Ministry of Health and Family Welfare
Government of India

National Strategic Plan for HIV/AIDS and STI

2017 – 2024

"Paving Way for an AIDS Free India"

May 2017

National AIDS Control Organisation
Ministry of Health and Family Welfare
Government of India

Contents

Acronyms and Abbreviations

AAP	Annual Action Plan
AEF	AIDS Effectiveness Framework
AEP	Adolescent Education Program
AIC	Air borne Infection Control
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ANHI	Annual New HIV Infections (Estimated)
ANM	Auxiliary Nurse Midwife
ARD	Annual AIDS Related Deaths (Estimated)
ARSH	Adolescent Reproductive and Sexual Health
ART	Antiretroviral Therapy
ARTC	Antiretroviral Therapy Centre
ARV	Antiretroviral (Drugs)
BCC	Behaviour Change Communication
BCSU	Blood Component Separation Unit
BMGF	Bill and Melinda Gates Foundation
BP	Bridge Population such as Truckers, Migrants, Clients of Sex workers etc.
BTS	Blood Transfusion Services
CBNAAT	Cartridge Based Nucleic Acid Amplification Test
CBO	Community Based Organizations
CDSCO	Central Drugs Standard Control Organization
CoE	Centre of Excellence
CSIR	Council of Scientific & Industrial Research
CSO	Civil Society Organizations
CSR	Corporate Social Responsibility
CSS	Central Sector Scheme
CHC	Community Health Centre
CLHA	Children Living with HIV/AIDS
CMIS	Computerized Management Information System
CPFMS	Computerized Project Financial Management System
CSC	Community Support Centres

CST	Care & Support and Treatment
DADU	Data Analysis and Dissemination Unit
DAPCU	District AIDS Prevention and Control Unit
DBS	Dried Blood Spot
DGHS	Directorate General of Health Services
DIC	Drop in Centre
DLBB	District Level Blood Bank
DSRC	Designated STI/RTI Clinics
DTO	District Tuberculosis Officer
DTHO	District Tuberculosis & HIV Officer
ECS	Electronic Clearance Service
ELISA	Enzyme Linked Immunosorbent Assay
EQAS	External Quality Assurance System
FEFO	First Expiry First Out
FIDU	Female Injecting Drug Users
FMI	Financial Management Indicators
FSW	Female Sex Worker
GAM	Global AIDS Monitoring (New GARPR)
GARPR	Global AIDS Response and Progress Reporting
GIPA	Greater Involvement of People with HIV/AIDS
HBV	Hepatitis B Virus
HCT	HIV Counselling and Testing
HIV	Human Immuno-Deficiency Virus
HMIS	Health Management Information System
HRG	High Risk Group
HSS	HIV Sentinel Surveillance
HTS	HIV Testing Services
IBBS	Integrated Biological and Behavioural Surveillance
ICMR	Indian Council of Medical Research
ICTC	Integrated Counselling & Testing Centre
IDA	International Development Association (The World Bank)
IDU	Injecting Drug Users
IEC	Information Education Communication
IH	Immuno-Haematology
IMS	Inventory Management System

IPV	Intimate Partner Violence
KP	Key Population
KPI	Key Performance Indicators
LAC	Link ART Centres
LFA	Legislative Forum on AIDS
LFU	Loss to Follow Up
LWS	Link Worker Scheme
MDG	Millennium Development Goals
MCTS	Mother Child Tracking System
MDACS	Mumbai District AIDS Control Society
MoHFW	Ministry of Health & Family Welfare
MoRD	Ministry of Rural Development
MoSJE	Ministry of Social Justice & Empowerment
MoU	Memorandum of Understanding
MSDS	Migrant Service Delivery System
MSM	Men Who Have Sex with Men
MTA	Mid-Term Appraisal
NABL	National Accreditation Board for Testing and Calibration Laboratories
NAC	National AIDS Committee
NACB	National AIDS Control Board
NACO	National AIDS Control Organisation
NACP	National AIDS Control Program
NACSP	National AIDS Control Support Project
NARI	National AIDS Research Institute
NBC	National Blood Cell
NBTC	National Blood Transfusion Council
NCA	National Council on AIDS
NERO	North East Regional Office
NGO	Non-Governmental Organization
NHM	National Health Mission
NHRP	National HIV/AIDS Research Plan
NIB	National Institute of Biologicals
NIIHAR	Network of Indian Institutions for HIV/AIDS Research
NRFS:	NACO Research Fellowship Scheme

NRL	National Reference Laboratory
NSEP	Needle Syringe Exchange Program
NTSU	National Technical Support Unit
NYKS	Nehru Yuva Kendra Sangathan
OI	Opportunistic Infections
OST	Opioid Substitution Therapy
PCR	Polymerase Chain Reaction
PHC	Primary Health Centre
PLHIV	Persons Living with HIV/AIDS
PoC	Point of Care
PPTCT	Prevention of Parent to Child Transmission of HIV
PSCM	Procurement & Supply Chain Management
PSU	Primary Sampling Units
PT	Panel Testing
PWID	Persons/People Who Inject Drugs
QMS	Quality Management System
QSE	Quality System Essentials
RBTC	Regional Blood Transfusion Centre
RC	Regional coordinators (RC)
RNTCP	Revised National TB Control Program
RPR	Rapid Plasma Reagin
RRC	Red Ribbon Clubs
RSRRRL	Regional STI Training Referral, Research Laboratories
SACS	State AIDS Control Societies
SACEP	State AIDS Control Evaluation Protocol
SBTC	State Blood Transfusion Council
SCs	Sub-Centres
SCA	State Council on AIDS
SDG	Sustainable Development Goals
SIMS	Strategic Information Management Systems
SIMU	Strategic Information Management Unit
SoE	Statement of Expenditures
SME	Small and Medium Enterprises
SRL	State Reference Laboratory
STD	Sexually Transmitted Diseases

STI	Sexually Transmitted Infections
STRC	State Training Resource Centres
TG	Transgender
TAT	Turn Around Time
TI	Targeted Intervention
TRG	Technical Resource Group
TSC	Technical Sub Committees
TSG	Technical Support Group
TSU	Technical Support Unit
TTI	Transfusion Transmissible Infections
UNAIDS	Joint UN Program on HIV/AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VL	Viral Load
VBD	Voluntary Blood Donation
VHS	Voluntary Health Services
WCD	Women and Child Development

Executive Summary

Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) were first reported in 1986 in India. Since then, the Ministry of Health and Family Welfare, Government of India, has led the response inclusive of advocacy, policy, strategic guidance, funding, and heralded services for HIV prevention, treatment and continuum of care for people at risk of or living with HIV. Three decades on, the national HIV/AIDS response resulted insignificant achievements of 66% reduction in new infections since 2000 and 54% reduction in AIDS related deaths since 2007. The history of the HIV/AIDS response in India is based on an exceptional dialogue and collaboration between Government, communities, people living with and affected by HIV, civil society organizations, researchers, development partners, private sector and most importantly, parliamentarians.

In June 2016, the Minister of Health and Family Welfare reiterated the country's commitment at the United Nations' High Level Meeting on AIDS towards the goal of *'ending the AIDS epidemic as a public health threat by 2030'*inclusive of the *Joint United Nations Programme on HIV/AIDS* (UNAIDS) 'Fast Track' targets for 2020 as well as in line with the *Sustainable Development Goals* (SDG) for 2030.

Having already succeeded in achieving the target of*Millennium Development Goals* (MDG) by 2015 (over 50% reductions in annual new HIV infections and AIDS related deaths), National AIDS Control Orgainsation (NACO) is nowbuilding on lessons learnt to redefine the national approach to reach *'the last mile'* – in order to ensure a more effective, sustained and comprehensive coverage of HIV/AIDS response related services.

This approach has been articulated in the *National Health Policy*and implementation framework thereof, adopted in 2017 and will be implemented by NACO through a seven-year *National Strategic Plan on HIV/AIDS and STI*, 2017-24. This *National Strategic Plan* (NSP) will herald the country to the midpoint of the 2030 goals. The next seven years are, therefore, critical and investments made now will result in substantive gains towards 'End of AIDS'.

The vision of NACO, therefore, is that of *'Paving the way for an AIDS free India'* through '*attaining universal coverage of HIV prevention, treatment to care continuum of services that are effective, inclusive, equitable and adapted to needs'.* The goals remain those of the *'Three Zeros'* - i.e. *zero new infections, zero AIDS-related death and zero discrimination*which form the basis of this strategic plan.

In the next three years, the focusof the national program is on achieving following fast track targets

(i) 75% reduction in new HIV infections,
(ii) 90-90-90;*90% of those who are HIV positive in the country know their status* and that *90% of those who know their status are on treatment and 90% of those who are on treatment experience effective viral load suppression*
(iii) *elimination of mother-to-child transmission of HIV and syphilis, and*
(iv) elimination of discrimination and stigmatization of people living with HIV

Within seven years, the further achievements envisaged are;

(i) 80% reduction in new HIV infections,
*(ii)*ensuring that *95% of those who are HIV positive in the country know their status* and that *95% of those who know their status are on treatment and 95% of those who are on treatment experience effective viral load suppression*

To this effect, Parliamentannounced two key decisionsin April 2017 towards*'Ending of AIDS by 2030'*:first, the enactment of 'HIV/AIDSBill'as a law protecting the human rights of people living with and affected by HIV and second, the announcement and implementation of*'Test and Treat'* policy in line with global guidelines.

Background

With an HIV prevalence of 0.26% in the adult population, India has an estimated 2.1 million persons living with HIV by 2015. Bio-behavioural surveys confirm that HIV prevalence is high or 'concentrated' among 'key populations' who have unprotected sexual contacts with multiple partners or who engage in unsafe injecting drug use. These populations include female sex workers, men who have sex with men, hijra/transgender, people who inject drugs, truckers and migrants. The national averages for these populations varied between 2.2 and 9.9% prevalence in 2014-15. The occurrence of HIV infections also varies among the key populations across the regions of the country as well as across the urban-rural divide. Besides, young women at childbearing age are also at higher risk of infection and the source of onward transmission to their infants, during birth, labour and through breast feeding.

Underlying all the above risk factors are social, economic and access to health care determinants that interact with drivers of the epidemic and account for greater vulnerabilities, including economic status and the search for livelihood, limited education, gender status and identities, social marginalization, and discrimination and violence. In addition, aspects of changing generational attitudes and practices, premarital sex, travel, information technology, mobile phones and social media, all have consequences on exposure to risk and the capacity to protect oneself.

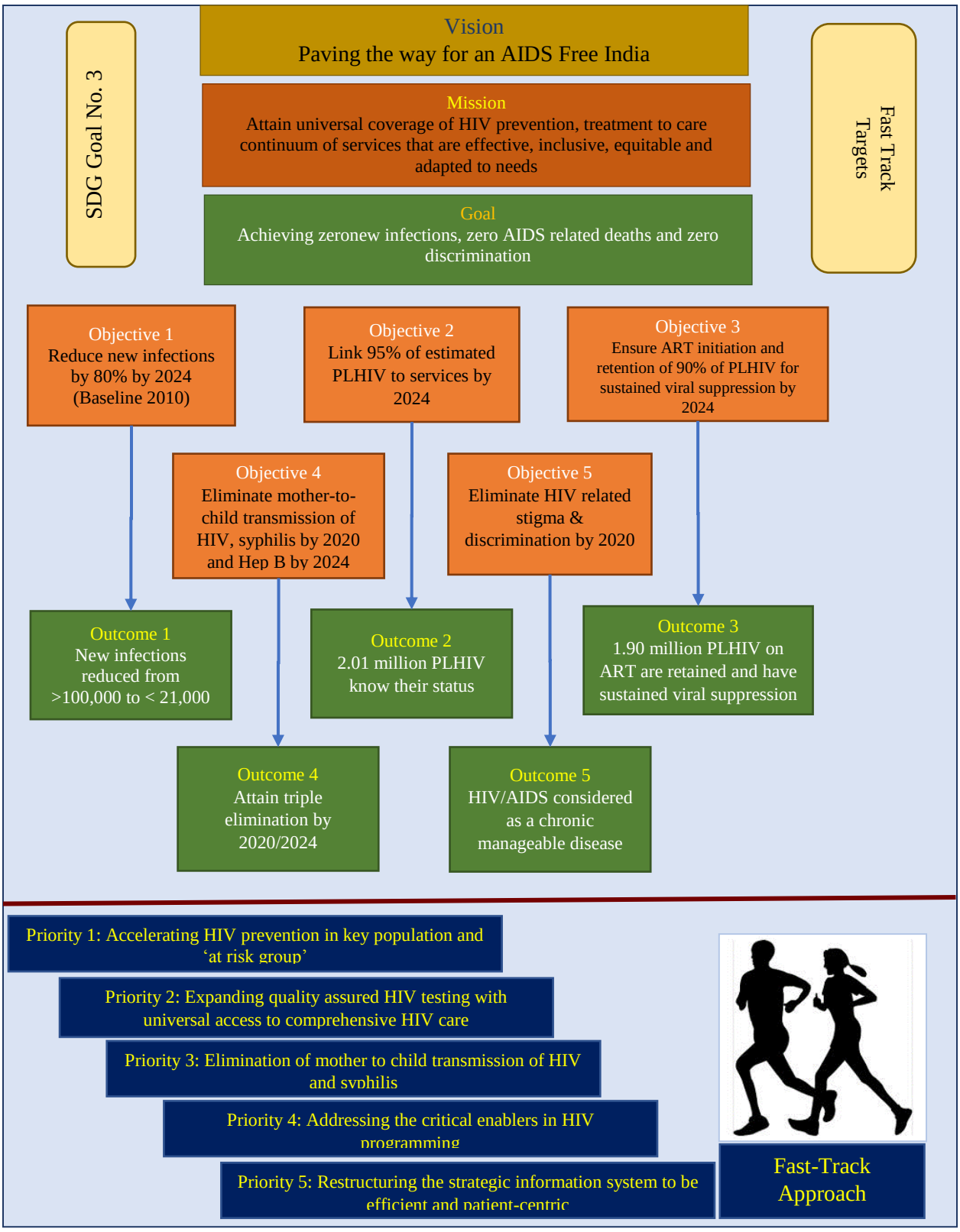
Although there was a 66% decline in new infections from 2000 to 2015, this trend has largely flat-lined between 2010 and 2015. In other words, NACO will accelerate the HIV response so as not to roll back earlier gains and ensure a substantive decline in new infections to end AIDS. There has also been a fall in AIDS-related deaths by 54% largely due to increasing coverage of ART, but this together with reductions in new HIV infections, has contributed to stabilizing the number of people living with HIVover the years. With slowing declines in new infections, as witnessed in the past few years, one can expect to see an increase in the number of people living with HIV, unless the response is adequately fast-tracked and both new infections and AIDS-related deaths are averted at higher rates.

