same in the ART register. Provide a field in the Quarterly ART return to report the same

- Evolve a SOP for HIV case tracking and reporting, with clear roles and responsibilities for various facility staff, timeliness of reporting, actions to be taken for LFU tracking, alert mechanism, etc. Train all the facility staff on this
- Allot responsibilities for monitoring referrals for HIV screening. Ensure electronic reporting from all referral sites
- Carry out more regular and more robust epidemiological analysis from case-based data; publish a separate report on case based surveillance every year; build capacities of facility staff in case-based analysis and epidemiological analysis

3.3.1.III HIV ESTIMATIONS

a) Summary of findings

Sri Lanka uses Spectrum software for HIV estimations in line with the global recommendations of UNAIDS/WHO. Last round of HIV estimation was carried out in 2016 and the review found that modifications in the inputs may help in providing a better estimation in the future. For example, in epidemic configuration, size of PWUD was applied for PWID which resulted in a significant inflationary effect on the prevalence and incidence of HIV among PWID who constitute the second largest group among new infections (29%) in 2016 [1]. Moreover, size estimates of KPs that were used were taken from the earlier size estimation exercise.

b) Recommendations

- Review the prevalence figures used in the eligibility tab for sero-discordant couples and KPs. HIV prevalence from IBBS and sero-discordant rates from the programme can be used
- Enter the projected PMTCT coverage in percentage for the years 2017-2021
- Review projected ART coverage for males and females from 2017-2021 for a higher coverage. Similar adjustment needs to be made to the child ART projection
- Revise the estimated figures used for size for PWID. For all groups, use the recent size estimations
- In surveillance data, sites with very small sample size (<100) and high HIV prevalence (>2%) may be reviewed and may be excluded, as the high prevalence could be due to sampling bias. And these data points affect the curve fits in EPP. IBBS data for KPs may also be used to input as survey data
- Revisit the assumption that HIV prevalence among clients will be half that of the FSW, calibration values for remaining male (0.44) and female (0.30) populations from ANC prevalence data
- Modify conditions given during curve fitting to ensure that they are at least five years away from the first or last data point
- The start of the year (to) parameters may be kept uniform for all the groups, and in line with the actual occurrence of epidemic in the country
- Curve fits may be revisited as the male and female remaining population curves are not fitting well to the data points. Trajectory of the curves may also be looked into
- Sex ratio of incidence may be approximated from ratio of HIV prevalence among STD patients or from HIV case detections
- Advanced assumptions pertaining to South Asia may be applied
- Age sex patterns of HIV cases detected in the programme may be used to validate the age sex pattern of HIV estimations

- Publish details of process of HIV estimation with data sources used, assumptions employed and steps undertaken as a separate report. Disseminate methodology used and results to the key stakeholders of the programme
- Consider other process models based on transmission dynamics such as AIDS Epidemic Model to study and project the epidemic and estimate key burden indicators, taking advantage of the rich behavioural data collected through IBBS
- Consider case-based estimation methods for estimation of key HIV burden indicators and apply the same to the HIV case-based being collected under NSACP

3.3.1.IV. SIZE ESTIMATIONS AND INTEGRATED BIOLOGICAL AND BEHAVIOURAL SURVEILLANCE AMONG KEY POPULATIONS

a) Summary of findings with achievements and barriers/gaps faced in the last five years

The last round of size estimations of KPs was conducted in 2013 and IBBS in 2014. The next round of size estimation and IBBS are planned to be conducted together in 2017 and the process is underway. The results of last round of size estimation and IBBS were analysed in detail and both the survey reports were published and findings disseminated. The current exercise has been scaled up to cover all the districts of the country although the MTR [15] recommended rough size estimates in all locations and detailed robust size estimations in select places.

No major issues or challenges have been identified with respect to size estimations and IBBS.

b) Recommendations

- Conduct IBBS every 5-6 years provided HSS is strengthened as discussed in the section 3.3.1.I (on HSS), i.e. after every two rounds of HSS. As behaviours do not change frequently a less frequent IBBS with a robust HSS is adequate for a low HIV prevalence country
- Follow MTR recommendations for selecting IBBS sites and ensure utilising rigorous random sampling procedures. All predominant sub-typologies should be covered under IBBS. IBBS data can then be used to calibrate the HIV trends emerging from HSS as mutually complementary systems

3.3.1.V. UNDERSTANDING HIV TRANSMISSION DYNAMICS

a) Summary of findings with achievements and barriers/gaps faced in the last five years

Understanding HIV transmission dynamics and identifying the drivers of epidemic is very important to focus the efforts on the right populations at the right places. NSACP analyses the probable mode of transmission from the data reported by the HIV cases detected at STD clinics and presents this data every year in the annual report. It also gives the distribution of HIV cases by age, sex, place of reporting and AIDS stage. The information on new infections based on spectrum projections are also presented. IBBS data also helps in understanding the vulnerabilities and HIV transmission dynamics. However, there are more opportunities available within the existing datasets and from the information being captured at facilities, to carry out analysis of transmission dynamics. The current analysis is limited. Also, staff at STD and ART centres do not perform any regular data analysis of the programme or case-based data.

b) Recommendations

- Strengthen HIV case-based analysis focussing on incidence or new infections (numerator analysis) that will inform transmission dynamics better than prevalence data in the context of low HIV epidemic

- Carry out regular in-depth epidemiological analysis of STD patient data captured in the PIMS Male and Female STD patient form
- Carry out analysis of routine programme reporting data for levels and trends of HIV and STI among various population groups being tested
- Build capacities of NSACP staff as well as facility staff in epidemiological analysis of existing data; Conduct 'Know your epidemic' trainings to the field staff to enable them analyse data for their own districts and provinces
- Engage interns and Post graduate students or commission a separate data capture exercise to capture important epidemiological data (selected variables) from various case records, registers, reports etc. at various STD/HIV clinics and enter it into Excel in a systematic manner to make it available for any further analysis
- Carry out a special project for District Epidemiological Profiling involving the facility staff from all districts to analyse all the available data from the district to answer the key epidemiological questions such as the levels and trends of STI and HIV in the district, key drivers and vulnerabilities driving the epidemic and the gaps in HIV response to the epidemic needs

3.3.1.VI. OTHER COMPONENTS OF 2ND GENERATION SURVEILLANCE

These include STI surveillance, incidence surveillance, mortality surveillance, and drug resistance surveillance. Each of these is summarised here.

STI surveillance is a strength of Sri Lanka as it has a very strong system of aetiological management of STD cases and a strong network of STD clinics with excellent case management and it uses the routine programme data to carry out analysis of levels and trends of various STIs in the population. It also allows geographical analysis of STI cases giving direction for prevention efforts. The robust data collection formats for male and female STD patients capture most of the required epidemiological information. A few questions on international migration, country of migration and period of migration may be added to understand the risks outside the country among immigrants. Individual STD patient data was being entered into PIMS till recently, but the system is no longer in use. It is essential to enter the data from all STD clinics at least into Excel at regular intervals to take advantage of the rich epidemiological data to inform the programmes. Regular analysis of this programme data should be carried out at facility, district, province and national levels by the programme staff, academic bodies, medical students/ interns, etc. to study the levels and trends of STIs, distribution of risk factors, study of associations and causation, response to treatment, etc. Such analyses should be published from time to time in the form of separate STI Surveillance reports, scientific papers and articles, etc.

Incidence surveillance is usually done through HIV estimations and modelling using Spectrum/AEM, proxy indicator analysis, population-based cohort analysis for new infections and laboratory-based diagnosis of recent infections. In Sri Lanka to estimate the new infections Spectrum is being used and this has been discussed in section 3.3.1. III (on HIV Estimations) It has been planned to further strengthen this by using more transmission-based models such as AEM. Proxy indicator analysis may also be used such as using data on 15-19 year olds, those who enter into high risk behaviour in the last two years, CD4 at the time of detection, etc. With gradual scale up of KP interventions and in view of the robust, individual level M&E system set up by FPA for monitoring KP services, population-based cohort analyses can be carried out among KPs to monitor the occurrence of new infections among them. Specific KP cohorts could be set up at select locations where interventions

and programme documentation is strong and HIV testing is more regular at periodic intervals. They could be monitored for incidence of STIs and HIV. Lab-based assays to detect new/recent infections are complex and expensive and may not be worthwhile pursuing in the context of low prevalence.

Mortality surveillance is primarily dependent on Spectrum modelling in Sri Lanka currently. However, there is a potential for a strong mortality surveillance by strengthening LFU tracking at ART centres and documentation of deaths at ART clinics. Further, detailed socio-behavioural and clinical audit of death cases may be carried out on annual basis to understand the reasons, factors and distribution of AIDS deaths. This can be done based on the data available in the patient case records at the ART centres. Every ART centre should be encouraged to carry out this annual exercise following a standardised methodology and report to NSACP for compilation and analysis at the national level.

Drug resistance surveillance has already been discussed in section 3.2.2 (under STI and ART Services). The findings need to be published in annual reports or surveillance bulletins for wider dissemination and use.

3.3.2. Programme Monitoring and Routine Reporting

a) Background

The SIM Unit of NSACP manages the Programme Monitoring functions of NSACP and the primary functions carried out by the unit include:

1. Quarterly aggregate reporting from STD Clinics and ART Centres – Paper-based
2. Quarterly Individual reporting of PLHIV on ART from ART Centres – Excel-based
3. Quarterly Individual reporting of Cohort data of PLHIV on ART from ART Centres – Excel-based
4. Maintenance of NSACP website
5. Analysis of programme and epidemiological data including HIV Estimations & Projections
6. Provide support to the Epidemiology Unit of NSACP in the IBBS and other epidemiological activities
7. Preparation of various programme reports including Annual Reports, GAM reporting to UNAIDS, WHO etc.

b) Findings

Major successes and achievements identified over the past five years

- SIM unit closely monitors the quarterly reporting from STD and HIV clinics across the country. All the quarterly reports are verified and compiled regularly. The data is published in every annual report
- Standardised formats have been developed and used uniformly across all the centres. Quarterly return forms from STD and ART clinics have been revised recently to capture all the relevant information. This form captures HIV and STD testing data among all client categories including STD patients, ANC clinic attendees, general attendees for pre-employment testing, etc., as well as KPs
- Elaborate information is reported on KP testing and positivity by every STD clinic

- ART centre quarterly return form also captures information on ART, opportunistic infections, PMTCT, HIV-TB co-infections, HBV and HCV co-infections, non-communicable diseases, drug resistance testing and PEP
- Individual excel reporting of PLHIV in pre-ART care and on ART captures all the critical information required for follow up and case tracking, as well as cascade analysis
- Periodic supervisory visits are made to the STD and ART clinics to review the documentation and reporting
- Under the GFATM programme for KPs, a strong and robust M&E system has been put in place by FPA that captures individual level information on KPs and the services provided to them covering all different forms. The system has been successfully implemented across all programme units and is fairly stabilised in terms of data collection and outputs. Data is regularly shared with NSACP on quarterly basis and reported to GFATM

Major challenges and barriers identified over the past five years

- Reporting from some centres is not regular due to vacancy of staff or other reasons
- There are some gaps in regular feedback to the STD and ART clinics on the reporting status, timeliness of reporting, inconsistencies in reporting, etc. based on the quick and close review and analysis of quarterly data reported from STD and ART clinics
- Data quality assessments and standard procedures to ensure and improve data quality of reported data are not in place
- Supervisory visits to STD and ART clinics to further improve recording and reporting from the centres appears to be inadequate
- M&E data is largely used for annual reporting, but less for improving programme management
- The linkages and linkage losses are not investigated immediately, leading to LFU of some PLHIV cases on ART
- KP programme data reported by FPA is not reviewed or analysed regularly at NSACP and it is also not used for global reporting. All Global AIDS Monitoring (GAM) indicators related to KP are reported based on IBBS data
- All the core indicators mentioned in the NSP are not reported in the programme, due to lack of any system to generate the required information. Some of the indicators are not well defined in terms of time period of indicator, definition of words such as 'reach', etc.
- Under the KP prevention programme conducted by FPA, the service quality verification exercises have led to some community resistance (see section 3.1.1.c (iv))

c) Recommendations

- Undertake more regular and in-depth analysis of quarterly reporting data for improving reporting and programme management, to evolve geographic patterns in service delivery, identify poor performing and well performing areas and accordingly guide the programmes for better performance
- Train the facility staff in data quality protocols and analysis so that they can analyse their own facility data. This will in turn improve the overall quality of the data reporting and performance of the facility
- Strengthen the overall M&E supervision on the facilities through more frequent visits and separate M&E review meetings
- Bring out separate M&E Bulletins, may be once in 6 months or one year, with detailed analysis of all the data on various thematic areas such as PMTCT, KP coverage, ART, STD profiles, etc.

- Focus intensely on identifying, monitoring and redressing the linkage losses of PLHIV at various stages. Set up reporting mechanisms to document and report the efforts taken by the facilities in tracking the LFUs as discussed in section 3.3.1.IIb (under HIV Case Reporting)
- Carry out closer analysis and review of KP prevention data and provide feedback for improvement of the KP programmes. Conduct data feedback sessions with the PEs, peer supervisors as well as KPs in the intervention areas to inform them of the status of epidemic as well as programme response in their community. Explain the importance of periodic data or service quality verification exercises and the methodology that will be adopted. Sensitise M&E personnel to the issues of KPs in the field and ensure due respect to the confidentiality, privacy and sensitivities of the community members during M&E field exercises
- Review the NSP indicators to evolve the mechanisms to generate data for reporting on them
- Convert the M&E system from paper-based reporting to electronic system through an integrated web-based data management system. This is absolutely critical to ensure very close monitoring of HIV cases to move towards the goal of ending AIDS by 2025. Such a system should essentially integrate aggregate reporting and individual HIV case reporting from screening sites (STD clinics, blood banks, private labs, TB clinics and KP NGOs), NRL where confirmatory tests are done and ART centres where HIV cases are followed up for treatment and viral suppression. Develop linkage between the NSACP's data management system and the electronic M&E system developed by FPA for KP prevention programme, to ensure smooth integration of KP programme data into NSACP

3.3.3. HIV/AIDS Research

a) Background

In order to better understand the epidemic and its dynamics, it is important not just to rely on routine data collection systems but also to conduct special research studies that will provide in-depth understanding in areas where there is a knowledge gap. Areas that require research can cover different specialities such as social science, epidemiology, clinical and laboratory based research. In Sri Lanka, there are several issues that have been highlighted already in this review, where understanding is weak and knowledge is lacking. Working together with NSACP staff, key areas of missing information can be identified and prioritised.

It is therefore not the responsibility of the SIM Unit or the NSACP to conduct or supervise research themselves, but rather, it should initiate, commission and facilitate multi-sectoral research with institutional collaboration with academic bodies.

b) Findings

Major successes and achievements identified over the past five years

- Some small surveys have been conducted such as the RSA on TG [6], Acceptance of the OrAQuick saliva test [27], etc. all of which have direct relevance to programme design. A rapid assessment of drug users is currently ongoing
- Sri Lanka College of Sexual Health and HIV Medicine publishes a journal "Sri Lanka Journal of Sexual Health and HIV Medicine (Sri Lanka JoSHHM)" where several articles on HIV and STDs have been published by NSACP doctors
- Several physicians of NSACP conduct small scale research through the Sri Lanka College of Sexual Health and HIV Medicine

- A list of priority areas for research was developed by NSACP a few years back taking feedback from all stakeholders

Major challenges and barriers identified over the past five years

- Research is not prioritised as it is felt that NSACP personnel need to supervise and they do not have time for providing such supervision
- There is no technical working group on research that can bring together researchers from different universities and research organisations for brainstorming
- Most surveys and surveillance activities are contracted out to companies and international experts with very little effort of developing local expertise
- From the list of priority areas for research identified by NSACP a few years back, only a few studies were commissioned

c) Recommendations

- Establish a technical working group bringing together experienced social scientists, epidemiologists, laboratory scientists and clinicians to brainstorm on gaps in information and how research can be designed to address those gaps
- Ensure adequate resources for conducting quality research
- Foster institutional collaboration with academic institutions, medical colleges, social sciences institutions, research institutes and other private research organisations to promote HIV/AIDS research
- Provide the required supportive environment for researchers to take up HIV/AIDS research on the identified areas useful for the programme
- Encourage young PG students to take up thesis topics related to HIV/AIDS. Offer research scholarships to M.Phil or PhD students who take up their thesis work in HIV/AIDS research
- Conduct regular capacity building programmes for NSACP staff and staff at STD and HIV clinics in implementation science and research ethics in HIV/AIDS. Encourage them to undertake local research relevant to the needs of the facility or district or province

3.3.3. Knowledge Management Strategy - System Strengthening for Evidence-Based Programming

Developing a knowledge management strategy for NSACP will be helpful for system strengthening for evidence-based programming. This will be highly effective in contributing to programmatic decision making in the last mile efforts to reach the goal of ending AIDS, while at the same time documenting the journey in a systematic manner, for application in other areas of public health management.