In addition to HIV, there are various coinfections and comorbidities, including other Sexually Transmitted Infections (STI), Reproductive Tract Infections (RTI), Tuberculosis (TB), Hepatitis B and C, and cervical cancer,that will be addressed in this NSP. Responding to these related epidemics and health consequences requires a greater convergence and integration of the *National AIDS Control Organization* (NACO) and its state and district-level unit with the *National Health Mission* (NHM) and specific communicable diseases programmes.
Focus on consolidationof convergence with reproductive health, maternal and child health, and adolescent health departments will be fundamental to this NSP. Equally, issues related to disease

surveillance, information management systems, operational research and procurement will be further aligned across the health system and with relevant departments. Mainstreaming of HIV/AIDS response in relevant ministry for enhanced social protection and entitlements to addressspecific vulnerabilities will be focussed in this NSP.

The critical interventions and supportive components of the *National AIDS Control Programme* (NACP) include:targeted interventions among key populations, STI/RTI management, prevention of parent-to-child transmission (PPTCT), HIV testing and counselling, comprehensive treatment, laboratory services, safe blood transfusion, advocacy,communication & social mobilization (ACSM), monitoring, evaluation and surveillance,research,finance, procurement and human resource management.

Strategic Priorities


SDG Goal No. 3
Vision
Paving the way for an AIDS Free India
Mission
Attain universal coverage of HIV prevention, treatment to care continuum of services that are effective, inclusive, equitable and adapted to needs
Goal
Achieving zeronew infections, zero AIDS related deaths and zero discrimination
Fast Track Targets
Objective 1
Reduce new infections by 80% by 2024 (Baseline 2010)
Objective 2
Link 95% of estimated PLHIV to services by 2024
Objective 3
Ensure ART initiation and retention of 90% of PLHIV for sustained viral suppression by 2024
Objective 4
Eliminate mother-to-child transmission of HIV, syphilis by 2020 and Hep B by 2024
Objective 5
Eliminate HIV related stigma & discrimination by 2020
Outcome 1
New infections reduced from >100,000 to < 21,000
Outcome 2
2.01 million PLHIV know their status
Outcome 3
1.90 million PLHIV on ART are retained and have sustained viral suppression
Outcome 4
Attain triple elimination by 2020/2024
Outcome 5
HIV/AIDS considered as a chronic manageable disease
Priority 1: Accelerating HIV prevention in key population and 'at risk group'
Priority 2: Expanding quality assured HIV testing with universal access to comprehensive HIV care
Priority 3: Elimination of mother to child transmission of HIV and syphilis
Priority 4: Addressing the critical enablers in HIV programming
Priority 5: Restructuring the strategic information system to be efficient and patient-centric
Fast-Track Approach

Based on evidence from surveillance, programme monitoring and feedback from the concerned communities, NACO will accelerate HIV prevention in key and at-risk populations to reduce HIV infection. This includes a differential approachand considers an upgraded package of services, which is more relevant to specific population groups and local settings. The package will include include a combination of interventions as well as a greater focus on the quality of services. The proposed strategies in this NSP include scaling-up targeted interventions, anddesigning appropriate response mechanism to address other 'at risk' populations, outreach through social networks, community-based testing, and specific points of integration with sexual and reproductive health.Community ownership and engagement will be continued to the response. This NSP will focus onfurther data analysis and triangulation of evidence to draw epidemiological conclusions. With regard to young people, NSP proposes a multi-pronged approach through communications, sexual and reproductive health education and greater convergence with the NHM adolescent program.

This NSP envisages close linked interventions within the continuum of prevention-testing-treatment-care include expanding quality assured HIV testing with universal access to comprehensive HIV care.With regard to testing, or the first '90', this NSP will focus on differential strategies for diverse key and at-risk populations and geographies. It will be achieved through a mix-model including facility-based testing,mobile centres, community-based testing for key and at-risk populations and self-testing. The strategy will be inclusive of public and private health care, and seek greater convergence within NHM.

With the adoption of *'treat all',* a substantial expansion of first, second and third line treatment and viral load testing scale-up will be planned, respectively for the second '90' and third '90'. However, this scale up will require ensuring an improved cascade, linkages and reduction in loss to follow-up.NSP recognises the role of communities in terms of peer outreach and peer counselling to improve the linkage and retention. Notable innovations like introduction of , reduced frequency of drug dispensingas well as the utilization of Care and Support Centres (CSC) in the dispensing of medicines, is envisaged in this NSP. In terms of logistics, procurement and supply chain management as well as human resources, a greater integration within the health care system is proposed in the NSP. Hepatitis C as well as that other related co-infections will also be treated at the ART centres.

The elimination of mother-to-child transmission of HIV and Syphilis has to be achieved by 2020 as per the national commitments. Since 2013-14, exceptional progress has been made in policy, strategy and implementation. Nevertheless, this NSP will accelerate the objective of elimination of mother-to-child transmission by 2020 across all the states. Implementation of testing and referral to treatment for pregnant women will be pursued in a coordinated manner in the public and private sectors through antenatal care centres. Further convergence points will be systematically promoted through other health campaigns to ensure coverage.

NSP recognises and re-emphasizes the sustenance and enhancements of critical enablers comprising governance, laboratory services, Human Resources, Supply Chain, Community Engagement, Discrimination-free Environment, Social Protection and Partnerships. It envisages continuation and augmentation of IT enabled, patient centric and contemporary monitoring, evaluation and surveillance framework for not only describing the epidemic and its drivers, but also to tailor responses.Capacity building of front line workers and managers on MES functions as well as IT capacity enhancement, in terms of man as well as machine, will be focussed during NSP to maximize the efficient resource utilization. This NSP reaffirm the priority of translational research

with a vision to enhance knowledge and evidence base for HIV/AIDS response for an accelerated progress towards achieving SDG to END AIDS by 2030.

For all the above priorities, NACO will ensure that civil society and communities participate in the design, implementation as well as in monitoring of programmes. Both people living with and affected by HIV or those at-risk will contribute at various points in the delivery of the continuum of services. Most notably, it is envisaged that the members of the key populations will provide leadership, undertake outreach as well as other functions as part of 'Targeted Interventions'. People living with HIV will ensure various advocacy roles as well as lead through CSCs. This NSP anticipates the functionality and linkages in the delivery of services through engagement of community in various functions – outreach, peer education, counselling, referral, home visits, social work, advocacy, etc.

The broad strategies for prevention, testing and treatment is summarized in the figure below.

PREVENT	TEST	TREAT
•Increased coverage for improved prevention, testing and linkages •Systematic evidence generation to reach 'at risk' population •Systematic evidence generation to reach 'at risk' population •Retain KP with adequate and appropriate services •Retain KP with adequate and appropriate services	•Geo- prioritize differential approach •Use graded approach to increase HIV testing •Pilot and scale up newer modalities of HIV testing e.g. CBT, Self Testing etc •Active use of IEC to increase demand for HIV testing	•Accelerate uptake of ART •Improve ART retention by engaging community/NGOs/Pvt sector •Ensure supportive environment for achieving universal access to ART •Address Co-morbidites of HIV infection to lower mortality and morbidity

This NSP will ensure sustainability through Integration with NHM and hence, efficient resource utilization. It will result in a more efficient use of resources existent under health, including human resources, infrastructure, service centers, and supply-chain and information systems. HIV integration with health services will facilitate people living with HIV, key and at risk populations expanded access to health services. At the same time, greater convergence is foreseen with other Ministries and Departments based on 'shared responsibility' principles. These clearly defined objectives will (a) enable reaching out to those who are unreached, and (b) create conditions for an enabling environment. This NSP also focusses on collaboration with private sector in an efficeient manner. The strategic design and operational mechanics for integration at the state level in a phased approach - in the medium and long term – will be developed and a monitoring plan implemented.

This NSP focusses on innovation in service design, delivery and finances for ensuring progress towards the 'last mile'. Innovation is understood not only in terms of local adaptation of programme design and implementation, but also in: financing, optimal ways of collaboration with the private sector, use of newer communication mediums, such as social media platforms, to reach out to a wider population in a less resource intensive way, innovation for easing social protection uptake, and following-up with those in need across the continuum of care.

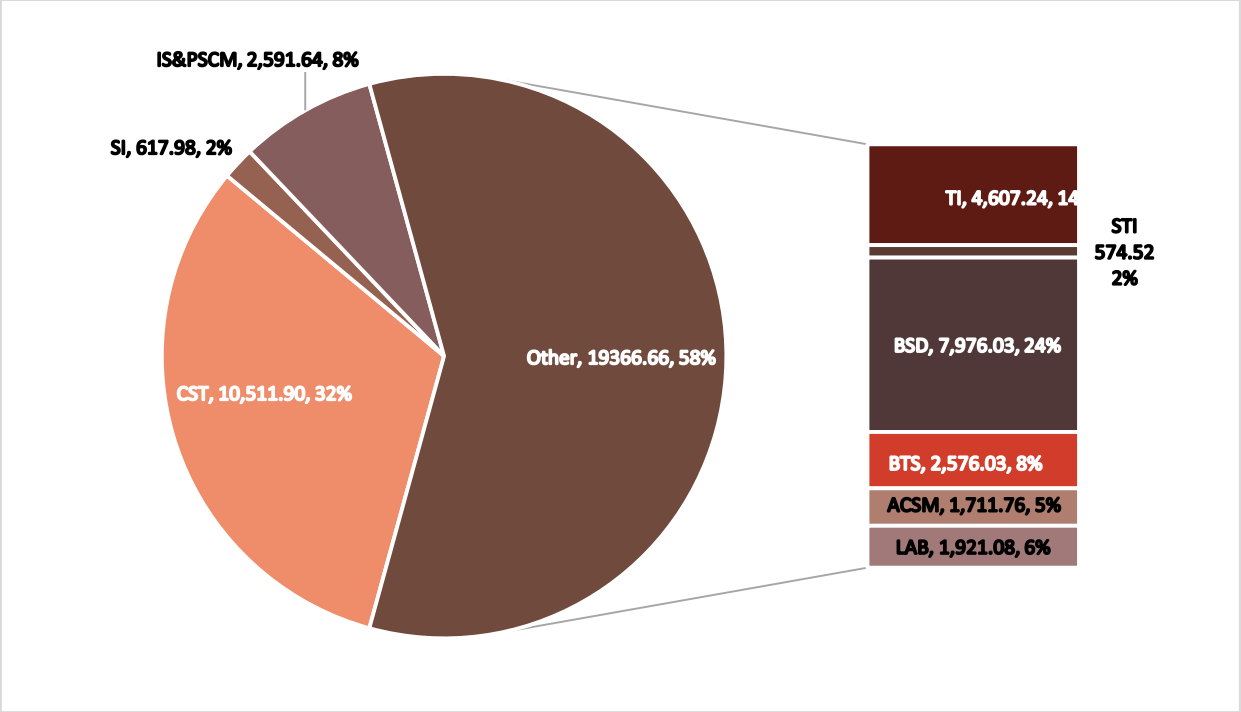
Budget

As outlined in this NSP, an '*Accelerated Approach'* is proposed to achieve the global targets for 2020 and 2030. This approach, will involve a paradigm shift through innovations and policy changes, including that of Test and Treat for all people living with HIV. To this effect, costing of the NSP was done using a bottom-up costing mechanism, wherein the actual costs of resources plus the performance were factored in. The unit costs were calculated and worked backwords using the targets set by the NSP.The budget reuired for this NSPis summarized in the table.

Table: NSP Year wise and division wise summary budget estimates (In ₹ Crores), 2017-24

DIVISION	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total	In %
TI	523.25	580.69	638.93	665.04	697.84	732.52	768.96	4,607.24	14%
STI	70.04	83.80	82.28	85.38	83.68	82.61	86.74	574.52	2%
BSD	629.97	883.32	991.05	1,133.06	1,255.74	1,412.50	1,670.39	7,976.03	24%
BTS	236.33	286.68	425.50	405.74	349.73	425.99	446.07	2,576.03	8%
IEC	226.18	204.34	243.56	229.22	265.68	252.72	290.06	1,711.76	5%
LAB	212.19	180.46	244.28	282.74	314.64	333.71	353.06	1,921.08	6%
CST	904.82	1,261.43	1,412.09	1,523.48	1,649.29	1,798.21	1,962.58	10,511.90	32%
MES	28.01	45.12	65.86	62.77	30.58	63.85	54.40	350.60	1%
Research	37.94	44.11	24.54	37.31	39.17	41.13	43.19	267.38	1%
PSM	17.99	24.64	26.13	27.57	29.65	30.98	32.40	189.36	1%
IS	294.98	309.10	326.45	340.28	359.78	375.16	396.53	2,402.28	7%
Grand Total	**3,181.69**	**3,903.68**	**4,480.66**	**4,792.60**	**5,075.80**	**5,549.39**	**6,104.39**	**33,088.19**	**100%**

Overall, 58% of budget need is for prevention functions while one third (32%) of the same is to meet the care, support and treatment functions. The prevention budget comprises 14% for TI, 2% for STI, 25% for BSD, 8% for BTS, 5% for ACSM and 6% for laboratories. Around 8% of the total budget estimates is towards the management functions (inclusive of PSCM) while remaining 2% of the total estimates is for strategic information management, as summarised in the the figure below.



Conclusion

The country has experienced a gradual decline in estimated new HIV infections, prevalence and mortality due to AIDS-related causes over the past fifteen years. However, comprehensive and sustained progress is now required to walk *'the last mile'* in terms of the commitment made to *'end the AIDS epidemic as a public health threat'* by 2030 under the SDGs.India has already met the goal set on AIDS-related MDGs from 2000 to 2015, and it has all the pre-requisite in place to reach the sub-objective 3.3 including the ending of AIDS by 2030 as defined under SDG 3. To this effect, National AIDS Control Organization, *Ministry of Health and Family Welfare* has developed this seven-year *National Strategic Plan on HIV/AIDS and STI* for India. This NSP, at the end of seven years, would result in reduction of new HIV infections to approximately 20000 and will eliminate mother-to-child transmission of HIV and Syphilis and ensure stigma and discrimination free environment for HIV.

1. Introduction

1.1. Background

India's response to the Acquired Immune Deficiency Syndrome (AIDS) began 30 years ago. The first infection with Human Immunodeficiency Virus (HIV) was detected in the city of Chennai in 1986 with the first case of AIDS identified soon after in the city of Mumbai. Initial predictions of high number of infections, were replaced with the country becoming an example of how the epidemic can bereversed. An HIV prevention focus on Key Populations[1] (KPs), access to low-cost high quality antiretro viral (ARV) generic medicines, geographical prioritization based on epidemiological evidences, community-centric approaches, a phased but rapid scale-up of interventions over time, and engagement of diverse stakeholders including civil society and people living or affected with HIV, have all been essential features of the Indian response.

India is in its fourth phase of National AIDS Control Program (NACP)presently.

Launched in 2012 with two principal objectives, first, reduce new infections by 50% (using 2007 as the baseline) and, second, provide comprehensive care and support to persons living with HIV (PLHIV) as well as treatment services for all those that meet the eligibility criteria based on national antiretroviral therapy (ART) guidelines. A Mid-Term Assessment (MTA) of NACP IV was undertaken in 2016 and has suggested some thrust areas for the remaining period.

- National AIDS Control Board and autonomous National AIDS Control Organisation (NACO) set up
- Awareness-generation on HIV/AIDS and STIs rolled out
- Surveillance systems set up
- Safe blood transfusion services set up, and
- Focussed preventive services for key population initiated
- Voluntary Counselling and Testing (VCTC) Services launched

Box 1: Key Milestones of NACP I

- State AIDS Control Societies set up
- Free Anti-Retroviral Therapy launched in 2004
- Targeted Interventionsexpanded
- VCTC services expanded

Box 2: Key Milestones under NACP II

- 1821 TIs set up
- 159 blood component separation units
- 15,538 ICTCs including F-ICTC
- 355 ART centres
- 516,412 PLHIV on ART

Box 3: Key Milestones under NACP III

[1] Key population includes Female Sex Workers, Men who have Sex with Men, Hijra/Transgender, Injecting Drug Users, Migrants and Truckers

Thrust areas identified during NACP-IV MTA

1. Adapt TI strategies to match changing dynamics of bridge and key populations
2. Improve yield of detection through strong linkages with other components, roll out newer strategies including community based testing and geo-prioritisation
3. Strengthen STI program management through involvement of apex centres, rational use of counsellors, and ensuring timely and adequate supply of essential commodities. Target efforts towards elimination of parent to child transmission of Syphilis
4. Strengthen the functioning of NBTC & SBTC in all States through provision of adequate resources
5. Consider revising the eligibility criterion for treatment initiation to CD4 500 and introduce 'Test and Treat' for key population and sero-discordant couples where the system is robust to deliver them.
6. Strengthen SIMS as an effective integrated tool for program management and ensure linkages across all program components for effective individual-level case tracking and retention.
7. Revitalise IEC strategies by shifting to interactive formats, harnessing channels for specific audience segments such as migrants & MSM, upgrading the IEC material and making them relevant to the changing context and newer program guidelines
8. Focus on institutional strengthening – filling of vacancies, capacity building and strengthen supervision – for reinvigorate the program
9. Streamline financial management at SACS and peripheral units for effective transfer and utilization of financial resources.
10. Undertake a comprehensive uplift of procurement and supply chain functions under NACP.

In addition to the above recommendations, the MTA recommended addressing structural drivers of the epidemic that increase risk or act as barriers to access to services,since much of the attrition along both the prevention and treatment cascade is attributable to structural factors that are amenable to enabling intervention including effective biomedical, behavioural and structural interventions. This is in keeping with international best practice. "*The fundamental shift that needs to happen in the next phase of the response is to better tailor the response to people's needs and contexts, optimally use innovation and address the structural drivers of this epidemic* (*sic.*)". UNAIDS–Lancet Commission: *Defeating AIDS—Advancing Global Health*, 2015, p 197

Table 1: Select socio-demographic indicators, India

Indicator	Value
Population (Est. 2017)	1.34 billion*
Adult literacy rate (2011)	74.04%**
Pop. below poverty line (2011, The World Bank, MMRP)	12.4%$
Percentage of households where private sector is primary source of health care (2006)	70% (Urban)^ 68% (Rural)^
Maternal Mortality (per100,000 LBs)	167#

Source: * www.indiaonlinepages.com/population/india-current-population.html; **RGI Census 2011; $ The World Bank Report 2014, MMRP; ^ NFHS 3, 2006; # SRS Bulletin 2016 (data for 2011-13)

India is a subcontinent with a large and growing population[2] and managing multiple challenges in its pathway to development including health (Table1).India's National Health Policy (NHP) 2017aims to *'attain highest possible level of health and well-being for all ages through a preventive and promotive health care'*. While extensive efforts have been made to create an enabling environment, work still needs to continue addressing stigma and discrimination; continuing and expanding the implementation of human rights for PLHIV; decreasing gender inequality and violence against women as well as harmful norms of 'masculinity' and 'femininity'. Similar efforts are required:

[2] http://www.indiaonlinepages.com/population/india-current-population.html.

1. To reduce poverty and expand livelihood options to reduce poverty linked vulnerability
2. To work on reducing the age of consent to enhance access to risk reduction and harm reduction services
3. To change social attitudes and the criminalisation of sex work (SW), men who have sex with men (MSM) and injecting drug users (IDU)/people who inject drugs (PWID).

India's AIDS control programme is at an inflection point. Need based programming and scale-up has brought the number of new infections down. By 2015, an estimated 32% reduction in annual new infections was reported as compared to 2007. Similarly, the sero prevalence of syphilis has declined from 2.7% to 0.3% among pregnant women and below 5% among HRGs as compared to 2007 levels. STIs like Chancroid and Donovanosis were rarely reported suggesting that they are nearing the elimination stage. There is now a window of opportunity to make a major thrust through effective and innovative approaches as well as steady financing to put the programme on the pathway to 'End AIDS' by 2030. However, without afocussed approachthere is a possibility of increasing incidence of HIV cases[3].

1.2. Changing Environment for HIV/AIDS and STI programming

Structural factors affecting AIDS response:

India has legislated several far-reaching laws and reforms to reduce socioeconomic-related health risks and vulnerabilities. The Employment Guarantee Act, for example, is a major reform that has worked effectively to provide for basic employment for 100 days in a year thereby improving livelihoods and reducing migration. The Right to Information (RTI) and the Right to Education Acts have worked to increase information-sharing, transparency and to make educational opportunities more equitable and accessible. Policy changes in health approaches, including health insurance, Accredited Social Health Activists (ASHAs) in rural and urban areas, assisted birth, and ambulance availability have also decreased vulnerability of poorer people. While there has been improvement at many levels, there are several factors that increase vulnerability. Economic inequality, limited employment opportunities, climate change among others have led to increase in internal mobility and migration, both increasing vulnerability of those who move and those left behind. Increasing coverage of mobile phones, particularly smart phones and internet connectivity, are part of an enormously successful information, communication and lifestyle change that also impactson risky behaviours[4].

Political and legal environment

The political environment in India is supportive to the HIV response, partly due to the efforts of community activists, civil society, United Nations and other development partners. Members of Parliament and State Legislators formed AIDS-focussed forums to support policy advocacy. This political support has continued to move the agenda forward and create an enabling environment for new policies and increased domestic funding. Advocacy has seen major changes in laws, including those concerning sexual harassment and domestic violence[5].Such legislative changes have been occurring around violence

[3] http://www.worldbank.org/en/news/feature/2012/07/10/hiv-aids-india

[4] Mahapatra B, Saggurti N, Halli SS, Jain AK (2012) HIV Risk Behaviors among Female Sex Workers Using Cell Phone for Client Solicitation in India. J AIDS Clinic Res S1:014. doi:10.4172/2155-6113.S1-014; Rice E, Rhoades H, Winetrobe H, et al. Sexually Explicit Cell Phone Messaging Associated With Sexual Risk Among Adolescents. Pediatrics. 2012;130(4):667-673. doi:10.1542/peds.2012-0021.among others.

[5] The Protection of Women from Domestic Violence Act 2005, The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, and the Nirbhaya Act otherwise known as The Criminal Law (Amendment) Act, 2013 which provides for amendment of Indian Penal Code, Indian Evidence Act, and Code of Criminal Procedure, 1973 on laws related to sexual offences.

against women especially since 2013. This resulted in stricter laws dealing with harassment, molestation and rape, as well as increased legal protection for women in the workplace[6]. The changes in law have not come through only because of advocacy on health, rights and HIV but they form part of a broader framework of laws that reduce risk and vulnerability of women.

The law criminalising same sex partner was read down for a few years before it was reinstated by the highest court of the land. Meanwhile, Parliament approved the Transgender Persons (Protection of Rights) Bill, 2016 which prohibits discrimination against a transgender person in areas such as education, employment, healthcare among others. It directs the Central and State governments to provide welfare schemes in these areas. It adds to their right to be recognised as a separate gender and opens pathways for 'non-discriminatory' educational and work facilities among others.