For this several recommendations are suggested:

1. Develop an overarching 'Knowledge Management Strategy' for NSACP with the components of
    a. Knowledge creation – Regular, Systematic analysis of data and bringing out knowledge products such as reports, bulletins, articles and scientific papers
    b. Knowledge collection and storage – Electronic capture and recording of knowledge products in a systematic manner for easy reference and use
    c. Knowledge sharing - Dissemination and communication of knowledge products to stakeholders from time to time
    d. Knowledge translation – Use of data for programmatic actions and decision making

2. Focus on capture, analysis and synthesis of both explicit codified information coming from surveillance, programme M&E, as well as tacit, experiential information coming from programme reviews and feedback systems within the programme
3. Set up a knowledge management unit at NSACP by combining the functions of the Epidemiology and SIM units for more efficient and effective programming. Allot clear responsibilities to the staff to coordinate the overall knowledge management strategy under NSACP
4. Develop a comprehensive list of evidence gaps in the epidemiological understanding as well as in programme management, through a series of brain-storming sessions with programme managers, facility staff, experts, researchers and students
5. Classify the list of evidence gaps into those that can be filled through secondary analysis of existing data and those that need fresh primary research or data collection
6. Develop a 'Data Analysis Plan' to undertake secondary analysis of existing data – epidemiological analysis as well as programmatic analysis – by identifying institutions and persons to carry out the analysis. Identify the analysis that can be done by NSACP programme staff themselves and encourage them to do so. The rest may be delegated to other institutions, academic bodies or experts
7. Develop a 'HIV/AIDS Research Plan' to prioritise and commission the required epidemiological or operational research to generate primary data on the identified areas
8. Establish a scientific group, with involvement of key institutes, partners and stakeholders, to advise on the various methods for data analysis (different types of modelling… etc.) and advise on the technical and scientific approach for data analysis to make sure the knowledge used for decision making is based on strong scientific evidence
9. Build institutional resource pools in HIV/AIDS analysis in the country to support programme on knowledge management through fostering linkages with academic institutes, research organizations and expert bodies
10. Encourage students (graduate, PG, MPhil, PhD) and interns of medical colleges, social science institutions and other research institutions to take up analyses and research in the area of HIV/AIDS through scholarships or fellowships as discussed earlier in section 3.3.3 (under HIV/AIDS Research)
11. Develop NSACP website to host a resource centre for all knowledge products with systematic classification and indexing of the documents, for public use
12. Promote scientific writing within the programme on important topics, involving the facility staff and programme managers, and facilitate their publication in peer-reviewed journals and conferences
13. Conduct monthly 'Brown Bag Seminars' to bring data analysts, researchers and programme personnel together for presentation and discussion of analyses and research findings from completed activities, and ensure use of evidence in programmatic decision making
14. Set up a 'Technical Resource Group' comprising national and international experts in various areas of HIV/AIDS response and strategic information to steer the entire 'Knowledge Management Strategy' under NSACP

3.4. STRATEGIC DIRECTION 4 (SD4): HEALTH SYSTEMS STRENGTHENING

In the national response to HIV/AIDS in Sri Lanka, the main health system is the government programme, which is organized as central and peripheral levels. At the central level, the NSACP

functions as the central technical expert and programme coordinator. In the peripheral level, a network of STD clinics exists under the Regional Directors of Health Services (RDHS), which deliver the STD and HIV care services throughout the country. In addition, NGOs provide services especially to KPs. Non-governmental organizations in health service provision in Sri Lanka are limited to specific areas such as SRH, family planning and substance use.

This section will discuss review findings on the Health Systems against eight parameters as shown below:

3.4.1. Infrastructure and clinic facilities
3.4.2. Laboratory facilities
3.4.3. Service Delivery
3.4.4. Human Resources
3.4.5. Availability of medications and technologies
3.4.6. Strategic Information
3.4.7. Governance and Leadership
3.4.8. Financing

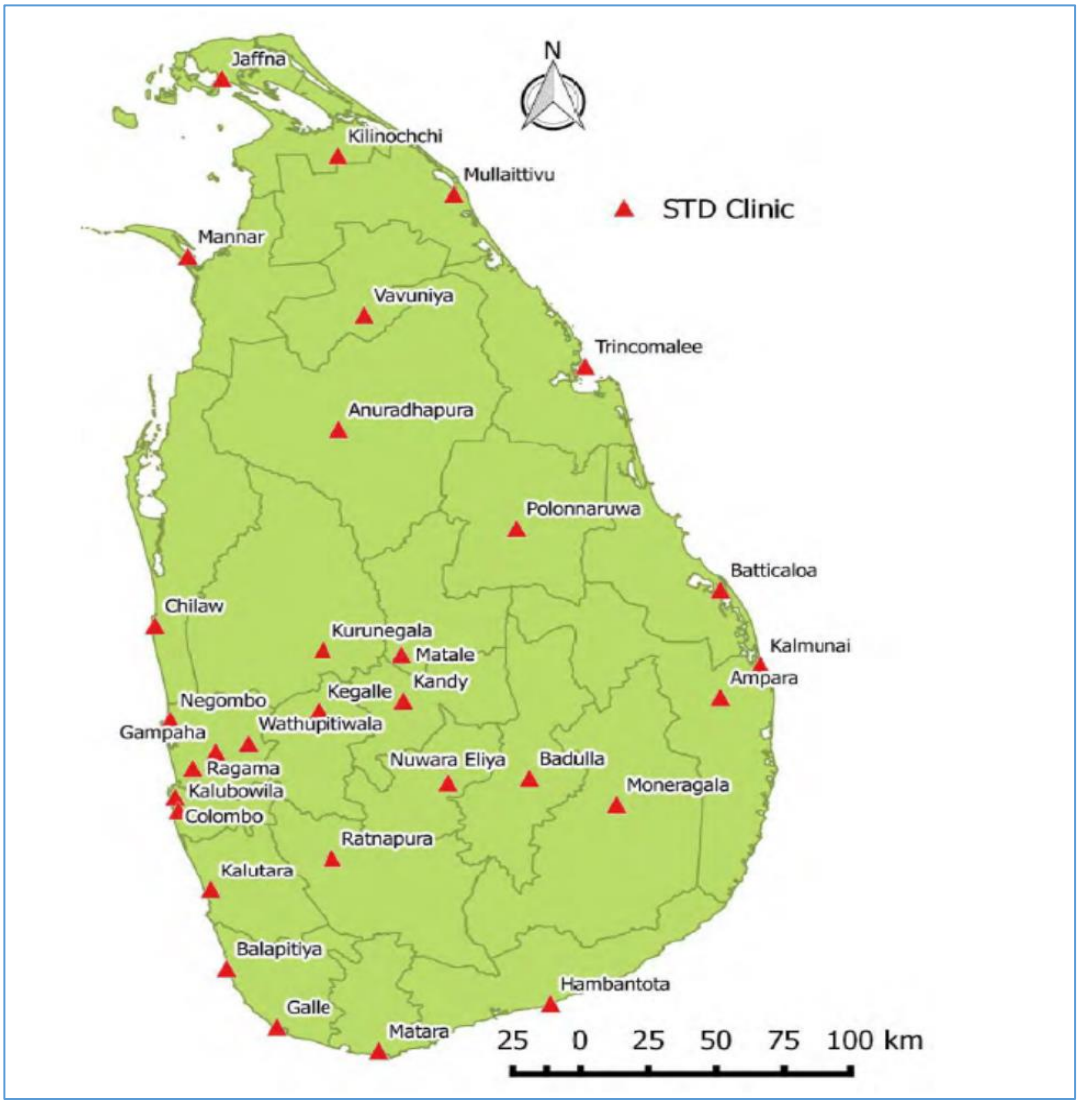
The methodology used for review included a literature review, interviews with key stakeholders and site visits and observations. Sites visited included Central STD Clinic, Pharmacy of central STD clinic, NRL, STD clinic and private laboratories in Negombo, DIC for FSW in Colombo, FPA. The tools used are provided in Annexes 11 and 12.

3.4.1. Infrastructure and Clinic Facilities

a) Background

STI and HIV care services are delivered through a network of 31 permanent STD clinics and 23 branch clinics (Fig 11). Of the 31 STD clinics, 20 clinics and the IDH (which does not have a STD clinic) provide ART services. To better understand the capacities for delivering HIV/STI services, Sri Lanka has completed a national level Service Availability and Readiness Assessment (SARA) following the WHO-recommended methodology and tools. Results are not yet available as the survey data is currently being analyzed.

Fig 11: Distribution of STD clinics in Sri Lanka 2016



b) Findings

Major successes and achievements identified over the past five years

- STD clinic services have been expanded to cover all 25 districts of the country
- In the Northern and Eastern provinces clinics have been developed and upgraded in Jaffna, Killinochchi, Vavuniya, Mullaitivuu, Ampara, Batticaloa, Kalmunai and Trincomalee. Partial support for these was provided by the GFATM grant.
- Office equipment and furniture have been procured for all establishments. Laboratory facilities have been developed in some clinics and are functioning in Jaffna, Vavuniya, Ampara and Trincomalee
- There are 21 ART centres functioning in the country and these cover all nine provinces.
- DICs in Colombo managed by the NGOs and CBOs for KPs and PLHIVs are functioning well (see section 3.11.b)
- SARA has been conducted using standardised tools that will provide the basis on which improvements can be planned

Major challenges and barriers identified over the past five years

- Several deficiencies in the infrastructure of the clinics were identified in a facility survey conducted in 2014 which was highlighted in the MTR of the NSP 2015.
- Since the district STD clinics are administratively under the RDHS, the responsibility of upgrading the clinics with infrastructure development and obtaining equipment lies with the RDHS. Effective implementation of STD clinic upgrading therefore depends heavily on the coordination between the STD clinics and the RDHS. The rapport between these two levels is variable and dependent on personal goodwill rather than established systems
- There is no clear plan for upgrading the peripheral clinics
- Lack of space is a major constraint at the Central STD clinic (see section 3.2.2.b); insufficient space in the waiting area for the patients, for storing patient records, no separate facilities for drawing blood and sexual health services such as insertion of intra uterine contraception device. In addition, there is insufficient space for the pharmacy at the central STD clinic to store the drugs and consumables in an organized manner
- District STD clinics have limited facilities for outreach programmes
- Services in the Northern province need to be improved further particularly the laboratories of Kilinochchi, Batticaloa and Kalmunai
- There are only three DICs run by NGOs that provide facilities for PLHIV and three DICs that provide services to KPs and all are in Colombo

c) Recommendations

- Develop a plan for upgrading the STD clinics based on the findings of the facility survey.
- Develop the facilities of the clinics in the Northern province
- Provide all district STD clinics with a vehicle for outreach activities
- Develop a plan to increase and improve the space in the Central STD/HIV clinic and for efficient utilisation of available space. Space is needed for blood drawing and comprehensive sexual health services
- Provide facilities for storage of patient records at the central STD/HIV clinic
- Create short term accommodation /observation facilities for PLHIV who do not need hospitalisation especially in those cases that need observed care for short periods and link them to STD clinic service providers
- Upgrade the facilities in DICs and expand them to other districts which have a high load of KPs (see section 3.1.1.c.i)

3.4.2. Laboratory Facilities

a) Background

Laboratory services for HIV and STIs are provided by NRL of NSACP and the peripheral laboratories of the 31 STD clinics. At present, peripheral laboratories are available in 28 of the 31 STD clinics (Table 5). The laboratories of Monaragala, Batticaloa, Wathupitiwala and Kalubowila are not functioning and services are provided by nearby laboratories; Monaragala by Badulla STD clinic laboratory, Wathupitiwala by Gampaha laboratory, Kalubowila and Batticaloa clinic by the NRL. In the Northern province only Jaffna and Vavuniya clinics had functioning laboratories and they provide laboratory services to the STD clinics in Kilinochchi, Mullaitivuu and Mannar. Findings on Laboratories are also presented in section 3.1.6.b.

Table 5: Availability of laboratory facilities in STD clinics – 2017 *(Source NRL 2017)*

Province	No	Clinic	Laboratory Available	Syphillis	HIV Screening	ELISA machine	Covering up Laboratory
Central	1	Nuwareliya	Yes	VDRL/TPPA	ELISA	Yes	
	2	Kandy	Yes	VDRL/TPPA	ELISA	Yes	
	3	Matale	Yes	VDRL/TPPA	ELISA	Yes	
Eastern	4	Kalmunai	Yes	VDRL/TPPA	SFD	Yes	
	5	Ampara	Yes	VDRL/TPPA	SFD	Yes	
	6	Batticaloa	Yes	-	-	Yes	NSACP NRL
	7	Trincomalee	Yes	VDRL/TPPA	ELISA	Yes	
Nothern	8	Vavuniya	Yes	VDRL/TPPA	ELISA	Yes	
	9	Jaffna	Yes	VDRL/TPPA	SFD	Yes	
	10	Mullativu	No	-	-	No	Vavunia
	11	Mannar	No	-	-	No	Vavunia
	12	Kilinochchi	No	-	-	No	Jaffna
North Central	13	Anuradhapura	Yes	VDRL/TPPA	ELISA	Yes	
	14	Polonnaruwa	Yes	VDRL/TPPA	ELISA	Yes	
North Western	15	Kurunagala	Yes	VDRL/TPPA	ELISA	Yes	
	16	Chilaw	Yes	VDRL/TPPA	ELISA	Yes	
Southern	17	Hambanthota	Yes	VDRL/TPPA	ELISA	Yes	
	18	Galle	Yes	VDRL/TPPA	ELISA	Yes	
	19	Balapitiya	Yes	VDRL/TPPA	SFD	Yes	
	20	Mathara	Yes	VDRL/TPPA	ELISA	Yes	
Sabaragamuwa	21	Kegalle	Yes	VDRL/TPPA	ELISA	Yes	
	22	Rathnapura	Yes	VDRL/TPPA	ELISA	Yes	
Uva	23	Badullla	Yes	VDRL/TPPA	ELISA	Yes	
	24	Monaragala	Yes	-	-	Yes	Badulla
Western	25	Colombo	Yes	VDRL/TPPA	ELISA	Yes	
	26	Kalubovila	Yes	-	-	Yes (NSACP)	NSACP NRL
	27	Ragama	Yes	VDRL/TPPA	ELISA	Yes	
	28	Gampaha	Yes	VDRL/TPPA	ELISA	Yes	
	29	Negombo	Yes	VDRL/TPPA	ELISA	Yes	
	30	Wathupitiwala	Yes	-	-	No	Gampaha
	31	Kaluthara	Yes	VDRL/TPPA	ELISA	Yes	

b) Findings

Major successes and achievements identified over the past five years

- Laboratory facilities have been expanded to 28 peripheral laboratories including Northern and Eastern provinces
- Facilities in the peripheral laboratories have been upgraded. Ten ELISA readers were purchased, two CD4 machines were provided to Kandy and Galle STD clinics with support from GFATM, two automated real time PCR machines and GeneXpert machines for VL testing were provided to Galle and Anuradhapura (see section 3.1.6.b)
- In NRL, testing with real time PCR technology for Chlamydia, Gonorrhoea and HSV has been introduced. A GeneXpert machine has been installed (see section 3.1.6.b)
- Quality assurance activities are carried out for the peripheral laboratories by the NRL (see section 3.1.6.a)
- External quality assurance of NRL is conducted with international reference laboratories (see section 3.1.6.a)

Major challenges and barriers identified over the past five years

- CD4 machines and GenExpert machines are not yet functioning due to various constraints such as lack of availability of reagents and cartridges (see section 3.1.6.b)
- Some of the ELISA machines placed in peripheral clinics are not utilized due to lack of trained staff
- Delay in the delivery of test kits and reagents leads to practical difficulties in maintaining a steady service. NRL estimates the requirements of special consumables like test kits and reagents for the peripheral clinics and coordinates the placement of orders. MSD handles the storage and supply while the procurement process is handled by the SPC. From the time of placing the orders to delivery of kits there is a lag period of about two years
- The space in NRL is inadequate (see section 3.1.6.b. There is no back up for the cold room at NRL

c) Recommendations

- Expedite the procurement of cartridges and make arrangements for the equipment for CD4 and VL measurements to become functional at the peripheral clinics (see section 3.1.6.c)
- Analyse the supplies chain of laboratory consumables carefully to identify the points leading to the delays and recommend ways to overcome them. Conduct careful forecasting exercises to prevent shortage of kits and also request suppliers for a longer shelf life of kits and reagents

3.4.3. Service Delivery

a) Background

STD clinics are geared to provide the following services: condom distribution, screening for syphilis, screening for HIV, HIV testing and counselling, and partner notification (contact tracing). However, not all clinics provide the full range of services, due to limitations in facilities and human resources. ARV services are not available in six districts - Nuwara Eliya, Ampara, Trincomalee, Mullaitvu, Killinochchi and Mannar.

b) Findings

Major successes and achievements identified over the past five years

- Treatment guidelines have been developed for the major components of the programme (PMTCT, HIV Testing, ART, Waste management, etc.) and are being utilized by the district level service providers.
- Supervision of peripheral clinics by the NSACP staff has recently been initiated
- The progress of the peripheral clinics is reviewed
- Quality assurance tools have been developed for various tests (see section 3.1.6.a) and the EMTCT programme.
- Patient satisfaction with the clinic services is high in the Central STD clinic. STD clinic staff were found to be responsive and experience of stigma by PLHIV was minimal.