People who inject drugs(PWID) now have benefitted from the Narcotics Drugs and Psychotropic Substances (Amendment) Act 2014. It now allows for "management" of drug dependence, legitimizing opioid substitution, maintenance and other harm reduction services in the country. Changes introduced in section 71 of the NDPS Act significantly impact the health and rights of people who use drugs. People who use drugs volunteering for treatment have immunity from prosecution (section 64-A).

India's HIV/AIDS Prevention and Control Act, 2017

The National AIDS Prevention and Control Policy, 2002, recognized that HIV has spread to every corner of the country, from urban to rural areas, from individuals practicing 'risk-behaviour' to their partners and children. It was formally adopted in 2002 under NACP II. The main purpose of the policy was to bring in a legal sanction to prevent discrimination of PLHIV in settings related to work, social, medical and financial. In continuation of this policy, India initiated the drafting of an HIV-specific legislation in early 2000s. Following several iterations and consultative processes, in 2014, an HIV & AIDS Bill was introduced in the Indian Parliament and was passed in 2017, and subsequently assented to by the President of India. This law criminalises discrimination against people living with HIV/AIDS (Figure 1). Some of the salient features of this Actare:

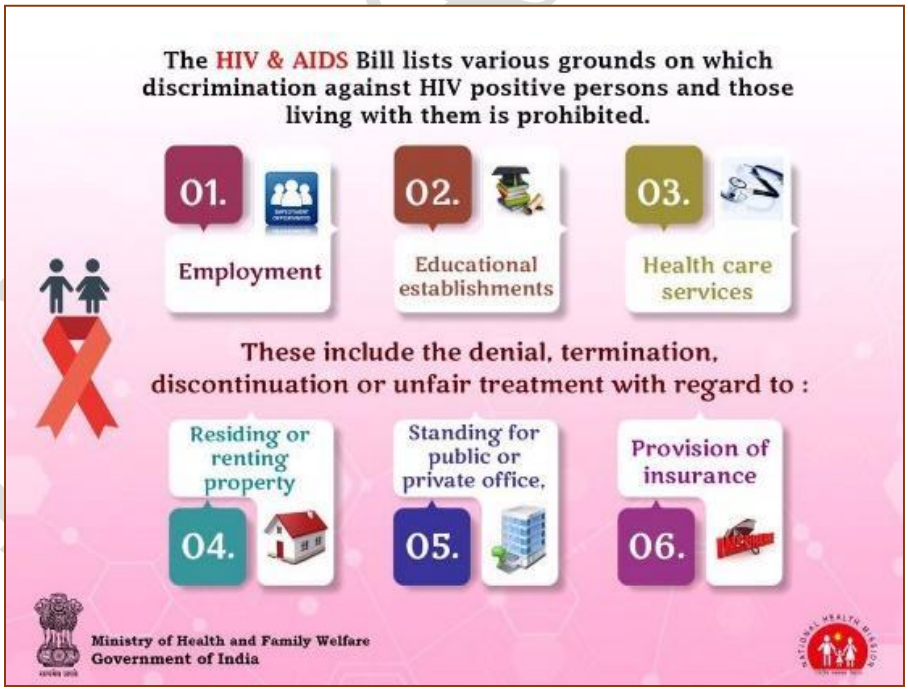


Figure 1: HIV & AIDS Act, 2017

[6]Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. Available at http://www.prsindia.org/uploads/media/Sexual%20Harassment/Sexual%20harrassment%20bill%20As%20passed%20by%20Lok%20Sabha.pdf. Retrieved on 5 Apr 2017.

- The requirement for HIV testing as a prerequisite for obtaining employment or accessing health care is prohibited
- Every HIV-infected or affected person below the age of 18 will have the right to live in a shared household, and enjoy household facilities
- Provision for appointment of an ombudsman by State Governments to address grievances related to violation of the Act and penal action in case of non-compliance
- Provides environment for enhancing the access to health care services by ensuring informed consent and confidentiality for HIV-related testing, treatment, and clinical research. It also provides ground for penal action for any health care provider, except a physician or a counsellor to disclose the HIV positive status of a person to his or her partner.
- Lists the various grounds on which discrimination against people living with HIV is prohibited such as: (1) employment; (2) educational establishments; (3) health care services; (4) residing or renting a property; (5) standing for public or private office; (6) provision of insurance.

Gender, violence and sexuality

A study – Masculinity, Intimate Partner Violence and Son Preference in India – by the International Center for Research on Women (ICRW) and the UN Population Fund (UNFPA) found 52% of women surveyed had experienced violence during their lifetime, and 60% of the male respondents said they had acted violently against their wife or partner[7]. The study also found that men who exerted control through violence were diverse in age, level of education, place of residence and caste status. Besides physical violence, women, especially those who belong to the Dalit community, are often denied land rights, their children, especially girls, are denied proper schooling and health facilities. Women's access to land, equal property rights for women, women's political participation, social security, disability, wage inequality and workplace harassment are issues that need to be deliberated and policy and attitudinal changes brought in.

Evidence indicates that gender norms can impact access to services. In addition, intimate partner violence (IPV) can affect decisions to seek testing, to pursue ART initiation or other health-seeking behaviour. Women find it difficult to include their male partners in the Prevention of Parent-to-Child Transmission (PPTCT) services due to fear of consequences including violence[8].

Youth and adolescents

Adolescents constitute 22% of India's total population[9]. An analysis of HIV counselling and testing data under NACP for 2016 has indicated that twenty four percent (24%) of all newly detected HIV infections were among young people in the age group of 15-24 years. While contraceptive use in this age group has shown an increase between the National Family Health Surveys (NFHS) i.e. NFHS-2 and NFHS-3 by more than 1% point per annum[10], premarital sexual relations are also increasing[11]. Eleven percent (11%)

[7]Decker MR, Seage GR, Hemenway D, et al. Intimate Partner Violence Functions as both a Risk Marker and Risk Factor for Women's HIV Infection: Findings from Indian Husband-Wife Dyads. Journal of acquired immune deficiency syndromes (1999). 2009;51(5):593-600. doi:10.1097/QAI.0b013e3181a255d6.

[8]Shiradkar S, Mande S, Bapat G, Setia MS. Is it time to bring the "Parent" into the prevention of parent to child transmission programmes in India? A study of trends over a 10-year period in a prevention of parent to child transmission clinic in India. Indian J Sex Transm Dis [serial online] 2016 [cited 2017 Apr 22];37:58-64. Available from: http://www.ijstd.org/text.asp?2016/37/1/58/176211

[9][7] AIDS Epidemic in India. Available from: http://www.aids-free-india.org/youth-adolescence/hiv-aids-youth-adolescnts-intro.htm. Retrieved on 5 April 2017

[10]SulabhaParasuraman, SunitaKishor, Shri Kant Singh and Y. Vaidehi. A Profile of Youth in India. Demographic and health surveys. Aug, 2009. http://www.measuredhs.com/pubs/pub_details.cfm?ID=947.

of women and 8% of men (15-24 years) who have ever had sexual intercourse reported an STI or STI symptom in the 12 months preceding the NFHS-3 survey. Among men, self-reported prevalence of the two STI symptoms-abnormal bad smelling genital discharge and genital sore or ulcer-is higher among adolescents than among men in the age group 20-24 age group[12] .

In even younger age groups, adolescents between 10-13 years use a style of reasoning focusing on the present, without considering the consequences of risk behaviour. It is a growing and learning phase where peer pressure acts synergistically with "*risk seeking behaviour*" leading to potential casual sex, unsafe sex, experimentation with sexuality and substance use, potentially resulting in increased exposure to risk of HIV transmission[13]. For adolescents in general aged 10 to 19 years, this is substantiated by a study which shows that only 36% of adolescent males and 20% adolescent females in India had comprehensive knowledge of HIV, at the time of the study[14] and 37% males and 22% females used condom at last higher-risk sex. More than one third of students in this study had no accurate understanding about the signs and symptoms of STIs other than HIV. About 30% of respondents considered HIV/AIDS could be cured, 49% felt that condoms should not be available to youth, 41% were confused about whether the contraceptive pill could protect against HIV infection, and 32% thought it should only be taken by married women[15].

Where '*Adolescent Reproductive Sexual Health Education*' (ARSHE) package has been introduced, poor knowledge of sexual health including STI and HIV had reduced significantly from 64.1% to 8.3% among girls and among boys from 37.7% to 3.5%[16]. With Information technology changing the landscape for adolescents in India[17], the enhanced need for Adolescent Education Programs within the national programme increases.

Migration

The International Labour Organisation (ILO) puts the figure on internal migration at 300 million. Work/employment related male migration in India is common with a size of 46.4 million[18]. Presently, NACO is targeting 8.64[19] million migrants with HIV preventive and linked health care services. A study by NACO supported by the United Nations Development Programme (UNDP) conducted in three districts with high migration, indicates that in northern Bihar the odds of HIV infection were eight times higher among migrant men than in non-migrant men. In eastern Uttar Pradesh (UP) and Ganjam district in Orissa, migrant men were almost four times more likely to contract HIV than non-migrants. The study also shows that the odds of HIV infection among women from the three study areas were higher among

[11]Viral R Dave; Naresh R Makwana ; Babusingh S Yadav; and Sudha Yadav. A Study on High-risk Premarital Sexual Behavior of College Going Male Students in Jamnagar City of Gujarat, India, International Journal of High Risk Behaviors and Addiction. 2013 December

[12]Naswa S, Marfatia Y S. Adolescent HIV/AIDS: Issues and challenges. Indian J Sex Transm Dis [serial online] 2010 [cited 2017 May 2];31:1-10. Available from: http://www.ijstd.org/text.asp?2010/31/1/1/68993

[13]Adapted from Berman SM, Hein K. Adolescent and STDs. In: Holmes KK, editor. Sexually Transmitted Diseases. New York. McGraw Hill; 1999. p. 129-42

[14]Available from: http://www.unicef.org/infobycountry/india_statistics.html

[15]McManus A, Dhar L. Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education: (A cross sectional survey of urban adolescent school girls in South Delhi, India). *BMC Women's Health*. 2008; 8:12. doi:10.1186/1472-6874-8-12.

[16]Nair, M.K.C., Paul, M.K., Leena, M.L. et al. Indian J Pediatr (2012) 79(Suppl 1): 64. doi:10.1007/s12098-011-0433-x

[17]Bhattarai S. Hypocrisy and hesitation surrounding sex education in Indian society. Available at https://www.theodysseyonline.com/the-taboo-behind-sex-education-in-india. Retrieved on 5 Apr 2017

[18] Census, 2011: Provisional -d-5 migrants by place of last residence, age, sex, reason for migration and duration of residence-2011. 2015

[19]http://naco.gov.in/prevention-strategies

women with migrant husbands than among women with non-migrant husbands. While the study suggests a link of HIV transmission to migrants, extramarital sexual behaviours, the vulnerability of the spouse who stays back have not been explored. However, data from National HSS has indicated higher prevalence among pregnant women who had a migrant spouse than those who did not in select states[20]. Among migrants, higher proportions of returned migrants than active migrant men also reported extramarital sex locally[21].

In India, climatic changes[22], education, communication facilities and expanding urbanisation play a key role in migration. While programming has focussed on labour migrants from marginalised communities, all economic migrants are at risk because Sexual and Reproductive Health (SRH) education have been missing in schools and universities.

1.3. Development process – NSP for HIV/AIDS and STIs

The process of developing NSP started with the Mid-Term Appraisal (MTA) of NACP-IV in 2016. The review was the first step to get an insight where the programme was in terms of its intended objectives, targets and implementation. This formed the base for the preparation of this NSP and the steps adopted are summarized in Table 2.

Table 2: Activities in Preparing the NSP with Timelines

Activity	Timeline
1. **MTA of NACP IV**	Jan – July 2016
2. **Planning for NSP team and context**	Dec 2016 – Jan 2017
3. **First Stakeholders' consultation:** **a. NACO and its implementing partners** **b. PLHIV groups** **c. Key population groups** **d. Development partners** e. **MoHFW**	8 Feb 2017
4. **Thematic sub-groups meetings**	20 Feb – 24 Mar 2017
5. **First Draft strategy for inputs and circulation**	27 March 2017
6. Second Consultation meetings with Stakeholders	29 March 2017
7. **Inputs from:** **a. PLHIV** **b. Key Populations** **c. NACO and its implementing partners**	1 – 14 Apr 2017

[20] National HSS 2012-13 and National HSS 2014-15, NACO

[21] Saggurti N, Mahapatra B, Swain SN, Battala M, Chawla U, Narang A. 2011. "Migration and HIV in India: Study of select districts." New Delhi: UNDP, NACO, and Population Council.