Major challenges and barriers identified over the past five years

- Supervision of peripheral clinics does not occur according to an annual supervision plan. It is important for all programme managers to be participating in the supervision visits, thus enabling a comprehensive assessment of the services provided by the peripheral clinics.
- Patients experienced stigma in the other hospitals where they were referred to, for additional investigations or treatment
- There is no system to ensure quality of clinical care. Standards of care are defined in the clinical guidelines and communicated to district level service providers but these are not monitored.
- Safety practises and bio-medical waste management was insufficient (see section 3.1.6b). There is no system to monitor the infection control practices.

c) Recommendations

- Streamline and strengthen supervision with representation from all programme coordinators and should occur according to an annual plan.
- Develop and institutionalize mechanisms to monitor and ensure quality of patient care
- Ensure quarterly reviews are conducted regularly
- Organise training of staff from other hospital staff to reduce stigma and increase awareness regarding the sensitivities related to PLHIV and KPs.
- Develop a system to monitor the infection control practices in the clinics and laboratories (see section 3.1.6.b)

3.4.4. Human Resources

a) Background

The different personnel categories in NSACP and district STD/ART clinics include Venereologists, medical officers, nursing officers, PHIs, MLTs, PHLTs, pharmacists, administrative and support staff. The list of different categories of staff available at each STD clinic site as of September 2017 is provided in Table 6.

NSACP, Central STD clinic and NRL currently manage the work load with available staff as well as postgraduate trainees in venereology. A considerable amount of managerial work is conducted by the different programmes of the NSACP, however, only the SIM Unit and the Multi-Sectoral Unit are

organized as separate units with administrative staff. For the other programmes of the NSACP, there is no designated staff to undertake the managerial work. With the goal of Ending AIDS in Sri Lanka by 2025, considerable expansion and diversification of programmes and services are envisaged under NSACP. For this new cadre positions will need to be created for consultant posts as well as administrative staff.

Table 6: Availability of staff in STD clinics – as of September 2017 *(Source: SIM Unit NSACP)*

Province	District	Name of STD Clinic	Consultants		MOIC	MO	PHNS	PHI	Nursing officer	MLT	PHLT	DO	MA	Driver	Attendant	HA
			Board Certified Consultants	Acting Consultants												
Eastern	Batticoloa	Batticaloa	0	0	1	0	1	1	1	0	0	0	0	0	0	1
	Ampara	Ampara	0	0	1	1	0	1	0	1	0	0	0	0	1	2
		Kalmunai	0	0	0	0	0	1	1	1	0	0	1	0	1	2
	Trincomalee	Trincomalee	0	0	1	0	0	1	1	2	0	0	0	0	1	2
Western	Colombo	Colombo	9	4	0	13	2	6	12	16	4	8	5	4	5	25
		Kalubowila	1	0	0	3	0	0	3	0	1	1	0	1	0	4
		Awissawella	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gampaha	Ragama	1	0	1	3	1	1	2	2	4	1	0	1	2	4
		Gampaha	0	1	1	1	1	1	2	1	1	0	0	0	0	2
		Negombo	2	0	1	1	0	1	1	1	1	0	0	1	0	2
		Wathupitiwala	0	0	0	1	1	0	1	0	0	0	0	0	0	0
	Kalutara	Kalutara	0	1	1	2	0	1	2	1	1	1	1	1	0	4
North Central	Anuradhapura	Anuradhapura	1	0	1	1	0	1	5	1	2	0	0	1	1	2
	Polonnaruwa	Polonnaruwa	0	1	1	0	0	1	2	1	0	0	0	0	1	2
Northern	Jaffna	Jaffna	0	1	1	1	0	1	1	1	1	0	1	0	1	3
	Kilinochchi	Kilinochchi	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	Mannar	Mannar	0	0	0	0	0	1	0	0	1	0	0	0	0	2
	Mullativu	Mullaitivu	0	0	0	1	0	1	0	0	0	0	0	0	0	1
	Vavuniya	Vavuniya	0	0	1	0	0	1	1	1	1	0	0	1	1	1
	Puttalam	Chilaw	1	0	1	1	0	1	2	1	1	1	0	1	0	3

Province	District	Name of STD Clinic	Consultants		MOIC	MO	PHNS	PHI	Nursing officer	MLT	PHLT	DO	MA	Driver	Attendant	HA
			Board Certified Consultants	Acting Consultants												
North Western	Kurunegala	Kurunagala	0	1	1	2	0	2	4	1	2	1	0	1	0	6
Central	Matale	Matale	0	1	1	1	0	1	1	1	1	0	0	0	0	2
	Kandy	Kandy	1	0	1	8	0	1	6	1	2	2	0	1	3	5
	Nuwara Eliya	Nuwara Eliya	0	1	1	1	0	1	2	1	0	0	0	1	1	3
		Nawalapitiya	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Uva	Badulla	Badulla	0	1	1	2	0	1	6	2	1	1	1	2	1	8
	Monaragala	Monaragala	0	0	1	0	0	1	1	0	0	1	0	0	0	3
Sabaragamu	Kegalle	Kegalle	0	1	1	1	0	1	1	1	1	1	1	1	0	4
	Ratnapura	Rathnapura	1	0	1	2	0	1	3	1	1	0	0	1	1	4
		Embilipitiya	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Southern	Galle	Mahamodara	1	0	0	2	0	1	2	2	1	0	1	1	1	3
		Balapitiya	0	0	1	3	0	1	2	1	2	1	1	0	0	3
	Matara	Matara	0	1	1	0	0	2	4	1	2	1	1	1	0	2
	Hambantota	Hambantota	1	0	1	0	0	1	3	1	0	1	1	1	1	3
Grand Total			**21**	**15**	**23**	**52**	**6**	**35**	**72**	**43**	**32**	**21**	**14**	**21**	**22**	**109**

MOIC – Medical Officer In Charge, MO-Medical Officer, PHNS-Public Health Nursing sister, PHI-Public Health Inspector, MLT-Medical Laboratory Technician, PHLT-Public Health Laboratory Technician (including Microscopists), DO-Development Officer, MA-Management Assistant, HA-Health Assistant

b) Findings

Major successes and achievements identified over the past five years

- Medical officers and nursing officers are available in all STD clinics
- Consultant Venereologists have been appointed to 19 STD clinics and three more hospitals where there are no functioning STD clinics currently
- Almost all staff of the STD clinics were trained on STD /HIV within 6 months of appointment to the STD clinic. Regular training programmes are conducted for this purpose
- All basic training curricula for HCWs include issues on HIV/AIDS
- Staff motivation in the peripheral clinics is generally high and they take pride in being part of the NSACP
- Capacity building programmes are conducted by the NRL for MLTs and PHLTs of peripheral laboratories. Currently, training programmes are underway for capacity building of staff on EMTCT which is a requirement for validation of the programme

Major challenges and barriers identified over the past five years

- Expansion of services with the adoption of EMTCT and the 'treat all' policy has increased the work load which is challenging for the existing staff. Currently several programmatic areas are overseen by a single programme coordinator
- Not all staff members of peripheral clinics have received training on STD/AIDS. Moreover, no refresher training is not conducted regularly. Training needs to be decentralised to the district level (see section 3.2.2.c). Counselling training for medical offices and nursing officers is not conducted regularly
- Appointment of Consultant Venereologists to peripheral STD clinics is not done according to a plan, which leads to Venereologists being appointed to hospitals without STD clinics while there are many functioning STD clinics without consultants
- Lack of administrative staff in some of the programmatic areas of NSACP can negatively affect the efficiency of those programmes
- Most clinics do not have separate data management staff and in those clinics data management is handled by PHIs and nursing officers. This hampers their preventive and other activities
- Currently, there is no system to recognise staff for their exceptional performance or their service in geographically difficult settings
- NRL has considerable responsibilities but there are no designated staff cadres for the various administrative functions of the NRL. There are vacancies at the NRL at present - three cadre posts for MLTs are not occupied
- The number of HIV tests conducted has increased in several peripheral STD clinic laboratories which face difficulty in retaining MLTs because overtime is not provided. Out of the 28 laboratories 6 do not have MLTs, and 3 are managing with part time MLTs. Ten peripheral laboratories do not have PHLTs

c) Recommendations

- Fill all vacancies in all staff categories

- Fill vacancies of MLT cadres urgently. In laboratories where work load of HIV testing is high, a system should be identified to obtain support of the hospital MLTs or to provide an incentive payment to existing MLTs to perform work outside the routine hours
- Conduct regular training programmes for all HCW according to an annual plan. This plan should be shared with other relevant units and district clinics. Training on STD/AIDS should be made mandatory for all staff who are working in STD clinics (see section 3.2.2.c)
- Provide administrative staff support to existing programmatic areas of NSACP
- Appoint consultant Venereologists according to the plan of upgrading peripheral clinics. This should be institutionalized through discussions with the Deputy Director General Medical Services
- Consider creating data management staff positions at peripheral STD clinics especially where work load is high. This will also be required when the computerised data management system is institutionalised
- Create a system to recognise and reward well performing staff and make it functional
- Identify key new posts and number of staff that will be required to work towards the aim of Ending AIDS in 2025 and appoint accordingly. This should follow a well- developed and considered plan

3.4.5. Availability of medications and technologies

a) Background

Two major changes in the strategic directions of ART provision and supply of ARV drugs occurred in 2016; the country adopted the 'treat all' policy [2] and the Govt. of Sri Lanka took over the responsibility of ARV procurement and supply from the GFATM.

The procurement of ARV drugs has been described and reviewed in section 3.2.2. In summary, the process of supply chain management of ARVs is long starting from estimating needs to placing orders and receiving consignments and involves multiple agencies including NSACP, MSD, SPC, NMRA. In addition, ARVs are stored at the NSACP pharmacy from where they are distributed to the district clinics.

Consumables such as condoms, lubricants and HIV rapid diagnostic kits are procured using GFATM funds and the procurement is coordinated by the GFATM coordination unit of the NSACP. Procurement of these items are handled by the GFATM through the pooled procurement mechanism.

Drugs required for the treatment of STIs are supplied by the MSD. Peripheral clinics are supplied drugs through regional MSDs through the RDHS office while the central STD clinic obtains the supplies directly from the central MSD. Funding for these medications are from the government of Sri Lanka through the MoH budget. No shortages of essential STI drugs have been reported in recent years.

b) Findings

Major successes and achievements identified over the past five years

- The decision of the Government of Sri Lanka to procure all ARV drugs shows strong commitment and ownership of the programme by the country which will provide long term sustainability
- Supply of most essential STI drugs and other medications to all STD clinics is efficient and there are no shortages
- At present there is no quality assurance system to ensure the quality of ARV medications along the supply chain. Currently a system is being developed with the NMRA to develop the capacity of local laboratory for quality assurance testing and verification

Major challenges and barriers identified over the past five years *(also presented earlier in section 3.2.2.b)*

- Acute shortage of one ARV drug was experienced during 2017 due to a delay in obtaining the No Objection Certificate (NOC) from NMRA (see section 3.2.2b). Since most of the ARV drugs are not registered, each shipment of drugs has to be cleared by obtaining NOCs from the NMRA
- Storage facilities for drugs at the Central STD clinic pharmacy are inadequate. Many peripheral clinics are also lack facilities for proper storage of drugs

c) Recommendations

- Overcome stock outs of ARV drugs as recommended in section 3.2.2c
- Conduct an ART Storage Facilities and Treatment Sites Assessment for the 31 STD clinics in Sri Lanka
- Ensure that the quality assessment of ARVs is established and institutionalized

3.4.6. Strategic Information

All issues, including the systems pertaining to SIM has been described in section 3.3. It will therefore not be addressed further here.

3.4.7. Governance and Leadership

a) Background

The NSACP was established as a special programme of the MoH under the Deputy Director General Public Health Services, with the responsibility to lead the national response to STIs and HIV/AIDS in Sri Lanka. A National AIDS Policy [28] approved by the parliament in 2011, guides the response. To provide high-level political support to the programme, a National AIDS Council was formed under the chairmanship of HE the President of Sri Lanka.

A National AIDS Committee (NAC), led by the Secretary of the MoH provides a platform for multi-sectoral engagement and discussion on all activities related to HIV/AIDS/STI. Its membership comprises secretaries from other ministries, development partners, and civil society, including

NGOs, CBOs, PLHIV and the private sector in addition to the representatives from NSACP. The NAC is supported by five technical subcommittees on: 1. information/education/communication, and prevention; 2. policy, legal and ethical issues; 3. sectoral issues; 4. HIV care, treatment, counselling, and laboratory services; and 5. SIM. The subcommittees are responsible for technical guidance to the NAC in its advocacy role. At the provincial level, Provincial AIDS Committees (PACs) have been formed with the representation of provincial level governmental organizations, NGOs, KPs, PLHIV and health sector representatives.

NSACP is guided by five year NSPs which are also used to monitor and evaluate progress of STI/HIV activities in the country. All activities, both centrally and peripherally are meant to be aligned to the NSP.

As described before, the government health system for STD and AIDS prevention and control is organized in two levels, central and provincial. At the central level, NSACP is led by a director and a senior management team, and has several programmatic areas which provide preventive, curative and laboratory services. Peripheral STD clinics are under the provincial government, and administratively under the authority of the RDHS. NSACP provides technical guidance as well as technical products like ARVs, HIV test kits, condoms, test cartridges etc. while the general supplies, recurrent and capital expenses are provided through the RDHS.

b) Findings

Major successes and achievements identified over the past five years

- A National AIDS Policy is in place to provide policy guidance to the national response.
- NAC provides a platform for multi-sectoral engagement, and its technical sub-committees are mostly active and provide support for advocacy to NAC
- PACs provide the mechanism for provincial level support and collaborations of different stakeholder groups.
- A NSP 2013-2017 has had a midterm review in 2015 [15] and review comments have mostly been taken into account by NSACP
- Most programmatic areas of NSACP align with the NSP
- In order to achieve the targets of the NSP, NSACP works in close collaboration with other programmes such as the NBTS, National Programme for Control of Tuberculosis and Chest Diseases (NPTCCD) and the FHB

Major challenges and barriers identified over the past five years

- The National AIDS Council has not been functional for several years now
- The functioning of the PAC is variable across the provinces and are not functioning well in some provinces
- Annual plans aligned with NSP are not developed by some programmatic areas and the peripheral clinics
- Coordination between RDHS and STD clinic is not satisfactory in some districts.

d) Recommendations

- Revive the National AIDS Council under the chairmanship of HE the President. Commitment from the highest political level is essential and NSACP needs to develop a strong advocacy plan to obtain political commitment and inter-sectoral support to achieve this target. This is particularly pertinent with the goal of Ending AIDS by 2025

- Regularize the NAC meetings and the functioning of the subcommittees of the NAC
- Strengthen PACs and form District AIDS committees under the leadership of the RDHS to improve coordination within health system and to enhance collaboration with other stakeholders
- Utilise the monthly conference of RDHS office as an opportunity to strengthen the coordination between STD clinic and RDHS. Consider sharing the reports of the supervisions and reviews conducted on the STD clinics conducted by the NSACP with RDHS for better communication
- Initiate the process of developing an annual plan and estimating the total resources needed at the beginning of the year, in all programmatic areas and district clinics

3.4.8. Financing

a) Background

The Government of Sri Lanka funds the capital and recurrent expenditure of health services provided through all government hospitals and prevention programmes. In addition, the NSACP received a grant of US$ 5,323,102 for the period of 2016 - 2018 under the New Funding Model proposal for the HIV component of the GFATM where the NSACP is the PR1 and an NGO FPA is PR2. Further, the UNICEF and World Bank provides funds for the EMTCT programme while WHO also supports the NSACP through funds. In addition, a regional GFATM grants provides funding support to FPA as a SR for programmes on advocacy and policy changes related to MSM population.

Coordination of the GFATM funded activities of NSACP is carried out by a separate unit – the GFATM coordination unit. A Project Management Unit functions as the GFATM counterpart in coordinating the activities of fund disbursement.

b) Findings

Major successes and achievements identified over the past five years

- The funding support provided by the Government of Sri Lanka for NSACP has increased over the years which shows the commitment of the country to the activities of NSACP and will allow sustainability of the programme. In 2015 about 60% of the programme cost has been borne by the government
- Formation of a separate unit for coordinating GFATM funded activities has increased the efficiency of managing these funds
- Funding support of multilateral partners is received by the NSACP. Donor funding is mainly directed at strengthening NGOs providing services to KPs

Major challenges and barriers identified over the past five years

- Preparedness of the government to fund the entire curative and preventive programme for the national response to HIV/AIDS in future remains a challenge

c) Recommendations

- Advocate strongly to ensure government funding for sustainability of the programme in future

- Plan carefully for the sustainability of the NGO based peer-led KP interventions at the end of GFATM support and put in place an interim plan before complete closure of the GFATM grant

3.5. STRATEGIC DIRECTION 5 (SD5): SUPPORTIVE ENVIRONMENT

A supportive environment that is conducive for providing services to marginalised and stigmatised populations such as KPs and PLHIV and that protects their human rights is essential for a successful HIV/STI prevention, care and treatment programme. This section reviewed the area of associated laws, legislations, policies and capacity development of HCWs relevant to the provision of supportive environment for KPs and PLHIV and assessed whether members of these population groups have access to health care services free of stigma and discrimination.

The review included a literature review of published and unpublished documents, interviews and group discussions with key programme implementers, key informants, relevant population groups and field/clinic observations in government and NGO sectors. Two exit interviews were also conducted with two PLHIV attending an STD clinic. Interviewer guide is provided in Annexe 13.

The review considered seven aspects for determining supportive environment. These are:

3.5.1. Capacity development of health workers
3.5.2. Accessibility and supportive environment in the government STD Clinics
3.5.3. Multi- sectoral coordination
3.5.4. Sexual & Reproductive Health Education in Schools
3.5.5. Involvement of PLHIV and Positive network organizations for national response
3.5.6. Condom accessibility
3.5.7. Laws, Regulations, policies, plans, programmes and committees related to Supportive Environment

3.5.1. Capacity development of health workers

a) Background

NSACP conducts training programmes for different categories of health care providers and the training modules include issues around stigma and discrimination in order to promote positive attitudes and develop skills for providing a supportive environment to the service recipients.

3.5.1. b) Findings

Major successes and achievements identified over the past five years

- The trainer's manual of medical officers of STD clinics, addresses ethical, legal and social issues while the Post Graduate Diploma course in venereology has a separate module on Right to Health with special emphasis on SRH for KPs. Nursing students in different training schools also undergo training on STIs and HIV
- Annually NSACP trains 30 hospital staff including doctors, nurses, officers, pharmacists and MLTs aimed at creating a non-judgmental attitude towards PLHIV to prevent stigma
- *Ad hoc* training programmes are also conducted for the medical and nursing staff to prevent stigma and discrimination for PLHIV and KPs in the districts

- Public Health staff in 12 districts received ToT on HIV prevention based on life skills to conduct awareness programmes with the general community and school children

Major challenges and barriers identified over the past five years

- The training curricula does not sufficiently address stigma and discrimination. Furthermore, regular in-service training for HCWs is not carried out
- Medical students of all the universities in Sri Lanka attend the closest STD clinics for practical clinical training for two weeks. The lectures on STI/HIV/AIDS have not been updated and does not adequately address issues on human rights

c) Recommendations

- Update and modify all the training programmes for HCWs to address stigma and discrimination. Training should include law and Human Rights, ethical professional practice, special issues of KPs including sexual orientation and gender identity and expression
- Monitor the training programmes and monitoring should preferably be carried out quarterly by the RDHS
- Annual training should be conducted with the staff working in the STD clinics. Expand life skills based ToT to all the districts. These programmes could include experts from relevant fields (e.g. police, lawyers, etc.) and PLHIV as resource persons and should be organized by the district STD clinic staff using provincial funds
- Establish/strengthen district steering committees headed by RDHS with multi stakeholder involvement (including community organizations) in all districts and hold quarterly meetings to review progress. Provincial steering committee with multi stakeholder involvement should be held twice a year to review the performance at the provincial level.
- Train HCWs of private hospitals

3.5.2. Accessibility and supportive environment in the government STD Clinics

a) Background

In general, the STD clinics have become friendlier and more accessible to KPs. However, issues remain as discussed in earlier sections (see section 3.1.1.b.iii) and highlighted in the recent Stigma Index report on PLHIV [29].

b) Findings

Major successes and achievements identified over the past five years

- KPs feel less stigma and discrimination in STD clinics presently compared to previous years and compared to other health care settings. The majority of PLHIV and KPs were satisfied with the services provided by the STD clinics. PLHIV attending the peripheral clinics expressed their closeness with the clinic staff
- Access to STD clinic staff is generally good. The Central STD clinic has a hotline and the staff of other STD clinics have given their personal contacts to PLHIV in case of need
- Community based testing is highly appreciated by the KPs and they trust the testing procedure as MLTs from nearby STD clinics supervise the test (see section 3.1.1.b)

Major challenges and barriers identified over the past five years

- Although there has been a reduction in the experience of stigma and discrimination in the health care settings by KPs and most doctors and nurses are sensitive to their issues, many KPs have been discriminated against by minor staff at those health centres. Newly appointed medical graduates at the STD clinics are not as well aware and sensitive as experienced medical officers and often discriminate against KPs
- There is no mechanism for providing suggestions for improvement by STD clinic attendees in peripheral STD clinics such as a comments and suggestions box
- Some STD clinics have limited space which can compromise confidentiality as privacy is not possible in cramped spaces
- STD clinics in some districts are far so that KPs have to spend long hours and considerable cost is incurred for the travel. The timing of the clinics is also problematic for some KPs as they are unable to attend the clinic during weekdays and prefer weekends
- Recent stigma report shows a high degree of internal stigma among the sampled PLHIV indicating the need for comprehensive counselling sessions with the support of a psychiatrist/psychologist. PLHIV also require the same support. However, such specialised services is not available in the STD clinics at present, except once a month service at the central clinic

c) Recommendations

- Conduct a facility survey of all the STD clinics to assess the availability of minimum standards and quality of care and the STI Clinic Operational Guidelines and Standards – Primary Health Care Level (NSACP) may be used
- Appoint a psychiatrist/psychologist to STD clinics, on a visiting basis for clinics which provide ART, to manage PLHIV
- Consider separate compartments for different clinic activities to maintain privacy and confidentiality of clients
- Circular should be issued to all STD clinics to maintain a comment and suggestion box
- Develop and display sensitive communication materials in the clinics and use more pictorial and interesting messages

3.5.3. Multi- sectoral coordination

a) Background

NSACP works closely with different government departments sectors to ensure a multi-sectoral response to HIV/STI and to build a supportive environment. These include prisons, police, armed forces, migrant sector, tourist sector, youth and education. Programmes with these different groups are predominantly restricted to ToTs and the training address issues on transmission of HIV/STIs, prevention and also increasing awareness regarding the need for a conducive environment for KPs and PLHIV. Many communications materials have been developed and distributed among the different government sectors as well as KPs. All these sectoral programmes include positive stories of PLHIV and sharing of experiences by TG. Such interactive sessions are effective in preventing stigma and discrimination.

In addition to government departments and sectors, NSACP is working closely with NGOs such as FPA who is also a PR for the GFATM (see section 3.4). Joint PR1 and PR2 meetings are held every

quarter to discuss about implementation strategies and to overcome barriers for KPs. This is an example of an effective partnership of NSACP with the NGO sector.

b) Findings

Major successes and achievements identified over the past five years

- World AIDS Day activities reinforce existing linkages with the different government and NGO sectors. PAC also plays a crucial role in maintaining these links at the provincial level. Furthermore, active engagement of the PWN enhances these activities.
- A National Communication Strategy on control and prevention of STI/HIV/AIDS which is being developed by NSACP is an important initiative for raising awareness among the general population and reaching out to a wide audience
- A Youth Steering Committee for HIV prevention has been established under NAC. Youth Parliamentarians, officers from the Youth Corps and the Youth Council were given training and all necessary communication materials to carry out programmes at the peripheral level. Sexual health component has been incorporated into their regular training curriculum

Major challenges and barriers identified over the past five years

- High level of commitment is needed for sustainability of multi-sectoral involvement
- Media are not properly trained and sensitised to KP and PLHIV issues resulting in negative reporting on PLHIV and KPs through electronic, print social media. There should be more coordination with media to reach the general population and also to target religious leaders who are not considered in existing communication strategies

c) Recommendations

- Advocate strongly for continued and strengthened support for an effective multi-sectoral engagement. A strong momentum needs to be built at the political and policy level for inclusion of HIV in sectoral policies. This will contribute greatly towards achieving the goal of Ending AIDS by 2025
- Enhance and strengthen media awareness and advocacy
- Establish online awareness campaigns through social media, develop eye catching videos, messages

3.5.4. Sexual and Reproductive Health Education in Schools

a) Background with Findings

Major successes and achievements identified over the past five years

- A policy decision has been taken by the Ministry of Education, for incorporating sexual health within the topic of “Health and wellbeing” for students who follow the vocational training stream (also called 13 years compulsory education stream) since 2017.
- Women and Gender subcommittee of the Parliament has recognised the need for comprehensive sexual education for school children and has developed a curriculum together with the Ministry of Education and other stakeholders. Teacher training is currently underway as a pilot project in Colombo District to train A Level students for two days
- National Institute of Education (NIE) conducts training programmes on SRH for In Service Advisors (ISA) who are in charge of Health and Physical Education as trainers. The NSACP is

also involved in training of master trainers. The ISA are supposed to train Health and Physical Education teachers at the zonal level

Major challenges and barriers identified over the past five years

- The reproductive health education curriculum in the schools in Sri Lanka is not at par with international standards in relation to SRH including HIV and STI prevention. Sexual health is incorporated into the Health and Physical Education Curriculum, and is an optional subject for Ordinary Level Examination (O/Ls). Only 40% of the students take this course
- Teachers lack skills in dealing with the sensitive subject of sexual health
- Subjects on sexual orientation, MSM and TG population have not been included into the curriculum. Teaching about condoms is prohibited in the schools except for the Advanced Level Bio stream
- Implementation and monitoring of the training programmes at the zonal level is the responsibility of the zonal director and is not carried out as expected. There is no monitoring system at NIE to follow up of implementation of these training programmes

b) Recommendations

- Advocate with policy makers to update the curriculum on SRH including HIV/STI so that it meets the needs of young people today
- Provide training to teachers to enable them to teach the topic of SRH including HIV/STI and gender orientation

3.5.5 Involvement of PLHIV and Positive network organizations in the national response

a) Background

There are three PLHIV networks in Sri Lanka - Lanka Plus, PWN and Positive Hopes Alliance and PLHIV can join (or not join) any one of these organisations. All these organizations are Colombo-based but work throughout the country. They are providing a safe, secure and confidential environment free of stigma and discrimination where PLHIV can obtain counselling service, emotional and financial support provided funds are available.

b) Findings

Major successes and achievements identified over the past five years

- NSACP is working closely with PLHIV in implementing the AIDS policy. PLHIV are represented in NAC and its five sub committees. PLHIV are involved in developing NSPs, participating in finding LFU and contributing for external reviews of HIV programmes etc. They also support national level surveys and studies and were actively involved in the stigma assessment among PLHIV conducted by NSACP in 2016
- PLHIV organization run DICs to help PLHIV visiting central NSACP for treatment and care as described earlier in section 3.2.2.b
- An insurance scheme has been initiated for PLHIV by Janashakthi Insurance Pvt Ltd.

Major challenges and barriers identified over the past five years

- Stigma remains an issue for PLHIV

- PLHIV networks feel their services are not recognised to the extent that it should be. They also face difficulty in meeting travel expenses especially when visiting remote areas for LFU tracing
- There are many shortcomings of the insurance scheme for PLHIV as it does not cover them for more than 10 years

c) Recommendations

- Continue to work on stigma reduction
- Further strengthen the coordination between PLHIV organizations and STD clinics staff
- Revisit the Janashakthi Insurance scheme so that it provides a longer term coverage

3.5.6 Condom accessibility

a) Background

Condoms are listed under the medical device category in the essential drug list of the MoH. There is no legal restriction to keep condoms. The government provides free condoms which are distributed widely. The commercial sector supplies condoms to the pharmacies, supermarkets, grocery shops, private hospitals and other retail outlets at a varying prices and based on the quality of the condoms. FPA and Population Services Lanka provide free condoms through a limited number of centres.

b) Findings

Major successes and achievements identified over the past five years

- The PE model to reach KPs has been successful in promoting and distributing condoms (see section 3.1.1.b)
- A National Condom Strategy was developed by the NSACP following a situation assessment of condom programming in 2015 [30]. The main aim of the strategy is to ensure the availability of quality condoms of choice, either free of charge or at an affordable price, through an effective and responsive service delivery system, in order to provide quality SRH services to the entire country

Major challenges and barriers identified over the past five years

- The situation assessment of condom programming in Sri Lanka, 2015, shows the prevalence of significant stigma associated with condom use
- FSW still fear carrying condoms although this is not illegal (see section 3.1.1.b under “lack of an enabling environment”)

c) Recommendation

- Widely disseminate the National Condom Strategy and make all aware of the legal status of condoms

3.5.7. Laws, Regulations, policies, plans, programmes and committees related to Supportive Environment

a) Background

The Constitution of the Democratic Socialist Republic of Sri Lanka 1978, recognizes equal fundamental human rights for all and no citizen shall be discriminated against on the grounds of race, religion, language, caste, sex, political opinion, place of birth or any such grounds. Sri Lanka is signatory to several international conventions relevant to PLHIV such as the International Covenant on Civil and Political Rights (ICCPR) and the Convention for the Elimination of All Forms of Discrimination against Women (CEDAW). These international instruments have provisions for access to health services and education for all human beings without discrimination.

b) Findings

Major successes and achievements identified over the past five years

- The constitution along with a number of supportive laws, policies, regulations, strategies and programmes in Sri Lanka provide a supportive and conducive environment for PLHIV, KPs and other people who seek sexual health services. The numbers of laws that may make it difficult for KPs to access services are limited to a few.
- The Health Policy was approved by the cabinet in July 2017 and it reiterates the tenet of equal services for all. The policy also includes the need of a multi-sectoral approach to minimize the transmission of STI including HIV
- The National HIV/AIDS Policy [28] emphasizes the importance of human rights of PLHIV. It includes promotion, protection, respect and measures to be taken to eliminate discrimination and combat stigma to provide an enabling environment to seek relevant services
- The National Policy on HIV and AIDS in the World of Work in Sri Lanka was developed in June 2010 by the Ministry of Labour and Labour Relations with the help of the International Labour Organisation. It encompasses issues around safety of the workforce in Sri Lanka from HIV and AIDS, access for treatment and care, prevention of stigma and discrimination of PLHIV and protection of human rights of PLHIV who are in the work force
- Policy on Prison HIV prevention, treatment and care has been developed by NSACP together with Department of Prisons and other stakeholders which will be sent to the Cabinet for approval. The policy ensures the protection of human rights of HIV positive prisoners
- Other policies ensuring the rights of reproductive and other health services for different population groups including PLHIV in Sri Lanka are also available. These include the National Maternal and Child Health Policy (2009), National Youth Policy (2014), National Policy and Strategy on Health of Young Persons, Sri Lanka National Migration Health Policy (2012)
- The National Health Strategic Master Plan - 2016-2025 (General circular-01-66-/2016) uses the concept of universal health coverage assuring the patients' rights and social justice including SRH for all, with equity and in a safe and effective manner
- The National Condom Strategy 2016-2020 aims to ensure the availability of quality condoms of choice, either free of charge or at an affordable price, through an effective and responsive service delivery system, in order to provide quality sexual health services to the entire country
- Gender Recognition certificate for Transgender Community- Ministry of Health, General Circular - 01 - 34/ 2016 is issued by the MoH for TGs by amending the sex designation and enabling them to obtain a new birth certificate with necessary gender change by a consultant Psychiatrist

- Favourable legal decisions have also been made which help to create conducive environment for PLHIV. These include:
    - An Internal circular by Prevention of Discrimination and Stigmatization of Transgender Persons by DIG / Discipline & Conduct –legal Range -2016 was issued by Sri Lanka Police to all police stations mentioning that rights and privacy of TGs should be respected and upheld. Further the same circular highlights, that whenever persons are arrested for sex work under Vagrants Ordinance or Brothels Ordinance they should be treated in a humane way and should not be discriminated under any circumstances
    - Supreme Court Judgment for right for education of PLHIV was given at a hearing of a court case against educational authorities, following refusal of admission of a grade one HIV positive child to a government school by education authorities. The Supreme Court judgment given on SC.FR.No.77/2016 on 14.03.2016 states "that the state should ensure that the human rights of PLHIV are promoted, protected and respected and measures to be taken to eliminate discrimination against them". Further, the Supreme court placed on record that the terms of Article 27 (2)(h) of the constitution states that it is one the directive principles of state policy to ensure the right to universal and equal access to education at all levels
    - Labour Tribunal Judgment for People Living with HIV - in 2010, Wattala Labour tribunal gave a judgment to the owners of a company to pay two years' salary for one PLHIV who was dismissed from the company. This judgment supported the right for employment of PLHIV in any institution.
- The Human Rights Commission in 2017 intervened with school and local authorities to reinstate a child of a HIV positive mother to school when the school authorities and parents of other children wanted the child to be expelled.