[22] Climate Refugees: Implications for India, Architesh Panda, Economic and Political Weekly ,Vol. 45, No. 20 (MAY 15-21, 2010), pp. 76-79

d. NGO partners **e. Development Partners** f. **Others – academia, social scientists, researchers, religious leaders etc.**	
8. **Second Draft for circulation**	15 April 2017
9. **Third Consultation with State AIDS Control Societies and other stakeholders**	27 April 2017
10. **Inputs on second/third/fourth drafts**	28 Apr – 1 May 2017
11. **Pre-Final draft for circulation**	8 May 2017
12. **Final release of HIV and STI NSP 2017-2024**	TBC

2. HIV/AIDS and STI Situation in India

2.1. Epidemiology

India has a 'concentrated' epidemic with much higher prevalence among KP than the general population. As per the natio al IBBS (2014-15), HIV prevalence among FSW 2.2%, MSM is 4.2%, H/TG is 7.5% and IDU is 9.9%. HIV prevalence among adults is estimated at 0.26% in 2015 and has been declining since the mid-2000s [Figure 2]. Women account for around 41% of all total estimated people living with HIV. The estimated number of new HIV infections per annum is also decreasing though not uniformly across the country. Some states and districts continue to record an increase in new infections confirming the heterogeneity of the epidemic [Figure 3].

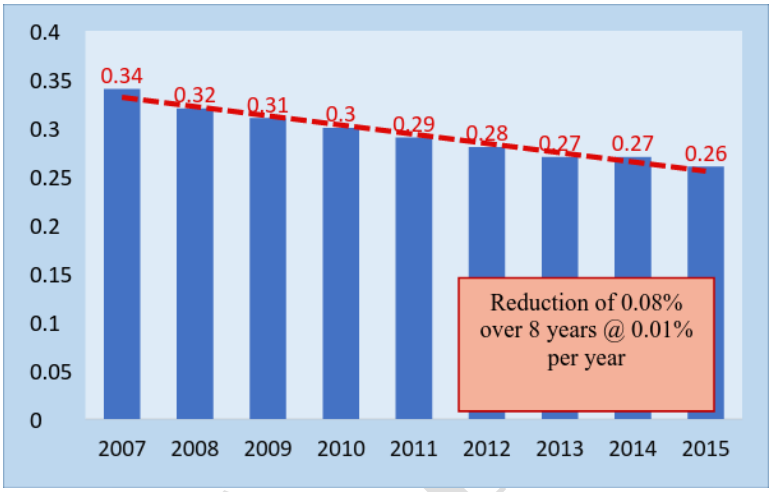


Figure 2: HIV prevalence over the years, HIV Estimations 2015

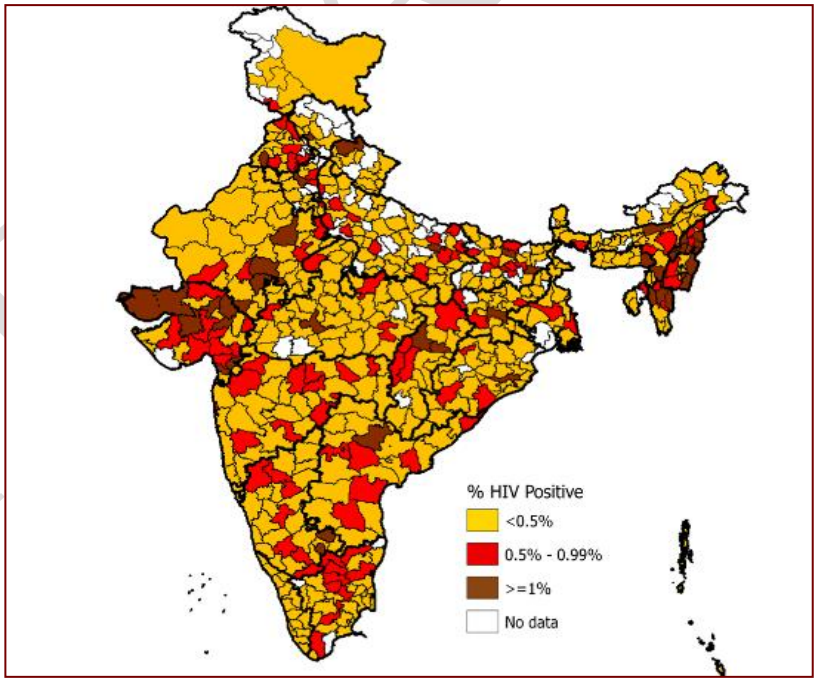


Figure 3: District wise HIV Prevalence, HSS 2014-15

India with 1.34 billion population, is going through a socio-economic and demographic transition. Mobility and migration, the advent of information technology, the rise in median income levels, persistent economic and gender inequalities, among other factors, contribute to the HIV epidemic in diverse ways[23]. Clearly, other than the epidemiological trends, investigations into social and structural drivers of the epidemic at national, sub-national and local levels is necessary for reaching the last mile.

In concentrated epidemic settings in Asia, the HIV epidemic has been modelled and follows what is known as the Asian Epidemic Model (AEM[24]). This model helps in understanding the patterns and trends

[23]Poundstone KE, Strathdee SA, Celentano DD; The Social Epidemiology of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome. *Epidemiol Rev* 2004; 26 (1): 22-35. doi: 10.1093/epirev/mxh005

[24] Brown T, Peerapatanapokin W. The Asian Epidemic Model: a process model for exploring HIV policy and programme alternatives in Asia Sexually Transmitted Infections 2004; 80:i19-i24.

in the epidemic and can help shape policy and programmatic changes. The transmission patterns based on the model are shown in Figure 4.

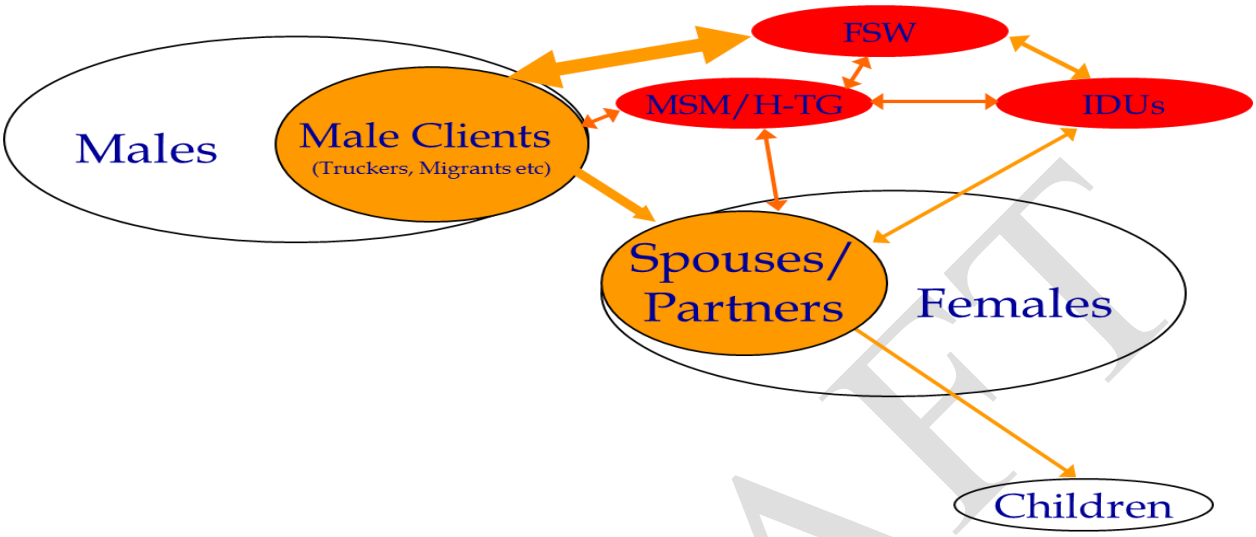
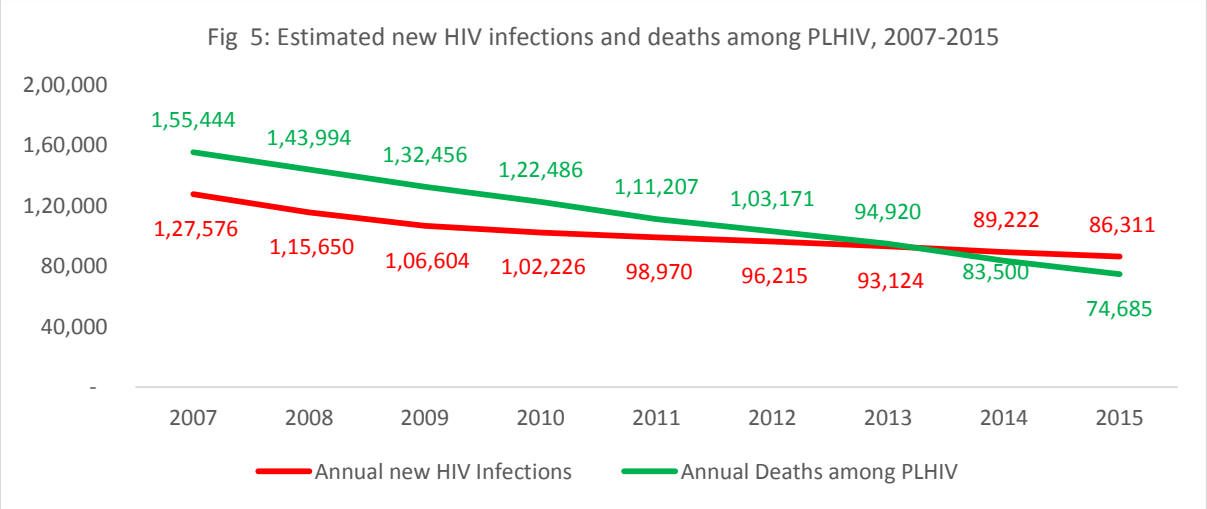


Figure 4: Transmission Dynamics of HIV/AIDS – Adapted from Asian Epidemic Model

Along with the decrease in HIV prevalence, estimated new infections has also fallen by over 66% between 2000 and 2015. The estimated AIDS-Related Deaths (ARD) had begun to fall from 2007 when the effect of ART started showing results[25]. Estimated ARD in 2015 fell by 54% as compared to 2007. Figure 4 shows the declining rates of estimated ARD and Annual New HIV Infections (ANHI). The two lines cross each other in 2014 suggesting that ANHI will contribute to a slowdown in the pace of the 'declining HIV prevalence'. With the adoption of 'Test and Treat' policy in 2017 for all people living with HIV, it is likely that ARD will show further decline and at faster pace. Thus, absolute number of PLHIV may show an increase in the coming years due to the increasing gap between ANHI and ARD.



[25] India HIV Estimations 2015 – NIMS and NACO, MoHFW, Govt of India

Trends of HIV prevalence among Key Populations (KPs) recorded through HIV Sentinel Surveillance (HSS) 2003-11 and Integrated Bio-Behavioural Surveillance (IBBS) 2014-15 are shown in Figure 6. HIV prevalence has shown a continuous decline among FSW and MSM. However, the epidemic has stabilized at a higher level among IDU.

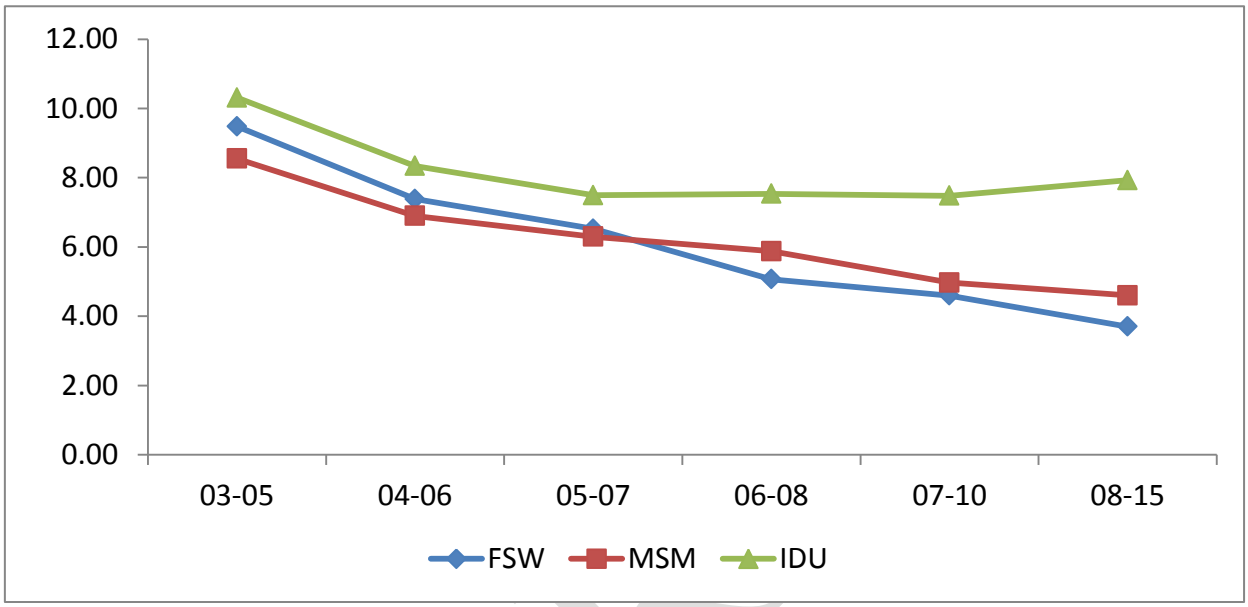


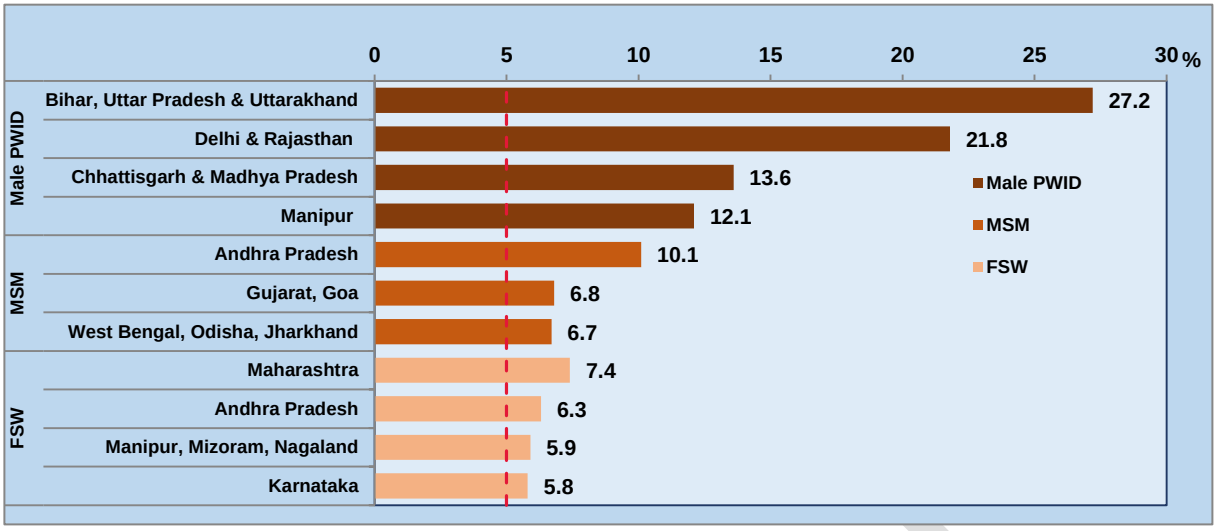
Figure 6: HIV Prevalence trend among Key Populations, HSS & IBBS, India 2003-2015

While prevalence has been either declining or stable nationally, there are considerable inter-state variations in HIV prevalence level which are shown in Figure 7.[26,27,28]

The HIV epidemic in India is predominantly sexually-driven. However, injecting drug use continues to contribute to infectionsin an increasing number of geographical areas, including the North-East, Punjab, Uttar Pradesh, Bihar, Delhi and Uttarakhand. Risk behaviours such as unprotected sexual encounters and injecting drug use are increasingly overlapping, a trend that needs further examination, analysis and documentation[29].

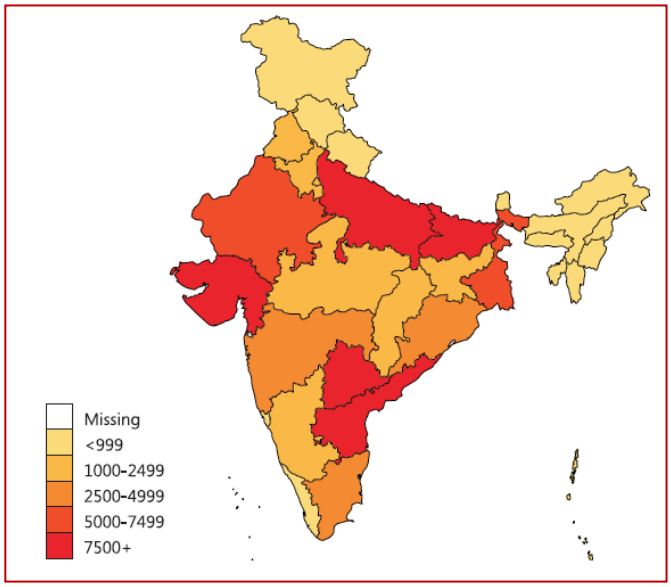
[26]Technical Brief -HIV Sentinel Surveillance 2011-12. National Institute of Medical Statistics and National AIDS Control Organization, Ministry of Health and Family Welfare, India
[27]Technical Brief -HIV Sentinel Surveillance2014-15.National Institute of Medical Statistics and National AIDS Control Organization, Ministry of Health and Family Welfare, India
[28] National IBBS 2014-15, National Report, NACO
[29]Mishra RK, Ganju D, Ramesh S, et al. HIV risk behaviors of male injecting drug users and associated non-condom use with regular female sexual partners in north-east India. Harm Reduction Journal. 2014;11:5. doi:10.1186/1477-7517-11-5.

Figure 7: HIV Prevalence among KPs in select States IBBS 2014-15



The 2015 HIV estimates suggest that the state of Manipur has an adult prevalence rate of 1.15% and, thus, is the only state in India that currently has a '*generalized'* epidemic[30]. The trends in HIV prevalence across states indicate that there have been successes in halting the epidemic. Many of the erstwhile 'high prevalence' states, Andhra Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland and Tamil Nadu, have shown steady declines in estimated number of new HIV infections. These states, have a comparatively more robust public health infrastructure and have addressed the HIV epidemic relatively early on. However, a rising trend in annual new HIV infections among adults is noticed in otherwise low prevalence states, including Assam, Chandigarh, Chhattisgarh, Gujarat, Sikkim, Tripura, and Uttar Pradesh. The prevalence in these states, barring Gujarat, is still lower than the national average [Figure 8]. However, the lessons learned from the states with 'mature' HIV epidemics would suggest that urgent scale-up of interventions in the newly 'emerging' states with increasing or plateauing new infections will lead to considerable gains in terms of infections averted and health expenditure incurred.

Figure 8: State wise estimated New HIV Infections 2015

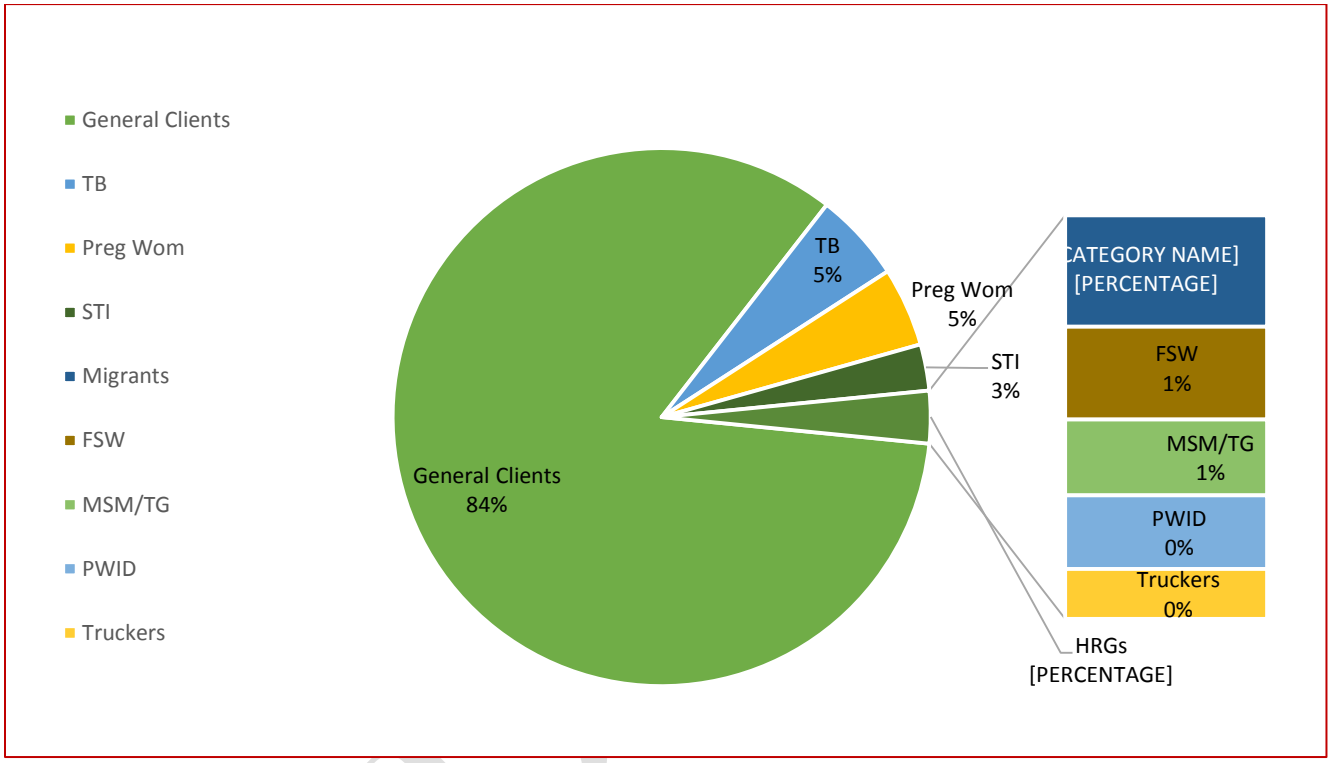


Analysis of programme data from *Integrated Counselling and Testing Centres* (ICTC) collected during 2015-16 shows that a total of 200,465 people tested HIV positive in this period. When disaggregated, the data collected shows 3% of these newly detected HIV cases were referred from Targeted Intervention programs focussing on key populations. 5% were referred from Tuberculosis (TB) testing units and pregnant

[30]Generalized HIV Epidemic: The HIV prevalence rate is >1% in the general population.

women constituted another 5%. Three percent came from STI clinic attendees (Figure 9). The remaining 84% include a mixed pool of people that need to be better characterised after conducting a detailed analysis of their socio-demographic, occupation and other personal characteristics. Additionally, the largest percentage of HIV positivity in this group belonged to 35-49-year age group.

Figure 9: Newly Detected HIV Positive Cases, ICTC Data, India 2015-16



Furtheranalysis of age disaggregated data indicates that 42% of HIV cases were detected in the 35-49 years' age group (76,629) and 15% are >50 years age (27,367) (Figure 10). This indicates that HIV infected people are either coming for HIV testing and diagnosis late or HIV infections are also occurring in age groups where minimal focus is being given in the current programming. Age disaggregated analysis of CD4 count or viral load testing data will be needed to locate risk behavior.

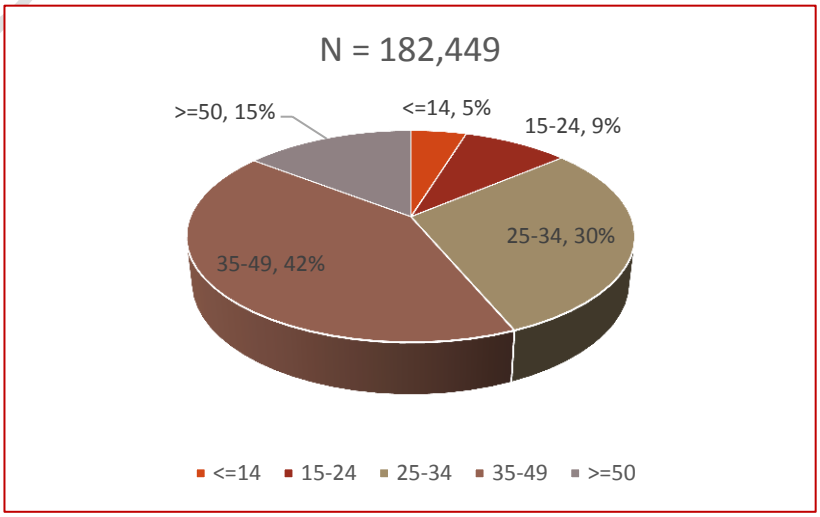


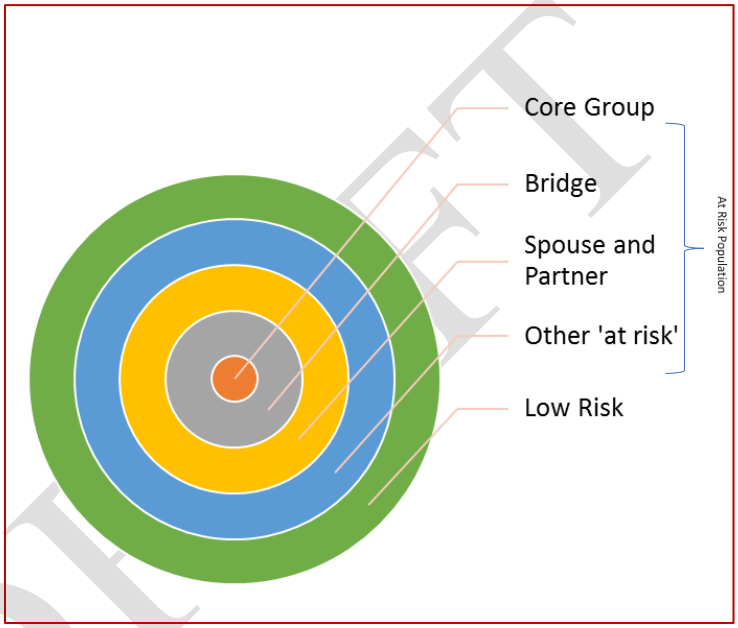
Figure 10: Age distribution of Detected HIV Positives among general clients at ICTC, 2015-16

The analysis has multiple limitations including the lack of a need for a client to declare any risky behaviours or self-identifying to be part of a key population group to less than acceptable quality of recording. Nevertheless, it indicates the need for further analysis to draw appropriate epidemiological

conclusions. The programme may also need to revisit its prevention approach, and/oradopt a wider definition of vulnerability and risk to conduct prevention among people who do not fall into the classic definitions of key populations.