Major challenges and barriers identified over the past five years

- The National HIV/AIDS Policy does not address the TG population
- Although there is a work place policy for HIV, presently there is no authorized body to sensitize and monitor the implementation process in work place settings. Lanka Business Coalition on HIV/AIDS worked to sensitize private companies before but it is not functioning now
- Children affected by and infected with HIV continue to face problems in the Education sector
- The stigma attached to condoms persists despite there being no legal barrier to condoms being carried or used as they are perceived to be associated with sexual promiscuity and prostitution (see section 1.1.1.b under "lack of enabling environment"). Many facets of sex work are prohibited under three ordinances - Vagrants Ordinance, the Brothels Ordinance and the Houses of Detention Ordinance. The Vagrant and Brothels ordinance are used to criminalize aspects of sex work making it difficult for KPs to access services
- The Penal code 365 and 365 A criminalizes same sex relations and creates a barrier to MSM and TG accessing HIV/STI services
- Lack of sensitization of law enforcement officers on human rights and fundamental freedom for all which is an essential for a supportive environment
- HIV is not specifically listed as a protected ground for non-discrimination in the constitution and there is no specific legislation on HIV in Sri Lanka

c) Recommendations

- Enhance awareness of laws and policies that promote human rights of all people including of KPs and PLHIV
- Advocate for revisiting laws that impede service uptake by KPs. Active role should be taken by the legal and ethical subcommittee under the National AIDS Committee in this context.
- Continue efforts at raising awareness to reduce stigma and discrimination of KPs and PLHIV in multiple sectors (see section 3.1.1.c.iii)
- Consider issuing a specific guideline to the education sector for protection of human rights of children affected by and infected with HIV

4. CONCLUSIONS AND OVERARCHING RECOMMENDATIONS

Sri Lanka has made commendable strides in the last five years in its national response to HIV. Although, of the indicators laid out in the NSP, it has reached (either fully or partially) approximately half (shown in Annexe 14), the reason for not achieving many of the indicators are because they were either too ambitious or the indicators were not well defined. Hence the extent of achievement of the indicators of the NSP does not provide a complete picture of the progress of the National Response to HIV/STI in Sri Lanka over the last five years. In reality, Sri Lanka has progressed considerably and some of the important steps taken are highlighted below:

- The PE model was initiated for reaching KPs utilising NGOs, CBOs and networks of KPs and different modalities of HIV testing have been tried with the KPs
- The "treat all" (WHO) policy was adopted in 2016, soon after announcement by WHO and VL testing is being employed for monitoring patients on ART
- EMTCT progress is on track
- IBBS among KPs has been initiated and several RSA among KPs and other studies on special aspects of HIV prevention and diagnosis have been undertaken
- Diagnostic and treatment facilities were expanded and domestic resources are now being used for ARVs with a view towards sustainability
- Several supportive policies and guidelines have been developed for different sectors in the government for creating awareness and reducing stigma and discrimination

All these measures will help Sri Lanka in controlling the HIV epidemic provided these are sustained, further strengthened and expanded. However, for Sri Lanka to achieve the goal of Ending AIDS by 2025, intensification of the programme will be required in all its different aspects and some special measures will have to be undertaken. For this five overarching recommendations are being provided here to address some key issues highlighted in this review:

1. Continue services to KPs and enhance reach to different marginalised and hidden population groups including young people

Key populations are hidden, marginalised, and stigmatized and the legal, social and cultural environment is not conducive to making them more accessible. There is a need for more education among law enforcement and sensitisation efforts need to be enhanced among policy makers as well. In addition, there is considerable knowledge gap about how KPs operate including understanding their social networks. Actively encouraging and engaging social scientists in addition to epidemiologists and clinicians in HIV research may help bridge this gap.

The two main population groups with the highest numbers of HIV detected are MSM and returnee migrant workers. MSM are a complex group, with diverse networks some of which is dependent on their socioeconomic status. Their socially unacceptable sexual practices drive them underground and reaching them is a challenge in most parts of the world [31]. The HIV epidemic among MSM is rising globally [32] and many countries of South and South East Asia are no exception to that. Sri Lanka needs to be able to devise new ways of reaching out to MSM, TGs and BBs through different and novel means including considering providing biological prevention tools such as PreP. For returnee migrants, the challenge is to provide services to them on their return. Often migrants are stigmatised when they return home because the perception of the community at large is that they engage in multiple extramarital relationships while abroad as was disclosed by returnee migrants

especially women in a rural area in Bangladesh [33]. Thus offering them HIV testing services on their return will only serve to magnify their fear of discrimination. Alternative ways of reaching them is required and in the meantime awareness messages targeted to this population and a non-judgmental approach by service providers may lead to more seeking HIV testing.

Other KPs will need continued and enhanced attention so that more FSW can be reached, and the special needs of TG and PWUD/PWID are met. Moreover, given the low prevalence it will not be wise to ignore the other vulnerable population groups all of whom are at potential high risk along with raising awareness among young people on SRH which is essential to prevent new infections.

2. Simplify diagnostic algorithms and streamline ART delivery processes

In order to achieve the first 90 of the 90-90-90 target, HIV testing must become accessible to more people. Relying mainly on tests delivered through STD clinics which are technically demanding and require sending samples to the NRL is not ideal. There is a need for decentralization and simplification of testing services. Making available different delivery systems such as community based testing, mobile testing and self-testing along with testing through STD clinics will allow greater access to HIV testing by different population groups. Furthermore, introduction of rapid tests in all settings and simplification of the algorithm will allow easy operations at peripheral centres with same day provision of results. However, understanding that Western Blot or HIV RNA testing (where indicated) is done at the NRL for all samples positive at screening, allows for centralised data gathering, it is to be kept in mind that this is justified only till the time that a centralised electronic database is not established.

Smooth procurement processes for ARVs and laboratory kits and reagents is essential for uninterrupted services. Mechanisms for involvement of PLHIV networks in adherence counselling and tracking of LFU patients need to be in place. Geographical areas such as in the north and east provinces where services are limited may be a missed opportunity in identifying cases. Although some information is being provided through STD clinics in these areas but access to KPs through intervention programs are absent. Simplification of algorithms may also make it easier to gain more information from these areas.

3. Improve data gathering and analysis systems

Understanding the epidemic is essential for being able to control it and surveillance is one of the key methods that helps in this. However, strengthening the current system to evolve a HIV Case-based Surveillance is the most appropriate method for a low prevalence country such as Sri Lanka. This will not only enhance patient care, but will also address the epidemiological requirements of the programme. Further, adapting HSS and IBBS to generate required information related to KPs in a practical and integrated manner is necessary. Systematic research to study other vulnerable groups including young people is also important including conducting national SRH survey among young people.

Establishing a strong electronic database will empower NSACP to triangulate data from the many diverse sources and enable it to understand gaps and to use the data to act on those gaps. It is essential to have a real time monitoring and alert response system that includes KP intervention programmes where testing is also carried out. Triangulation and analysis of the data received by the

SIM Unit is a key contributor to understanding the treatment cascade and when ending AIDS is the goal, in-depth analysis, following each individual patient and understanding LFU is essential.

4. Enhance capacity of NSACP and ensure adequate resources

The goal of Ending AIDS by 2025 will require massive mobilization of resources including both financial and human resources. Strengthening of the NSACP to move beyond STD clinics and to start to reach out to communities for providing HIV prevention services will require a mind shift in addition to having systems in place where CBOs will require to be managed. Ideally a model should first be tried to see what can work which can then be expanded upon. Considerable dialogue between different community groups and government staff will be required to develop a workable model.

The number of qualified and technical personnel at the NSACP needs to be expanded and capacitated to work towards achieving the 2025 goal of ending AIDS. Special coordinators for KPs and vulnerable population groups, general population and multi-sectoral involvement are some examples of the new posts that may need to be created. Managerial support to NSACP technical coordinators is essential to enable them to spend more quality time on the programme. Budgeted annual plans would be helpful to guide NSACP by providing building blocks towards reaching the 2025 goal.

5. Obtain commitment from the highest level for enhanced mobilisation of resources and buy in from different sectors

Much greater levels of advocacy with policy makers and engaging high level officials will be necessary to achieve the goal of ending AIDS by 2025. It is important to mobilise all the high level committees such as the National AIDS Council and obtain support from the Prime Minister/President. This in turn will mobilise other relevant sectors to become active partners in this drive which will then be seen as a common goal and not just one restricted to NSACP. Involvement of media such that they play a constructive role will be key.

There is a need to move forward building on the experience of the last five years and with a defined plan over the next few years in order to reach the 2025 goal of Ending AIDS in Sri Lanka [34].

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6. ANNEXES

Annexe 1: Documents and reports reviewed

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2. Annual Report of National STD/AIDS Control Programme 2015
3. Annual Report of National STD/AIDS Control Programme 2014
4. National HIV Strategic Plan Sri Lanka 2013 - 2017
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Annexe 2: List of people met

Individuals	Positions and Organisations
Dr. Sarath Amunugama	Deputy DG Public Health Systems, Ministry of Health
Dr Sisira Liyanage	Director, NSACP
Dr. K. A.M. Ariyaratne	Consultant Venereologist, Coordinator Strategic Information, NSACP
Dr. Lilani Rajapaksa	Consultant Venereologist, Treatment and Care coordinator, NSACP
Dr. G. Weerasinghe	Consultant Venereologist, Coordinator, STD Care, HIV Testing and Counselling, IEC, BCC and Condom promotion
Dr. Sriyakanthi BeneRagama	Consultant Epidemiologist, Epidemiology Unit, NSACP
Dr. Janaki Vidanapathirana	Consultant Community Physician, Preventive sector Focal point, NSACP
Dr. Jayanthi P. Elwitgala	Consultant Microbiologist, National Reference Laboratory (NRL)
Dr Sathya Herath	Consultant Community Physician, GFATM coordinator, NSACP
Dr Iruka Rajapaksha	Venereologist, STI/HIV clinic , NSACP
Dr. Buddhika Perera	Venereologist, SIM unit, NSACP
Dr. Samitha Ginige	Acting Chief Epidemiologist, Epidemiology Unit, MoH
Dr Razia Pendse Narayan	WHO Country Representative
Dr Janakan Navaratnasingam	National HIV Unit Program Manager, WHO
Dr Dayanath Ranatunga	WHO
Ms. Blanca Gil Antunano	Fund Portfolio Manager, Global Fund for AIDS, TB and Malaria
Dr. Sujatha Samarakoon	Senior Public Health Consultant, M&E, PricewaterhouseCoopers
Dr. Anil Dissanayake	Director, National Blood Transfusion Services, Colombo
Dr. Thushara Agus	Executive Director, Family Planning Association (FPA)

Individuals	Positions and Organisations
Ms. Nadika Fernandopulle	Acting Project Manager, PR 2 GFATM NFM (HIV/AIDS) Prevention Project, FPA
Mr. M Suchira Suranga	Head, M&E, FPA
Mrs Madu Dissanyake	Director HIV & Advocacy, FPA
Mr. Emil Ranjan Lamahewage	Director, Prison Sector
Mr. Ajith Rohana	Deputy Director General of Police
Dr. Saveen Semage	Focal points of Army and Navy
Mr Mangala Randeniya	Deputy Manager of Training, Migrant Sector Training Centre
Consultant Venereologists from STD clinics	Galle, Matale, Kandy, Ragama, Kalubowila, Kalutara
Dr. A. Thusitha	Deputy Director, Medical Supplies Division
Ms. Priyanthi Disanayaka	Deputy Director, State Procurement Centre
Dr. Chintha Sooriarachchi	Deputy Director, Infectious Disease Hospital, Angoda, Colombo
Dr. Harshini Fernando	HIV Ward, Infectious Disease Hospital, Colombo
Dr. Nilmini Malliyawadu	Medical Officer, NRL
Dr Premila	Medical Officer In-charge, STD Clinic, Kalutara
Ms. Dayani Perera	Nursing Tutor, National Institute of Health Sceinces, Kalutara
Mr. Keerthirathne	Principal Master, Nurses Training School, Kalutara
Mr. D. D. Nirosh	PHI Tutor, National Institute of Health Sciences, Kalutara
STI Nurse	STI Clinic, Kandy and Ragama
Medical Lab Technologists	Laboratory at STI Clinics at Kandy and Ragama
Public Health Laboratory Technologists	Laboratory at STI Clinic, Ragama
Ms. Chamini	Pharmacist, NSACP
Mr. Nimantha Kanuwana and three other staff members	Assistant Director, Youth Corp
PLHIV (post- partum ANC)	STI Clinic, Kandy
Mr. Roshan De Silva	Executive Director, DAST

Individuals	Positions and Organisations
Mr Aritha Wickramasinghe	Human rights lawyer and Human rights activist, Think Equal organization
Mrs Thaleysinham	Attorney at Law, Legal Draftsman, Attorney General's Office
Dr. Anil Samaranayake	Deputy Provincial Director, Western Province
Dr. Nalin Ariyarathna	Regional Director of Health Services, Gampaha
Dr. Monica Wijeratne	Consultant Community Physician, Provincial Director of Health Services Office , Western Province
Dr. Indika Vidanagamage	Medical Officer Planning, Regional Director of Health Services office, Colombo
Dr Irosha Nelawera	Consultant Community Physician, Focal Point of EMTCT Programme, Family Health Bureau
Mr Dammika Kodithuwakku	Senior Lecture-National Institute of Education
Dr Sulochana Yoganathan	Coordinator, Country Coordinating Mechanism, Sri Lanka
Mr. John	Head, Central Laboratory, ASIRI Hospitals, Colombo