Arapid size estimation exercise was underatken using data from IBBS, 2014, NFHS 3 and BSS 2006 to understand the possible size of the 'at risk' population. The estimation used the indicator "Percentage of respondents who reported having sex with any non-regular partner in last 12 months by residence and gender". The 'at-risk group' was defined as '*any individual in the age group of 15-49 years who is at risk of acquiring HIV or STI due to risky behavior of self or partner*'.This will include the core population, bridge population, their spouses/partners and other populations who are engaged in risky behaviors.

Figure 11: Spectrum of HIV Risk and prevention



While around 10-15% of this population may be targeted with a comprehensive package of services under NACP through Targeted Interventions (TI), the rest of the people belonging to other 'at risk' group is largely covered through IEC campaigns. Covering the traditional key populations and bridge populations under the TI programme has paid rich dividends, as reflected in the significant decline in new HIV infections since 2000.Epidemiological investigations need to be undertaken to further characterize the others 'at risk' population and design specific and suitable programmes that will further accelerate the rate of decline in new HIV infections.

Epidemiology of STI infections

STIs continue to present a major burden of morbidity and mortality both directly, through their impact on quality of life, reproductive health and child health, and indirectly, through their role in facilitating sexual transmission of HIV. Failure to diagnose and treat STIs at an early stage may result in serious complications and sequelae, including infertility, fetal loss, ectopic pregnancy, ano-genital cancers, and premature death, as well as neonatal and infant infections.

India has an estimated annual STI prevalence of 5-6% among the adult population. This would amount to around 33 million STI episodes in current scenario[31]. However, there is paucity of data for estimating the STI/RTI burden in India. Analysis of data for 2007-12 from STI/RTI clinics (DSRCs) and STI clinics in Targeted Intervention sites shows that 34.9 million episodes were treated (7-9million per year).

Studies have shown significant reproductive morbidity among adolescents and women (BSS, NFHS, Rapid Assessment Survey). Apart from 2002-03 CSTI study (ICMR), a 2005 rapid assessment survey conducted by NIRRH under ICMR also reported 12% of women and 6% of men attend PHC/CHC

[31]Burden of STI/RTI infection in India. Indian Council of Medical Research, 2002-03. As cited in Annual Report of 2015-16, Ministry of Health and Family Welfare, Govt. of India, page 35.

primarily due to symptoms suggestive of STI/RTI. The latest NFHS 4 reported an average 30% of reproductive morbidity (15% to 40%) among women and this is more in rural than urban areas, all indicative of increased risk of STIs.

Meanwhile, India is losing an estimated 67,477 women due to vaccine preventable STI induced cervical cancer[32]. Women living with HIV are more likely to develop persistent HPV infections with multiple high-risk HPV types at an earlier age. They also have a more rapid progression to pre-cancer and cancer and 4–5 times greater risk of developing cervical cancer than women who are not living with HIV.

Data on congenital syphilis is limited. Some sporadic studies are available from various regional STI centers, and estimates suggest that in 2015-16 there were about 16,023congenital syphilis cases in India. Systematic reporting of new cases need to be initiated[33].

2.2. Target estimation for coverage in the context of 90-90-90

The estimated number of people living with HIV (PLHIV) in India for 2015 is 2.1million with an adult prevalence rate of 0.26%[34]. In this NSP, the projected estimates for 2016-2021 have been taken from HIV Estimation exercise, 2015. Post 2021, a 'simplified projection' approach has been adopted that provides an estimate of 2.25 million PLHIV in 2024[35]. However, this is a crude estimate and once the results of the HIV Estimations 2017 become available, the targets will need to be adjusted for each programme area.

2.3. Response to HIV/AIDS and STI epidemic

India is one of the countries at the forefront of addressing the HIV epidemic. With limited evidence, HIV estimates and projections seemed to reach alarming proportions by the early 2000s. However, the last two decades of focussed programming and improved evidence generation has led to a substantial reduction of new HIV infections and more accurate estimations. This enabled the country to achieve the Millennium Development Goal (MDG) targets for HIV. Along with a gradually expanding strategic information base that informed the programme, civil society representing people living with or affected by HIV, played a vital role in directing the governmental response to address the needs of 'those left behind'. This collaboration saw a 60% reduction in new HIV infections from 2000 to 2010 (Figure 12). However, the pace of decline has slowed reaching an average of 3.11% per year in 2010-2015 reflecting a possible plateauing of the epidemic.

[32]https://www.nhp.gov.in/disease/reproductive-system/female-gynaecological-diseases-/cervical-cancer. Estimates for 2012.
[33] *Vani Srinivas etal, "Towards Elimination of Parents to Child Transmission of Syphilis in India: Rapid Situation Review to Inform National Strategy", WHO South East Asia Jounal of Public Health, July-December 2015*
[34]HIV estimates 2015 using UNAIDS Spectrum EPP band estimates.
[35] HIV Estimats 2015 results till 2021; additional PLHIV burden added into subsequent years by gap of annual new HIV infections and total PLHIV deaths

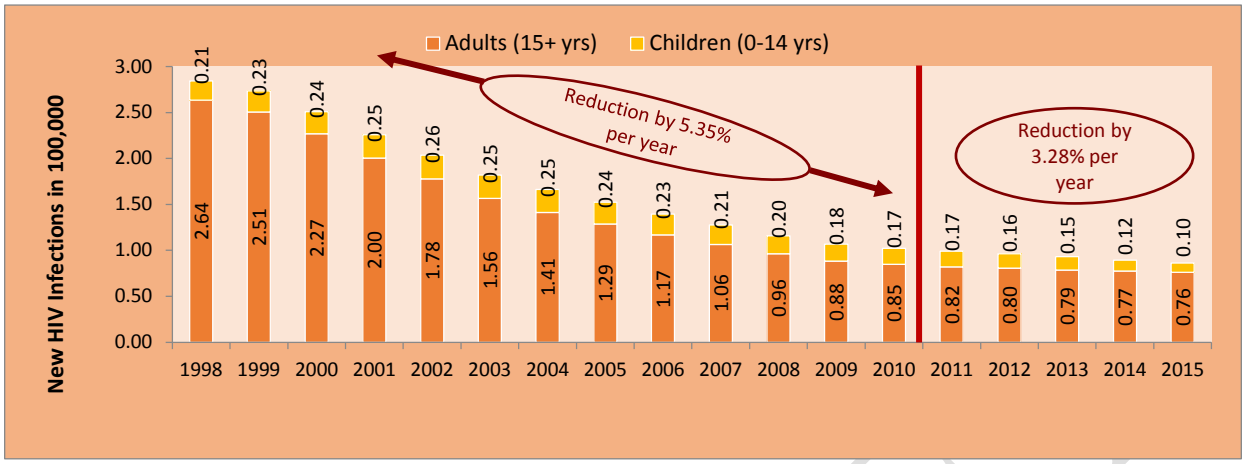


Figure 12: New HIV Infections by Adults and Children 2000-2015

The early successes of India's response were attributed to multiple factors:

1. A committed leadership with a National Steering Committee which oversaw multiple stakeholders encouraging and enabling them to work in tandem.
2. A focus on evidence generation and its use to inform the programme nationally.
3. A comprehensive package of prevention, detection and treatment services, scaled up, covering almost every district in the country.
4. Free ART for PLHIV since 2004.
5. Communities at the center of the response increasing treatment demand, providing treatment literacy, monitoring program quality and access and engaging in programming.
6. Political will, including legislative forums, parliamentary forums and the programme headed by the Prime Minister.

India instituted the syndromic management for STIs during the early 2000. It allowed the treatment of STI/RTI syndromes below the district level and has contributed towards reduction of cases of syphilis and many other bacterial STIs. Further expansion of STI services with establishing DesignatedSTI/RTI Clinics (DSRCs) with branding (Suraksha Clinics) has helped in covering more cases.

2.4. Analysis of achievements under NACP IV

NACP began to accelerate the response to the epidemic under NACP IV and pushed hard to meet the targets. This was possible due to a high level of autonomy the programme as a centrally-run scheme, strong national political commitment as well as continuing external support, government and civil society partnership including the engagement of people living or affected by HIV. The important areas of success are given below:

***Focus on prevention*:** 99.74% of the population is HIV negative. Given the concentrated epidemic, NACP IV prioritized a prevention response. The package of prevention services included prevention of parent-to-child transmission (PPTCT). Information Education Communication (IEC), customized and tailored to the needs of different target groups, key population outreach, behavior change communication (BCC), condom promotion, needle and syringe exchange, opioid substitution therapy (OST), counselling

and testing, blood safety, mainstreaming of HIV into other sectors, youth interventions, link-worker scheme, and management of STIs and RTIs. Prevention received 64% of the budget under NACP-IV.

***Targeted interventions (TIs) among KP and others 'at risk groups'*:**As evident from declining annual new HIV infections, TI's haveshown results. In 2016-17, the interventions have reached to 9,41,033 core group, 2.9 million migrants and 9,49,675 truckers through 1502 TI's. NACO-IV initiated exclusive TI's for Hijra/Transgender (H/TG) population and covered more than 28,000 population. Prison interventions were also initiated under NACP-IV. Currently, 15 prisons are being covered with HIV prevention services in 6 States and 1 Union Territory (UT).Special focus was given to informal migrants in industries through Employed Led Model (ELM).Currently, 346 industries havepartnered with SACS covering 0.78 million migrants.

***Integrated testing and counselling Services*:** HIV testing and counselling has improved in quality and coverage. With more than 22,000 HIV Counselling and testing centers (including 3,500 in private sector), HIV testing facilities is available in almost every block of the country. Almost 29 million HIV tests were performed in 2015-16 and helped identify 200,465 HIV positive cases. The number of patients registered for care at ART centers was 182,743 (91%), a loss of 9% of those who tested in the same period. Under NACP IV, ICTC has exceeded its targets especially through mainstreaming.

Prevention of parent to child transmission:Universal HIV and Syphilis screening has been made a part of routine antenatal care at all primary health centers, community health centers (CHCs) and other secondary and tertiary care facilities for all ANC clients in 2014 under NHM. The testing among pregnant women has increased from 8 million in 2011-12 to 16 million in 2016-17. HIV tests arenow performed at all primary health centers and sub-centers by Auxiliary Nurse Midwives (ANM). Incentive is provided to service providers (ANMs/ ASHAs) to ensure effective linkage of HIV positive pregnant women to PPTCT and Early Infant Diagnosis (EID) services. To ensure that every HIV exposed baby is tested for EID at 6 weeks, the Dried Blood Spot (DBS) collection centers has been increased from 1157 to 5332.

Care support and treatment: NACO has adopted a 'Treat All' policy for PLHIV towards attainment of End of AIDS epidemic as a public health threat and to improve quality of life of PLHIV. As on March2017, 1.05 million PLHIV were alive and were accessing ART through 531 ART Centers and 1108 Link ART Centers (LAC) and LAC Plus Centers (Figure 13). Cumulative loss to follow up (LFU) was 10% and 12 months ART retention was 70%.

Children living with HIV constitute 7% of HIV positive people under care and are put on ART as a matter of priority. NACO also provides second and third line treatment at select Centers of Excellence across the country.