Annexe 3: List of FGDs conducted

Group	Number of FGDs	Location
MSM and TG (KPs, PEs)	3	Galle, Kandy, Panadura
MSM (NGO service providers - co-ordinators, field supervisors, M&E officers)	2	Representatives from Kandy, Anuradhapura/ Matale, Anuradhapura, Gampaha,Colombo/Kalutara, Galle, Jaffna, Kurunegala, Puttalam
Beach Boys (KPs, PEs)	1	Galle
Beach Boys (NGO service providers - co-ordinators, field supervisors)	1	Representatives from Galle, Matara/Hambantota, Colombo/Kalutara, Gampaha/, Ampara
FSW (KPs and PEs)	4	Colombo, Kandy, Galle, Kurunegala
FSW (NGO service providers - co-ordinators, field supervisors, M&E officers)	2	Representatives from Kandy, Kurunegala, Colombo, Anuradhapura/Polonnaruwa, Galle, Gampaha, Rathnapura, Matara/Hambanthota, Puttalam
PWUD (KPs, PEs)	2	Kurunegala, Kandy
PWUD (NGO service providers – supervisors, coordinators)	2	Representatives from Galle, Kandy, Kurunegala, Colombo, Matale, Gampaha, Rathnapura, Puttalam, Matara/Hambanthota
Transgender people	2	Transgender network-Colombo, Kandy, Horana
Young key population	2	Young Out Here-Colombo, Kandy
DIC FSW – KPs and all levels of service providers	1	FSW DIC in Colombo
DIC PWUD and PWID – KPs and all levels of service providers	1	PWUD DIC in Colombo
DIC MSM – KPs and all levels of service providers	1	MSM DIC in Colombo
PLHIV	1	Colombo, Gampaha
Media personnel	1	Representatives from “Tharunaya” and “Divaina” (General and Kantha sections) Newspapers

Annexe 4: Question guide for stakeholders and key informants

1. **For successful HIV prevention among key/vulnerable populations, as well as other community groups, issues of coverage and engagement with services remains highly important. From your perspective what are the major achievements in this area over the last five years?** ***(focus is of all KP or specific groups – PWUD/PWID, MSM, TG, BB, FSW - depending on key informant and all other groups under prevention)***
   [Prompt: increase role and improved coordination of NGO/CBO/ Peer educator in the response; expansion of sites in districts; increased sensitization among services; better available data; improved coordination of govt and other sectors; increased access to services; more confidence among KP, vulnerable pops, migrants, army, youth etc to access services; services better understand needs of KP and others]
2. **In line with the same theme of coverage and engagement with services what have been the major challenges or barriers to ensure low HIV prevalence among key /vulnerable populations, as well as other community groups, over the last five years?**
   [Prompt: lack of enabling environment; hidden populations; lack of awareness of services; difficulties of verification/identification of clients into services; low capacity of services for KP and other groups; lack of KP empowerment, involvement or representation; lack of using new HIV prevention technology and outreach; quality of services; monitoring and evaluation issues; lack of service sites; capacity of peer educators/outreach)
3. **What have been the major behaviour changes among key/vulnerable populations, as well as other community groups, that you can identify that may adversely impact upon HIV prevention efforts?** [Prompt: different behaviours between young and old KP and other groups; different types of drugs in use; social and economic determinants affecting behaviours; power imbalance among FSW and condom use; rise of social media for sexual contacts and non-connectivity with peer education or services; ongoing criminalization of behaviours]
4. **Reflecting on the past 2-3 years, describe the collaborations between government agencies and the NGO and CBO sector that focus on key/vulnerable populations, and other groups for HIV prevention.**
   [Prompt – stakeholder meetings and frequency; responding to issues; key successes and challenges/constraints with collaborations; potential areas of distrust]
5. **From your perspective describe the overall political commitment over the past five years towards HIV prevention interventions for key/vulnerable populations, and other groups?**
   [Prompt: any policy or legal changes; issues of funding and investment; advocacy efforts; following prescribed international and UN norms; sensitization; issues of service provision]
6. **For the next National HIV Strategic Plan 2018 – 2022, what do you believe will be the key strategic directions and actions required to strengthen the interventions to maintain low HIV prevalence in Sri Lanka?**
   [Prompt: community empowerment and community testing; enabling environment; coverage; increase focus on young KP; increased advocacy and sensitization; increase of multi-sector collaboration (law enforcement and public health); any major different directions from NHSP 2013- 2017;
7. **Are there any other issues or comments you would like to tell me?**

Annexe 5: Key questions for Care, support, treatment and TB/HIV

A. CST services

1. Are HIV care and ART (HIV test, CD4, drugs for OI) easily available for adult and children?
2. Is CD4-count necessary to start ART and, if so, how does it limit the access to ART?
3. What are other barriers for access to ART?
4. Is there any system implemented to ensure adherence to ART?
5. Is there a transparent process and a written protocol to identify those who will receive antiretroviral therapy?
6. Is there any standard diagnostic protocols for every person suspected of having HIV infection?
7. Does the Clinic//Hospital follows clinical management protocols based on national or WHO guidelines for all people living with HIV/AIDS?
8. Is there adequate time for all staff to participate in relevant education and training opportunities?
9. Does the trained and/or certified caregivers and health professionals monitor people receiving therapy for drug toxicity and adverse effects?
10. Does the Clinic/ /Hospital provides support to people receiving therapy to facilitate their adherence to the prescribed treatment?
11. What care services are offered at each level of the health system?
12. What are the practices regarding VCT and HIV care for TB patients (technical aspect, addressing double stigma, confidentiality, referral, logistics and financial)?

B. Provision of ART

1. Do the health facilities have a written protocol to guide decisions on treatment eligibility?
2. Does the protocol contain criteria to establish eligibility for antiretroviral therapy according to national guidelines?
3. Do the health facilities treats everyone who meets the criteria for antiretroviral therapy?
4. Do the health facilities only treats the people who meet the criteria?
5. Does the health facilities obtains a basic health inventory for each person suspected of having
6. HIV infection? Does the history includes when they were infected with HIV, when HIV was diagnosed, past and present HIV treatment, including prophylaxis taken for preventing mother-to-child transmission. The history also includes TB, sexually transmitted infections and viral hepatitis etc.
7. Does the health facilities follows standard diagnostic protocols for every person suspected of being infected with HIV? The protocol includes HIV antibody testing, the presence or absence of opportunistic infections or tumours, TB diagnosis in accordance with national guidelines¸ appraisal

of any nervous system or mental complications, identifying drug dependence and the need for substitution treatment, and assessing nutritional risk and the nutritional support of those at risk.

8. When caregivers treat health care users for opportunistic infections, does the organization makes medicine available according to the national or WHO treatment guidelines, protocols and/or national essential drug lists?
9. Does the organization take measures to prevent opportunistic infections in accordance with the national and WHO guidelines?

C. Paediatrics treatment

1. What care services are offered to HIV paediatrics patients
2. How many paediatric patients are on ARV and what and how do they get ARV formula

D. Support for adherence to treatment

1. Do the health facilities enlists community-based volunteers and family members to assist in supporting the people being treated?
2. Do the health facilities assigns a support person to each person being treated?
3. Does the health facilities trains and verifies support people to ensure that they understand how to assist the person receiving antiretroviral therapy with his or her drug regimen?
4. Whenever possible, does the support person accompanies the person being treated to the appointment with the caregiver and reports
5. Do the health facilities has a policy that supports the social needs of the people being treated?
6. Do the health facilities has a mechanism and operating procedure to assist the people being treated in meeting their social needs?
7. Do the health facilities has an effective referral mechanism to other organizations or individuals in place to support the social needs of the people being treated?

E. TB/HIV policy and guidelines

1. Is there a national policy and are there national guidelines on TB/HIV collaborative activities?
2. Do both the national policy and the guidelines include the following key interventions? If not, what is the current policy or what are the current guidelines?
   i. Are all TB patients tested for HIV?
   ii. Do all HIV-positive patients with TB receive antiretroviral treatment (ART) regardless of their CD4 count?
   iii. Is early ART given to HIV-positive TB patients within 8 weeks of starting TB treatment?
   iv. Are people living with HIV screened for TB each time they visit a health facility?
   v. Is isoniazid preventive therapy (IPT) offered to people living with HIV after active TB disease has been ruled out?

Annexe 6: Tool used to assess NRL

(adapted from the Toolkit for Technical Assistance Providers for the HIV Testing Reference Laboratory Network)

- Laboratory Organization
    a) Job descriptions of all staff
    b) Is there an organogram, describing the structure of your staffing
    c) Are there regular competency assessments for your staff
    d) Does each have a personal file?
- Infrastructure- designated areas for:
    a) Laboratory designated area
    b) Specimen reception area
    c) Washing Facility and decontamination area
    d) Media Preparation area
    e) Eating area
    f) Office area
    g) Toilets for all staff
- Human Resources and Capacity Building
    a) Have all staff undergone formal training
    b) Is there a nodal person who liaises with STD clinic?
    c) Have all the technical staff undergone HIV/STI diagnostic training?
    d) Are all aware of the program guidelines of HIV and STI testing
- Equipment
    a) Does all equipment have operators manual?
    b) Are all equipment uniquely labelled?
    c) All new equipment validated on site?
    d) Is there an equipment inventory?
    e) Any documentation of equipment maintenance?
        A. Micropipettes
        B. Refrigerator
        C. Deep Freezers
        D. Biosafety cabinet
        E. Centrifuge
        F. ELISA reader
        G. ELISA washer

H. Incubator

I. Shaker

J. Water bath

K. Dark Field Microscope

L. PCR machine

Roche Taqman

GeneXpert

- Client management
    a) Do doctors in all STI clinics have a copy of a specimen collection manual?
    b) Who ensure appropriate transport of the samples?
    c) Do you have a formal client (Doctor) feedback?
    d) How do you notify anything to them with regard to supply or delay in test results?
- HIV and STIs performed: screening test, confirmatory test and interpretation of results-latest algorithm? Soft copy if available.
- Lab testing performance
    a) Monthly report of tests?
    b) Any new cases of HIV?
    c) Any lost to follow-up? How many?
    d) AST profile of GC-sample report?
    e) How many WB per month?
    f) How many NAATs per month? How many done due to inconclusive results?
    g) Does the CD4 machine do absolute counts or percentage?
    h) Which machine can do percentage and where is it done
    i) How many HIV are TB positive?
    j) Has the laboratory undergone any assessment or audit? How frequently?

- Facilities and Safety
    a) Laboratory secured from unauthorized access?
    b) Major signage prohibiting eating, drinking smoking in the laboratory?
    c) How are sharps handled after they leave the laboratory
    d) What about the other waste?
    e) Safety manual?
    f) Fire safety?
    g) Adequate hand-washing stations

h) Eye wash solutions?

i) First-aid kit?

j) Spillage kit?

k) Need to have laboratory's own waste management manual? Do you have a copy of the existing one?

l) Are clear protocols laid out for post-exposure prophylaxis?

m) Enough of personal protective equipment?

n) Is there a training laboratory for new recruits?

- Documents and Records
    a) Are SOPs available for all tests done?
    b) Is there a quality manual?
    c) Who authorises the reports form the lab?
    d) Has a report been corrected? How is it done?
    e) Monthly report
    f) Quarterly report
    g) To whom are the reports sent to?
    h) Occurrence and Accident register
    i) Equipment stock register
    j) Indent register
    k) Suppliers register
- Process Control, Internal and External Quality Information (data) management
    a) Record of temperature of equipment?
    b) Are guidelines given for specimen collection- EDTA tube for instance
    c) Any samples rejected? Reason?
    d) Any samples missed out ina run?
    e) Are procedures in place to process an urgent sample?
    f) Are the received specimens delivered to the appropriate labs for testing ina timely manner?
    g) How do referred samples from Peripheral labs get referred?
    h) Are lot numbers of kits recorded in the workbook?
    i) What controls are used?
    j) If controls are not satisfactory, what is the course of action?
    k) EQA participation
        1. CD4
        2. VDRL

3. HIV serology
4. GC?

- Corrective Action
    a) Is root cause analysis done?
    b) Any preventive or corrective measures carried out?
- Supplies and Inventory
    a) Are supplies and reagents specifications recently reviewed?
    b) Why is it that supply of kits is not there to the periphery?
    c) Who provides kits for community testing?
    d) Is there a system for forecasting supplies?
    e) Is there any merit in a standing quarterly order?
    f) What are the mechanisms to monitor consumption rate?
    g) Is their adequate cold storage?
    h) First expiry first out?
    i) Any interruption in testing?
    j) Have any reagents come to you past expiry?
- Monitoring and Supportive supervision
    a) Is there an existing plan for monitoring and supervision?
    b) How frequently is it done?
    c) How has the National lab responded to complaints from the peripheral labs

- Continuous improvement efforts?

    a) Any new assays in development?
    b) Any shortening of turnaround time?
    c) Any laboratory expansion?
- Any Management Review Meetings?

Annexe 7: ART Service Delivery at facility level

Province: _____ Reviewer: _____

District: _____

Date: _____

Name of the site:
_____

Name/Position of primary person interviewed (Can be Venereologist, MO):

_____

Other interviewees:

_____

2.1. Overview

2.1.1. Type of service: (Please circle)		2.1.2. Facilities at site: (Please circle)	
2.1.1.1.	Hospital □ Tertiary level □ Secondary level (Divisional /District/ Area)	2.1.2.1.	Is proper space and infrastructure available at ART Centre with proper signages.
		2.1.2.2.	Is internet, computer with printer etc available
		2.1.2.3.	Is it adequately staffed MO, Lab Technician, Counsellor, Pharmacist, DEO, Nurse and their training done
2.1.1.2.	CHC (Urban/Rural)		Is patient flow at centre well organized
			How good are linkages with other dept.

2.2. HIV-Related Services (ask ART Focal Person)

Service	Available: Stand-alone	Available: Integrated With HIV	Not Available	Comments:

			(Same location and/or provider)		
2.2.1.	HIV Counselling and Testing or Counselling with referral for HIV testing				
2.2.2.	Diagnosis and treatment of opportunistic infections (except TB, HBV, HCV)				
2.2.3.	Diagnosis and treatment of TB				
2.2.4.	Diagnosis and management of HBV and HCV				
2.2.5.	Prophylaxis for opportunistic infections (Cotrimoxazole)				
2.2.6.	Prophylaxis for TB				
2.2.7.	Post-exposure prophylaxis				
2.2.8.	Antiretroviral therapy				
2.2.9.	Adherence education and counselling				
2.2.10.	Patient follow-up on ART				
2.2.11.	Prevention of parent to child transmission (PPTCT)				
2.2.12.	Family planning/reproductive health				
2.2.13.	Psychosocial support				
2.2.14.	PLHIV self help group				
2.2.15.	Positive prevention (Positive Health, Dignity and Prevention)				
2.2.19.	Referral for community-based services				

2.3. Human Resources for HIV Services (ask ART center nodal officer / SMO)

Staff		How many available?	Trained by NSACP (induction or refresher or both)	Not available, plan to recruit
2.3.1.	Prescribing clinician (Specialist Physician)			
2.3.2.	Prescribing clinician (Medical Doctor): SMO/MO/Both			
2.3.3.	Nurse			
2.3.4.	Counselor			
2.3.5.	Pharmacist			
2.3.6.	Laboratory Technician			

2.3.7.	Data manager			
2.3.8.	Care coordinator			
2.3.9.	Outreach worker			

2.4. General Observations

Key Practices		Observed	Not Observed	Comments
2.4.1.	Patient privacy and confidentiality routinely observed			
2.4.2.	Patient flow occurs efficiently (with ready access to needed services and within reasonable timeframe)			
2.4.3.	Staff are courteous and sensitive to patients			
2.4.4.	Infection control routinely practiced: good hand washing; availability and use of disinfectant (not specifically related to TB Services—Item 2.6.)			

2.5. HIV Counseling and Testing (ask ART center OR at HCT site)

2.5.1.	Is HIV counseling provided at the facility as a stand-alone service (HCT)?	Yes No
2.5.2.	Is provider-initiated testing and counseling (PITC) routinely performed?	Yes No
	If Yes, where is it performed:	
2.5.2.1.	Outpatient services (including STD services)	Yes No
2.5.2.1.1.	TB services	Yes No
2.5.2.1.2.	ANC services	Yes No
2.5.2.1.3.	Inpatient wards	Yes No
2.5.2.1.4.	Other: (ask about partner / child testing and retesting) _____	
2.5.2.2.	If No, why is PITC not provided? _____ _____ *Please probe on the following if not mentioned.* • Staff are not trained to perform • Insufficient staff • Insufficient testing supplies	
2.5.3.	Where is HIV testing performed at the facility?	
	• Outpatient services	Yes No
	• TB services	Yes No
	• ANC services	Yes No
	• Inpatient wards	Yes No

	• Laboratory	Yes No
2.5.3. 2.5.3.1.	If testing is provided on site, what HIV testing algorithm is used? Name of kits used Is it consistent with national guidelines?	_____ _____ Yes No
2.5.4. 2.5.4.1.	Is quality assurance of HIV testing routinely performed? If Yes, is it consistent with national guidelines?	Yes No Yes No
2.5.5.	What factors hinder or prevent individuals from most-at-risk populations from seeking VCT services? _____ _____ *Please probe on the following if not mentioned.* • Stigma and discrimination • Long wait to access services • Negative attitudes of providers delivering ICTC • Distance from service/cost of transport • Fear of a lack of confidentiality • Other costs (e.g., loss of wages)	
2.5.6.	What approaches are used to promote HCT? _____ _____ *Please probe on the following if not mentioned.* • Counselling on benefits of knowing HIV status • Confidentiality of test results is assured and maintained • Lay workers on-site to provide support	

2.6. TB Services (Ask RNTCP staff, if the site is visited within the Facility)

2.6.1.	Are TB services integrated or linked with HIV treatment?	Yes No
2.6.2.	Is PITC routinely provided for TB-infected patients?	Yes No
2.6.3. 2.6.3.1.	Is INH preventive therapy for PLHIV provided at this site? If Yes, is it consistent with national guidelines and part of the pilot?	Yes No Yes No
2.6.4.	Have cases of Multi-Drug Resistant TB (MDR-TB) been diagnosed at the site? If Yes, what proportion of all TB-infected patients?	Yes No
2.6.5. . 2.6.5.1.	Does the facility implement TB infection control activities in accordance with national guidelines recommendations?	Yes No

	If No, why? _____ _____	

2.8. PPTCT Services (ask PPTCT center and the linked ART center)

2.8.1.	Are ANC services integrated or linked with HIV treatment?	Yes No
2.8.2.	Is PITC routinely provided to all ANC patients?	Yes No
2.8.3. 2.8.3.1.	Eligibility criteria to initiate ART in pregnant and breastfeeding women: Are they consistent with national guidelines? If No, why? _____ _____	_____ _____ ____ Yes No
2.8.4.	Proportion of pregnant women testing HIV positive:	
2.8.5.	Percentage of HIV positive pregnant women receiving ART out of the total estimated to be eligible:	
2.8.6.	Is sdNVP still used for preventing mother to child transmission of HIV? If Yes, % of pregnant women receiving sdNVP among all pregnant women on ARV prophylaxis: Is option B+ followed at all sites	Yes No
2.8.7.	Is DBS (Dried Blood Spot/DNA PCR) testing performed on infants born to HIV positive pregnant women? EID	Yes No

2.9. ART Service Delivery (ask ART center nodal officer or SMO)

2.9.1. 2.9.1.1.	What is the first-line ART regimen(s) used? Is it consistent with national recommendations? If No, why? _____ _____	_____ Yes No
2.9.2.	If this site uses a FDC with TDF or separate pills of TDF + 3TC and EFV. If yes, why a single pill is not used.	Comments: _____ _____

2.9.3.	Is a second-line ART regimen available and used at the site? If Yes, what regimen is used? _____ _____ _____	Yes No _____ Comments_____ _____
2.9.4.	Does the centre have access to Viral load regularly or there are delays? How many PLHIV has been referred for VL in last 2 months _____ _____	Yes No _____
2.9.5. 2.9.5.1.	What is the regimen used for PMTCT? Is it consistent with national recommendations? If No, why? _____ _____ _____	_____ _____ Yes No
2.9.6. 2.9.6.1.	What eligibility criteria are used to initiate ART? Are they consistent with national recommendations? If No, why?	_____ _____ Yes No
2.9.7.	What proportion of eligible patients is receiving ART?	
2.9.8.	Among patients who started treatment in the last 12 months, what proportion has CD4 count at ART initiation of: (Please disaggregate by gender, if data available at ART centre) 1. < 200 cells 2. Between 201 and 350 cells 3. More than 350/cmm	Male Female
2.9.9.	What proportion of patients has symptomatic disease at ART initiation? Please disaggregate by gender	Male Female
2.9.10.	What factors hinder or prevent individuals from most-at-risk populations from seeking ART services? *Please probe on the following if not mentioned.* • How does the ART center know if the person belongs to HRG? Is it well documented and easily retrievable • Stigma and discrimination • Long wait to access services • Negative attitudes of providers delivering VTC • Lack of transport • Other costs (e.g., loss of wages)	

2.9.11.	Is there a waiting list of patients who are eligible for ART and not yet started? If Yes, why? _____ _____ *Please probe on the following if not mentioned.* • Not enough ARVs are available • Not enough staff are available to manage more patients on ART • Other:	Yes No		
2.9.12. 2.9.12.1.	Are eligibility criteria used to initiate ART in HIV positive persons co-infected with TB per national guidelines? If No, why? (please ask for no of TB cases detected in last 1 month and number put of ARV. Please ask if TB screening at **every** visits is taking place _____	Yes No		
2.9.13.	Proportion of PLHIV on ART who are on second-line ART			
2.9.14.	Number of PLHIV on ART who are on third-line ART (third line is currently not in program but if anyone failing second line is put on third line by the institute)			
2.9.15. 2.9.15.1.	Percentage of patients with HIV known to be alive on ART at : Adults	12 months	24 months	60 months
2.9.15.2.	Children			
2.9.16.	Do nurses and/or midwives initiate or dispense ART to eligible PLHIV? (is there task shifting)	Yes No		
2.9.17.	Is treatment adherence addressed as part of routine care?	Yes No		
2.9.18.	Is a follow-up system used to retain patients on ART in care and monitor their adherence to treatment? If Yes, briefly describe: _____ _____ _____ *Please probe on the following if not mentioned.* • Register of ART patients includes red flag of missed appointment • Designated staff follow-up; identify who (e.g., nurse, care coordinator, outreach worker, CSC staff, ICTC, RNTCP) • Method of contact (e.g., telephone call, home visit)	Yes No		
2.9.19.	What factors affect scaling-up of ART at this site? _____ _____ *Please probe on the following if not mentioned.*			

	• None, ART delivery can be scaled-up to reach more patients • Not enough health care providers trained to deliver ART • Not sufficient stocks of ARV drugs • Lack of access to essential laboratory diagnostic tests (incl. • CD4) on-site or by referral • Lack of an effective system for tracking patients on ART • Other: _____	

2.10. Laboratory Services (ask Lab Services at the ART site)

2.10.1. 2.10.1.1. 2.10.1.2. 2.10.1.3.	Is the following point-of-care technology available on site? CD4 What is frequency of CD 4 testing Viral load GeneXpert MTB/RIF (Test for MDR-TB)	Yes No Yes No Yes No
2.10.2.	If any of the tests are available on-site: Has there been a stock-out of reagents for any of these tests in the last 12 months?	Yes No
2.10.3. 2.10.3.1. 2.10.3.2.	If any of the tests are not available on-site: Where are the tests performed? Is the specimen referral process effective and timely? If No, why? _____ _____	_____ Yes No
2.10.4	Are routine biochemistry and haematological tests available on site	
2.10.5.	Is quality assurance of laboratory tests regularly performed according to national recommendations?	Yes No

2.11. Pharmacy Services (Ask Pharmacist)

2.11.1. 2.11.1.1. 2.11.1.2. 2.11.1.3.	How often are ARV drugs dispensed to patients? (Please circle appropriate response) Monthly Every 2 months Other: _____	
2.11.2. 2.11.2.1.	Does the pharmacy record and track dispensing of ARVs: Manually? Electronically / IMS?	Yes No Yes No

2.11.2.2. 2.11.2.3.	Is the system functional? If No, why? _____ _____	Yes No
2.11.3.	Has there been a stock-out of ARV drugs in the last 12 months? If Yes, which drug(s)?	Yes No
2.11.4.	Has there been a stock-out of Cotrimoxazole in the last 12 months?	Yes No
2.11.5.	Has there been a stock-out of drugs for treating OIs in the last 12 months?	Yes No
2.11.6.	Does the supply chain usually function effectively from national to state to district to site level? If No, please describe primary bottlenecks: _____ _____	Yes No

2.12. Record Keeping and Reporting (Ask ART nodal officer / SMO and data manager)

2.12.1. 2.12.1.1. 2.12.1.2. 2.12.1.2.1. 2.12.1.2.2. 2.12.1.2.3. 2.12.1.2.4.	Does the site collect prevalence data on: HIV testing Patients on ART If Yes, how is the data disaggregated? By gender By age (adult/children/infants) By risk factor (e.g., CSW, MSM, IDU) Other: _____	Yes No Yes No Yes No Yes No Yes No
2.12.2. 2.12.2.1. 2.12.2.2. 2.12.2.3. 2.12.3.	Does the site use a standardized monitoring and reporting tools developed at the national level? If Yes, is it: Paper-based? Electronic? Is the system functional? If No, why? _____see and list the M&E tools used Pre ART register, ART register, patients book, drug stock register , drug dispensing register, white card, check if these are updated_____	Yes No Yes No Yes No Yes No

2.12.3.1. 2.12.3.2.	Is the master line list (MLL) of patients exists and if yes, is it updated regularly? Is it useful for the ART center? Please explain how the ART centre uses the MLL _____ _____	Yes No Yes No
2.12.4.	Is data related to HIV care and ART routinely collected and used at the site level for patient management and for continuous quality improvement?	Describe: _____ _____
2.12.5.	Is data routinely reviewed before reports are submitted?	Yes No

2.13. Linkages with the Community (Ask ART center staff and CSC staff)

2.13.1.	Are PLHIV involved with patient support at the site?	Yes No
	If Yes, in what capacity?	
2.13.1.1.	As adherence counselors and "expert" patients	Yes No
2.13.1.2.	As members of a PLHIV self help group	Yes No
2.13.1.3.	By conducting patient follow-up	Yes No
2.13.1.4.	Other: _____	
	If No, please explain why not? _____ _____	
2.13.2.	Is community-based support for ART provided through links with:	
2.13.2.1.	CSC	Yes No
2.13.2.2.	PLHIV self help group	Yes No
2.13.2.3.	Other services: _____ _____	
2.13.3.	Are efforts made to reach out to and engage key affected populations:	
2.13.3.1.	Sex workers	Yes No
2.13.3.2.	MSM	Yes No
2.13.3.3.	IDU	Yes No
2.13.3.4.	Pregnant women	Yes No
2.13.3.5.	Youth	Yes No
2.13.3.6.	Children	Yes No

2.13.3.7.	Others: _____ If Yes for Others, please describe: _____ _____	
2.13.4.	Does a formal referral system exist between all HIV-related services in the area, including a standardized referral form, directory of services and regular contact between services (e.g., quarterly catchment area referral meeting) If Yes, is it functional?	Yes No
2.13.4.1.	If No, why? _____ _____	Yes No
	Is the ART center regular attendee to the coordination meetings (CSC, RNTCP etc…)	
2.13.4.2.	If No, why? _____ _____	Yes No
2.13.5.	Notes/Comments: (Please ask the ART center staff if they would like to give any suggestions for improving the services / modifying something for the next better functioning of center) _____ _____ Please organize the comments around: 1. Organization of services at the ART center 2. Patient load viz-a-viz resources available to ART center, capacity 3. Specific Gaps in retention cascade observed 4. Sustainability of this model with current arrangement (institutional ownership, supply chain management, integration into the health system- best practices, challenges , missed opportunities and opportunities) 5. Any other specific aspects that visiting team would like to make / suggest for way forward.	

Annexe 8: NSACP/Provincial level Interaction

Province: _____ Reviewer: _____

District: _____

Date: _____

Name of primary person interviewed: _____

Position: _____ _____

Name/position of each additional interviewee: _____

_____

1.2. Please identify priority issues/challenges in delivering HIV Counselling and Testing in this area.

_____

Please probe on the following if not mentioned.

- Are there sufficient HCT sites?
- Are there sufficient providers trained to administer HIV testing in different groups and regions/ populations?
- Are continuous stocks of testing kits available?
- Is quality assurance of HIV testing routinely conducted?
- What additional factors impact HIV testing in this area?
- DO you have suggestions that need to be considered at National level?

_____

1.3. Please identify priority issues/challenges in delivering ART in this area:

_____

Please probe on the following if not mentioned.

- Are there sufficient ART service delivery sites?
- Are there sufficient health care providers trained to deliver ART?
- Are continuous stocks of ARVs available?
- Is there access to essential laboratory diagnostic tests (incl. CD4, VL)?
- Does an effective system exist for follow-up of patients receiving ART?
- What additional factors impact ART delivery in this area?
- Is there optimal decentralization periphery according to you? What more can be done?
- Is it feasible to roll out viral load testing routinely? How can that be done? (please seek opinion)

_____

1.4. Other key discussion points/Notes/Comments: (Please continue on back of page if additional space needed). (Please expl
sustainable in current form. Also ask, if integration is suggested, how will they want to proceed)

_____

Annexe 9: Tool for Review of HIV Surveillance and Case Reporting Systems

1. Description of the current system
    a. Who makes decisions at national level on the technical and operational aspects of implementation of HIV Surveillance?
    b. Risk groups covered – case definitions
    c. What is the surveillance site for each risk group/ lowest level unit where the data is collected and reported from?
    d. Geographical areas covered for each risk group
    e. Data variables collected in Surveillance
    f. Frequency of data collection
    g. Sampling design – how are sentinel sites selected or set up?
    h. Methodology of recruitment – how are respondents recruited at the surveillance site? Ethical considerations at the time of recruitment
    i. Data collection protocols
    j. Biomarkers
    k. Lab protocols
    l. Protocol for return of test results
    m. Data recording and reporting mechanisms
    n. Data aggregation and consolidation
    o. Data analysis & dissemination
    p. Use of Surveillance data
    q. Offices and manpower involved in Surveillance system & their roles and responsibilities
2. Assessment of coverage by population groups
3. Assessment of coverage by geographical areas
4. Assessment of representativeness – Any part of the universe if not represented? Any inclusion or exclusion biases possible in data collection? Any specific sub-groups may get missed out due to the methodology?
5. Assessment of achievement of target sample size
6. Assessment of methodology of recruitment of sample and consistency of sample recruitment over time
7. Assessment of efficiency of data collection & processing mechanisms – Any gaps in recording or reporting of data? Any delays? Any possible loss of data due to operational or logistic issues?
8. Assessment of Quality of Data – Reporting Status, Completeness, Correctness, Consistency over geo- & time-,
9. Data analysis – Statistical methods used; Any data adjustments done; Method of reporting results; what are the key indicators analysed and presented? Levels & Trends of HIV prevalence? Syphilis prevalence? What is the level of disaggregation presented in the analysis?
10. Data dissemination – how are results presented to policy makers? What reports and publications are brought out for public use? Who are the key stakeholders to whom surveillance results are actively disseminated? Are communities informed about the surveillance results after each round? Any other steps taken to actively disseminate the surveillance findings to relevant stakeholders? What level of data is kept accessible for public use?
11. Assessment of timeliness - What is the time gap between data collection and bringing out of report? At what frequency, the surveillance reports are published for public use?

12. Assessment of data use – how is surveillance data used in the programme? Give recent instances of use of surveillance data for programmatic decision making, planning or policy making.
13. Summary of overall strengths, weaknesses and challenges of current system
14. What are the areas where improvements need to be brought in?
15. Are there any areas where significant revamp has to be done to make the surveillance system more robust and relevant to the programme/ epidemiological needs?
16. How do programme managers and policy makers rate the current surveillance system in terms of its technical rigour, operationalisation and more importantly, its use and contribution to programme planning and decision making? What is the overall value appreciation?

With respect to case reporting systems,

17. What are the mechanisms to track a HIV positive individual if s/he does not come back for services?
18. What are the mechanisms to retain a HIV positive person in the care and treatment system? How are the ensured? What is the loss to follow up?
19. How are deaths reported among the HIV positive individuals? What are the gaps in reporting?
20. Assessment of gaps in leaky cascade at every step – how much? Reasons? Barriers? Solutions?

Annexe 10: Interview Guide to Understand HIV Transmission Dynamics

Size

1. Size of KP – hidden vs visible

Demographic Profile

2. Marital status
3. Source of income – sex work as primary source
4. Education levels
5. Age groups – age of entry into high risk behaviour

High Risk Practices & Risk Profile

6. Sub-typologies – by practice, location, nature of partners/ clients; socio-economic status, commercial/ non-commercial practice
7. Places of solicitation of clients
8. Modes of solicitation
9. Places of sex with clients and partners, timings
10. Nature of clients – who are they? Male / female; local/ expat, nationality, economic class,
11. Sexual identify – stigma
12. Migration to other places – high risk behaviour at migrated places
13. Group sex parties – frequency – partner volume – condom use
14. Dual risks
15. Drugs injected or used – sources of drugs, ease of availability, cost of drugs

Transmission potential

16. No. of clients per day or per week – Min-Avg-Max; Seasonality; By sub-typologies
17. No. of sex acts per day or per week – Min-Avg-Max; Seasonality; By sub-typologies
18. Last time condom use
19. Needle sharing practices, with whom, with how many, how often, reasons
20. Frequency of injecting – places of injection

Protection Behaviour

21. Knowledge about HIV/AIDS/STI prevention
22. Suffer from STI symptoms? What is done to remedy them?
23. Risk perception – Low/ Mod/ High – reasons
24. HIV testing – knowing status
25. How do you protect yourself from HIV and STI?
26. How often you miss to protect yourself?
27. Ease of availability of condoms/ needles & syringes

Annexe 11: Assessment of Health System Strengthening Component : Guide for Key Informant Interviews

(Based on the checklist of key questions in WHO Guide to conducting programme reviews of the national response to HIV/AIDS)

Director NSACP / Programme Managers of NSACP

- Availability of policies, strategic plan and alignment of activities according to strategic plan?
- Are you satisfied with the political commitment and policy support towards the HIV/AIDs control programme? What can be done to further improve?
- What are the mechanism for multi-sectoral coordination for HIV prevention? Are you satisfied with the support from other sectors? What are the major challenges in this?
- What are your views on the staff adequacy at central level, unfilled vacancies, cadre expansions needed
- What are the performance appraisal systems, incentives for work in rural areas etc.
- What are the new strategic directions that need to be explored by the programme in the next five years?
- What are the major challenges faced by the HIV/AIDS control programme?
- What are the plans for future financial sustainability of the programme – specifically ARV and interventions for KP?

ARV Procurement Review Committee / Procurement officer

- Are there guidelines / SOPs for the procurement process of ARVs?
- What is the method of forecasting ARV need at central level? And peripheral levels? Is there a mechanism for calculating the ARV requirement using available data/evidence?
- Has any of the ARV centres experienced any stock outs during the last year? If so, what are the reasons?
- What is the process of procurement of ARVs? Are appropriate procurement methods adopted and applied, according to the national PMS policy and international procurement guidelines?
  -Adequate application of nationally/internationally competitive bidding process
  -Function of procurement panel/committee
  -Any issues / problems encountered? (registration and importation)
- What are the mechanisms to ensure quality control of ARVs in procurement and supply chain? Are there SOPs, guidelines for this?

Focal point – GFATM fund coordination

- What is the mechanism for coordination of funding activities from GFATM?
- Has the GFATM been funds utilized according to plan in this cycle?
- What is the procurement process practiced for GFATM funded items? What are the constraints faced in this process?
- What are the difficulties/constraints faced in disbursement / coordination of funds?
- How is the support received from GFATM staff in coordinating the funding work?

Coordinator – SMIU / Epidemiologist

- Is there a plan for Monitoring and evaluation of the HIV/AIDs control programme? Is it in line with the NSP?
- What are the main reporting units and what are the main data outputs of the SIM unit?
- Are there adequate facilities and infrastructure for MIS at central and peripheral levels?
- Are the district staff capable of maintaining the MIS? Is the reporting from district clinics timely and accurate? What are the issues, if any, in district level information flow?
- Is there a system of progress review at national / province / district levels? Does it occur according to an annual plan?
- To what extent is the strategic plan incorporated into activity plans at central and peripheral level?

Coordinator – HIV treatment and care

- What are the recent achievements in providing for HIV treatment and care at district level? – geographical distribution, availability of staff categories etc.?
- What are the constraints in infrastructure and facilities for treatment and care at central and peripheral levels?
- Is there a supervision system to ensure quality of care? Is there an annual supervision plan that is shared with the district clinics?
- What are the other mechanisms for quality assurance of HIV counseling, testing and treatment? - Staff trained in these aspects? Treatment guidelines developed?
- What are the difficulties encountered in providing HIV treatment and care?
- What are the mechanisms for providing services for late stages of the disease? – diagnosis of opportunistic infections? Treatment and care in late stage disease? What is the level of collaboration and support received from hospital staff in this process?

Coordinator – Training

- Types of training programmes conducted for health care staff, non-health care staff, other categories and their regularity, participation etc.
- Is there an annual plan for training? Is it in line with the NSP?
- Is the annual plan on training shared with the other units of NSACP? Is it shared with the STD clinics?
- Is there a mechanism to include district level staff training needs in to the annual plan?
- Is the support received from other health care programmes and non-health sectors satisfactory?
- What are the constraints faced in implementing training activities?
- What are the mechanisms to ensure successful coverage of training?– circulars etc.

National Reference Laboratory / Focal point laboratory services / Microbiologist

- What are the services available in the central laboratory and peripheral laboratories? Any service interruptions during the last year? Reasons?
- What is the mechanism for EMTCT programme testing? Any constraints faced?
- Laboratory procurements – process of forecasting, procurement of HIV test kits and other consumables?
- Mechanisms for quality control in supply chain of laboratory consumables?
- Mechanisms for laboratory quality assurance and accreditation – of NRL and peripheral laboratories (is there a plan for supervising, quality control of district level labs?)
- Collaboration with funding agencies – Any difficulties faced?
- Training programmes conducted for laboratory staff and does it occur according to a plan? What are the mechanisms to ensure training of all relevant staff?

Coordinator – Multi-sectoral Collaborations

- What are the programmes conducted under multi-sectoral collaboration unit?
- Is there an annual plan for MSC? Is it in line with the NSP?
- Is the annual plan on MSC shared with the other units of NSACP? Is it shared with the STD clinics?
- Is there a mechanism to include district level needs in to the annual plan?
- Is the support received from other health care programmes and non-health sectors satisfactory?
- What are the mechanisms to ensure successful MSC/ participation of all stakeholders for HIV/AIDS control?
  – NAC, PAC, Policies, Circulars
- What are the constraints faced?

Family Planning Association PR2

- How are the preventive programmes organized to deliver interventions for KPs? Is there an annual plan? Is it in line with the national strategic plan?
- What are the mechanisms ensure quality and coverage of the interventions?
- What are the strategies to ensure penetration of the intervention to KPs?
- What is the system for monitoring and evaluation of the programme?
- Are you satisfied with the support and guidance received from the NSACP? How can it be improved further?
- Are you satisfied with the support received from community-based NGOs? How can it be improved further?
- What are the barriers to effective service provision to KPs you are experiencing?
- What do you think about the sustainability of the programme?

Community-based non-governmental organizations

- What are the strategies used to ensure penetration of the interventions to KPs?
- Is the support and guidance you receive from FPA satisfactory? Do you have enough guidelines / instructions? Consumables? Training for staff?
- What are the constraints you are facing in delivering the interventions to KPs?

- How is the support you receive from the government health sector – e.g. NSACP, MOH offices etc.
- How is the support you receive from government non-health sectors- e.g. Grama Niladhari, Divisional Secretariat, Social Services Department
- Do you have a plan for sustainability at the end of this programme funded by GF?

Regional Director of Health Services

- Can you describe the administrative relationship between STD clinics and the RDHS office?
- What are the mechanisms for provision of staff and facilities to STD clinics?
- Are there any guidelines on staff requirements and recruitments?
- Are there any guidelines on procurement of equipment / consumables for clinics?
- What is the mechanism of providing funds for STD clinics? Does this occur according to an annual plan? What is the system for monitoring financial progress?
- What is the level of collaboration you have with the NSACP in providing STD/AIDs care at district level? Is it satisfactory? What are your suggestions to improve it?
- Is there any supervision/review of STD clinic activities conducted by the RDHS office?
- What are the main difficulties you have experienced in providing HIV care through STD clinics?

Medical Officer of Health

- Is PMTCT programme part of the annual plan of the MOH office?
- Are you aware of the national targets in the PMTCT programme?
- What is the coverage of the PMTCT programme in your MOH area?
- Is there adequate guidance on conducting the PMTCT programme? Were the staff trained? Are there any guidelines available?
- Do you have adequate human resources, supplies etc for the programme? What are the constraints you are experiencing?
- How would you rate the laboratory support available for the PMTCT programme. (e.g. timeliness of reporting)
- Are the staff motivated to conduct the activities of PMTCT programme and to maintain the records related to it?

STD Clinic staff

- Do you have adequate facilities to provide services of testing, counselling and treatment to the HIV patients?
- Are there adequate numbers of staff of all categories? What is the mechanism of filling vacancies? Is it timely and satisfactory?
- Are the staff trained in STD/AIDs and Counselling? How long after appointment to STD clinic were you trained?
- Do you have adequate facilities for record keeping? Adequate time and understanding for record keeping work? Were you trained on record keeping?
- Do you have an annual plan for clinic activities? e.g. preventive programmes etc. conducted by the clinic. If so, is it made according to the NSP? Is it shared with the NSACP?

- Do you have adequate facilities for preventive programmes E.g. Transport, funds, test kits etc.
- Do you have enough guidance on providing care? e.g. Treatment guidelines
- Do you have enough guidance / training on storage of ARVs? SOPs, Guidelines?
- Do you have enough guidance/ facilities to prevent blood-borne infections in the clinic?
- Is there a mechanism to obtain multi-sectoral support for HIV prevention activities conducted by the clinic?

Patients on ART

- Are you satisfied with the ease of accessing the services? Time spent on travelling? Cost of travelling?
- Are the clinics times convenient for you?
- Are you happy with the services you have received? What aspects can be improved further?
- Have you been treated with dignity at the clinic?
- Have you ever had to get tests done from the private sector because they were not available in the clinic?
- Have your drugs ever been changed due to unavailability?
- Have you gone without drugs since starting ARV treatment due to unavailability of drugs in the clinic?

Key Population groups

- Have you ever been to a clinic for HIV testing?
- If yes, are you satisfied with the services you received at the clinic? Are there any suggestions to improve the services of the clinic?
- Are you happy with the ease of reaching the clinic? Are the clinic-hours convenient?
- Do you get treated with dignity by the staff there? Did you feel stigmatized?
- If not, why don't you want to get the services from the clinic?
- What are the difficulties you are facing as a key population person, in general? What are the support systems available to you?

Annexe 12: Observation Schedule for Rapid Assessment of a STD Clinic

Date:

Name of the Clinic:

Location: Accessibility Good / Moderate / Poor

Adequacy of Space: Good / Moderate / Poor

Availability of separate rooms for following services:

Service area	Available Yes/No	Satisfactory Yes/No
Consultation Room		
Waiting room		
Laboratory		
Pharmacy		
Counselling room		
Toilets		
Record storage		
Storage of drugs and consumables		

Availability of facilities:

Equipment for clinical examination
HIV testing
Investigations for STDs
Pap smear
IUCD insertion

Availability of Guidelines on patient care:

Availability of Guidelines on Infection control:

Availability of supervision notes / feedback on improving clinic services:

Availability of quality assurance checklists:

For clinical care
ARV storage
Laboratory procedures

Availability of facilities for information management:

Computers / Internet / Printer / UPS / Stationery items

Training and skills building

Annexe 13: Interview Guide for supportive environment

Interviewer guide for different categories of participants for external review of supportive environment. Questions structuring may be different for different target groups.

1. How the existing laws, policies, legislations, guidelines and circulars affect to develop the enabling environment for PLHIV, key population groups, vulnerable and general population
    - Strengthening factors
    - Challenges, barriers
    - The actions had been taken for repealing punitive laws
    - And recommendations of relevant target groups for improvement

2. How the existing services provided for PLHIV, key population groups, vulnerable and general population on non-discriminative and confidential manner
    - Sexual health services
    - Other health services
    - Other service provision places (law implementation places and education sectors, work places etc.)
    - And recommendations from relevant target groups for improvement (need of guidelines, circulars etc.)

3. How the existing service provision is challenging for PLHIV, key population groups, vulnerable and general population from service providers to develop enabling environment
    - Testing services at STD clinics and the community testing services
    - Different Target group problems- accessibility for services (service recipients -time to reach the clinics, distance etc. service providers - cadre, counselling skills, skills for psychological support etc)
    - barriers for stigma at individual level (Internal stigma), availability of friendly services in the clinics, attitudes of service providers, maintaining confidentiality)

4. How the socio cultural factors affect for developing enabling environment
   Religion, education, ethnicity etc.
5. What are your suggestions to provide enabling environment to increase HIV testing and improve accessibility to health care services.
6. What is your idea of getting Political support to develop enabling environment for PLHIV, key population groups, vulnerable and general population.
7. Recommendation for next five years

Annexe 14: Progress against the NSP indicators

Indicator	2017 Target	Achievement in 2016	Source of data
SD 1.1. Prevention of transmission of HIV among key affected populations			
HIV Prevalence among FSW, MSM, PWUD/PWID and Beach boys	<1%	<1% overall, but MSM 1.5%	HIV Sentinel Surveillance Survey 2016 [1]
FSW, MSM, PWUD/PWID and Beach boys reached by prevention services	80%	10-23%	Key Performance Indicators report for GF from FPA 2017
FSW, MSM, PWUD/PWID and beach boys report consistent condom use	80%	3.8-77%	IBBS 2015 [5]
PWID report sharing of used needles	<5%	54.5%	IBBS 2015 [5]
SD 1.2. Prevention of transmission of HIV among vulnerable groups			
1.2.1. HIV prevalence among vulnerable populations	<0.1%	<0.1%	Annual report 2016 [1]
1.2.2. Vulnerable populations receive at least one exposure to an HIV awareness programme	80%	Data not available	
1.2.3. Military and police personnel are reached with HIV prevention programmes	80%	Data not available	
SD 1.3. Prevention of transmission of HIV among general population including young people			
1.3.1 Young women and men aged 15–24 both correctly identify ways of preventing the sexual transmission of HIV and who reject all	80%	24%	DHS 2016 amongst ever married girls and women [35]

major misconceptions about HIV transmission			
SD. 1. 4. Elimination of Mother to child transmission of HIV (EMTCT) and congenital syphilis			
ANC attendees received Provider Initiated Counselling and Testing (PICT)	>50%	89.6% of those registered received HIV testing	FHB report 2016
Identified HIV-positive pregnant women received ART to reduce the risk of mother-to-child transmission	100%	Fully achieved	MTCT data
Infants born to identified HIV-infected mothers received ARV drugs	100%	Fully achieved	MTCT data
Syphilis prevalence among antenatal women	< 1%	Fully achieved	MTCT data
SD. 1. 5. Elimination of Mother to child transmission of HIV (EMTCT) and congenital syphilis			
Blood units will be screened for HIV in a quality assured manner and will be collected as voluntary non-remunerative donations	100%	Achieved (from all registered blood banks	Website of the National Blood Transfusion service
SD. 1. 6. Maintain Quality and Coverage of STI services			
STD clinics to have facilities to provide comprehensive care to STD clinic attendees including essential STI screening facilities	80%	Achieved	Review findings
Staff delivering STI care at government STD clinics to be trained within 6 months of reporting to duty.	80%	Achieved but needs to be scaled up to 100%	Review findings

SD. 2. Diagnosis treatment and care			
KPs report having received an HIV test and know the results	80%		IBBS 2015 [5]
Eligible PLHIV received ART	80%	72%	See Fig. 9
PLHIV tested for TB and vice-versa using PICT approach, according to guidelines	100%	Partial; all PLHIV have been tested for TB but not vice versa	Review findings
SD. 3. Strategic Information Management Systems			
IBBS of KPs are undertaken on a regular basis and reported to measure outcomes and the impact of the response	Regular	Achieved	IBBS 2015 and another planned for 2017.
Monitoring of HIV services (including ART, EMTCT, condom programming, blood safety) is integrated into the HIMS and reported	Regular	Not achieved yet	Review findings
HIV related operational research is coordinated and prioritized by the SIM unit with the concurrence of relevant coordinators	Regular	Partially achieved	Review findings
SD. 4. Health Systems Strengthening			
HIV/AIDS is included in the training curriculum for health workers	100%	Achieved	Review findings
Supportive supervision		Partially achieved, varies for different	Review findings

and quality assurance system for HIV services institutionalized		areas of laboratories and services	
NGOs report increased organizational, financial and technical support from the government as well as development partners		Achieved	Review findings
SD. 5. Supportive Environment			
HIV/AIDS law and policies containing non-discrimination principles are widely disseminated and implemented	100%	Not achieved	Review findings
PLHIV reveal accepting attitudes towards them	80%	75-81% (varies with different indicators used)	Stigma report [29]
Deaths reported due to refusal of treatment	0	0	Review of AIDS Deaths during January-June 2017

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