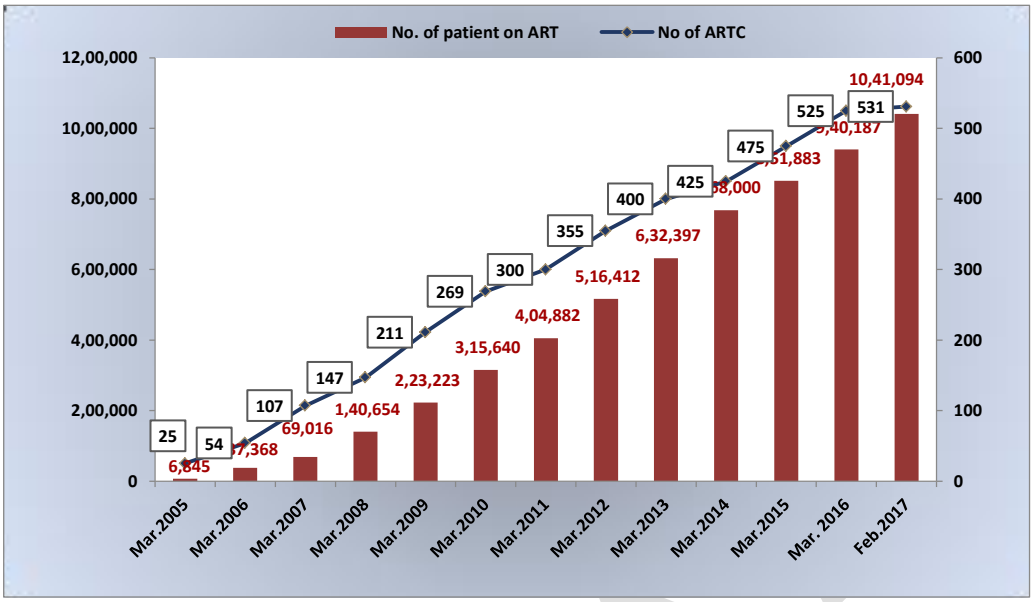


Figure 13: Scale up of ART centres and service uptake in India, 2005-17

***Care and Support Centres* (CSC)** provide support to PLHIV on ART. The centres are managed by civil society and community based organisations and provide support and linkages to various social sector schemes, Lost to Follow Up (LFU) tracking, providing peer and psychosocial counselling, treatment literacy/adherence, home visits, stigma reduction, advocacy with other departments to increase access, partner testing, local resource mobilization, and intensive case finding for TB. Through 360 CSCs, about 1 million PLHIV have been provided care and support services, 452,641 have been linked to various social welfare schemes and 267,901 LFUs have been tracked back into the system. Family testing, especially of spouse and children, has been a part of CSC initiative.

***HIV-TB Collaborative Initiative*:** The pace of the collaborative activities picked up under NACP IV, resulting in almost 88% of registered TB patients knowing their HIV status. Seventy percent of DesignatedMicroscopyCenters (DMCs) are co-located with HIV counselling and testing facilities.

***STI/RTI Services*:**STI/RTI services are delivered through 1160 designated STI/RTI clinics (DSRC). Close coordination with maternal health division (NHM) and joint procurement of color-coded STI/RTI drug kits have made the programmeoperational across the country including up to the PHC level. Additionally, 4500 providers in private practice are linked through TI NGOs to provide STI service delivery for key populations. Under NACP IV laboratory systems were further strengthened through ten regional STI centers and 45 State Reference Centers. Syndromic management approach has been adopted to scale up service delivery in health care delivery system. The programme has consistently managed 7-9 million STI/RTI episodes per year through syndromic management since 2013.

***Laboratory Services*:** These services form the backbone of quality service delivery under NACP-IV. The third phase of NACP set the foundation for institutionalizing a culture of quality in laboratory services, specifically for HIV and related testing. Yearly, almost 2 million CD4 tests, 15,000 EID tests and 14,000 HIV VL tests are being carried out. Technical support was provided to testing laboratories through the existing three-tiered network of HIV reference laboratories at the apex (1), national (12), and state level (117) through a cascade of mentoring and monitoring system and EQA programme. In NACP IV 65% of

laboratories have been accredited under national accreditation board of testing and calibrating laboratories (NABL). This includes 85% of national reference laboratories (NRL) and 49% of state reference laboratories (SRL). CD4 external quality assurance programmeis being run by National AIDS Research Institute (NARI).

New and innovative point of care (PoC) CD4 testing has been successfully piloted and tested in North East and other states including Bihar, Gujarat,Rajasthan, and Uttar Pradesh. HIV viral load (HIV VL) has been successfully started in reference laboratories. Additionally, HIV drug resistance testing is being rolled out in select Centers of Excellence (CoEs). Routine viral load monitoring is in advance stage of being initiated.

***Blood Transfusion Services*:** Blood Transfusion Service (BTS) is integral to the healthcare system. 1131 of 2,672 functional and licensed Blood Banks are supported by NACO. The BTS comprises of Blood Component Separation Units (BCSU), Model Blood Banks, Major Blood Banks, and District-level Blood Banks. NACO provides one-time equipment, manpower, capacity building for blood bank staff, consumables and monitoring & supervision. Yearly, 1.1 million blood units are subjected to mandatory HIV screening in blood banks along with malaria, syphilis, hepatitis B and hepatitis C. The availability of safe blood has increased from 44 lakh units in 2007 to 109 lakh units by 2015-16 and voluntary blood donation increased substantially from 63% in 2007-08 to 80% in 2015-16.Reported HIV transmission through blood has decreased from 15% in 1992 to less than 0.5% in 2015-16. Blood Component Separation in NACO supported blood banks is 69% in 2015-16.

***Information Education and Communication (IEC)*:**IEC activities have made significant progress and the emphasis has shifted from awareness-generation to behavior change. In some of the 'mature epidemic' states like Tamil Nadu, awareness of 'either heard of HIV or AIDS' is 99.5% (BSS 2009). Major initiatives have brought HIV/AIDS into the mainstream.

Evaluation of mass media campaigns in terms of reach, recall and intent to act, has been undertaken under NACP-IV and show good levels of recall and 'intent to act'. The Voluntary Blood Donation (VBD) campaign reach and recall study showed a greater proportion of those who had seen the advertisements donated blood as compared to those who had not seen the advertisements. Also 'intent to donate in the future' was significantly higher among those exposed to the campaign. Similarly, the PPTCT campaign evaluation (2014) showed high 'likeability' and recall of the main message among target audiences. Knowledge levels about transmission as well as importance of testing and 'intent to act' were higher among those exposed to the campaign.

A national level 24x7 AIDS Helpline was launched on World AIDS Day 2014. The helpline is operational in 12 languages and is manned by trained and experienced counsellors. Over 17 lakhs calls received has been received till March 2017.

The India HIV/AIDS Resource Centre(IHRC) is a one-stop point where resource materials on HIV/AIDS are made available in digital format for access by people from India and across the Globe. The Resources posted on the site have been sourced from NACO, SACS, Multilateral, Bilateral agencies, NGOs, research and academic institutions. These resource materials include Policies & Guidelines, Newsletters/Annual Reports, Training Modules, Communication Materials, Baseline Surveys/Research Studies, Evaluation Reports, Fact sheets/Monographs, Multimedia Gallery, Films/Documentaries, TVCs/Radio spots etc.As of March 2017, 1,122 resource materials are uploaded on website (http://indiahivinfo.naco.gov.in) and More than 1000 people registered on this website and more than 105630 unique visits by the users during December 2014- April,2017.

A dedicated Facebook Page "NACOIndia"was started by NACO in 2014 and the information is being

disseminated through this page regarding the various events, activities and other important updates on resource centre and website. This Page (NACOIndia) has more than 30,000 likes and is updated regularly 2-3 posts in a week. NACO is also active on "Youtube" and it shares the video materials through its Youtube channel (IEC NACO India) on regular basis. NACO uses "Flickr' - online photo sharing medium for sharing the photo gallery of events organised at National level

The North-East Multimedia Campaign-North East Multimedia campaign is successfully implemented in the all 8 states of north-east. Over 30,000 people were reached through the music competitions in the three states directly while through TV channels it was more than 500,000 people. Over 150 FBOs mobilized during the campaign, and declarations of commitments were signed. This activity has been Showcased as best practice to address stigma and discrimination at UNAIDS PCB

Adolescence Education programme is being implemented in more than 55000 schools. The Operational Guidelines have been revised in 2014 for effective implementation and monitoring of the programme.

For college going youth, Red Ribbon Clubs programme is being implemented in more than 14000 colleges. Operational Guidelineshave been revised in the year 2014.

Under mainstreaming efforts, NACO has signed 14 MoUs with non-health Ministries & Departments at national level. 188 districts established helpdesks in service centres for facilitating Social Protection including CABA.Approx. 10.4 Lakh benefits of social protection schemes and entitlements accessed by PLHIV, CABA and MARPs.

***Strategic Information*:** Under NACP-IV, Strategic Information and research was brought under one unit to ensure rigorous and scientific evidence is available and becomes central to an effective response. Some key achievements are:

(i) Epidemic Surveillance: India has one of the world's largest surveillance systems for monitoring the HIV epidemic. The system has provided rich data on the level and trends of the HIV epidemic over the years that has been used not only for epidemiological projections but also for resource allocation[36,37]. HSS in India was formalized in 1998 and currently the 15th round is being implemented.

During NACP-IV, two rounds of ANC based HIV Sentinel Surveillance (HSS) and Integrated Biological and Behavioural Surveillance (IBBS) were undertaken[38]. India's national IBBS 2014-15 has improved surveillance among MSM, TG and migrants to get a better understanding of the epidemic within these groups.Besides, several studies were initiated on HIV incidence surveillance, case-based surveillance and using PPTCT data for HIV surveillance.

HIV Estimations 2015 were developed using the latest Spectrum model which was populated with most recent epidemiological and programmatic evidence[39]. The process not only provided latest status of HIV AIDS epidemic, but also help measured the impact of the NACP. Dissemination of surveillance findings were fast tracked and presented as Technical Briefs, National Reports and Epidemic Fact Sheets. It is also available on the website[40].

(ii) Program monitoring:The largest data recording and management system used at NACO is the Strategic Information Management System (SIMS). It captures data from 30,000 users every month.

[36] Prioritisation of districts for programme implementation, NACO, available for download at http://naco.gov.in/sites/default/files/District%20Categorisation%20for%20Priority%20Attention.pdf
[37] Technical Briefs. HIV Sentinel Surveillance 2010-11, 2012-13, 2014-15, NACO
[38] HIV Sentinel Surveillance 2014-15, National Report, NACO
[39]Technical Report India HIV Estimates 2012, NACO and NIMS, MoHFW, Govt of India
[40] All Surveillance and Epidemiology publications are available at http://naco.gov.in/surveillance-epidemiology-0

Available within the system is a real-time data entry with brief analysis that enables rapid corrective actions for programme managers, both frontline and mid management. Consistent reporting is over 80% from all components. Under NACP-IV a standard report module is in use for decision-making at state and district level.

(iii) Research & Evaluation: To address gaps in programme implementation and generate systematic evidence generation, NACO articulated the National HIV/AIDS Research Plan (NHRP). Phase I of the NHRP was rolled out. A detailed exercise to assess existing information gaps in the programme was conducted involving programme managers at NACO & SACS and technical experts. Around 91 priority areas for evidence generation were identified, with 37 in Phase I, categorised as epidemiological, socio-behavioural, evaluation & operational research and biomedical and clinical research. NHRP has been commissioned with support from over 60 government research institutes involving senior faculty and research scientists. Thirty-three (33) studies have been commissioned under Phase I. Two rounds of NACO Research Fellowship Scheme (NRFS) have been undertaken. Five Capacity Building Workshops on Operational Research and 5 in Ethics in HIV/AIDS Research were held during NACP-IV. Brown Bag Seminar has been initiated to inform and build capacities and knowledge of programme managers at NACO, community, development partners and other key stakeholders.

(iv) Data analysis and dissemination: NACP IV has seen increased capacity building for epidemiologists, monitoring and evaluation officers, statisticians and programme managers stationed in the states. They have been able to analyse data and disseminate it at state and district level. A dedicated data analysis and dissemination unit at NACO has been set up and a National Data Analysis Plan (NDAP) was launched under NACP IV. The NDAP utilized the huge amount of data generated under the programme, to develop analytic documents, scientific papers, journal articles, and provide scientific evidence for programme management. Twenty-eight government institutions collaborated with NACO and SACS for facilitating NDAP.

***Community-led HIV response*:** Since the early stages of NACP-I, the HIV response communities have been at the center of the programme. Targeted Interventions (TIs), delivery of HIV prevention services, Care, Support and Treatment or ART, have community as the main stakeholder. NACO has involved the community at various stages, starting from identifying key populations to the delivery of services. The rich experience of community-led approaches and the lessons learned from them have fed back into the programme and helped in evolving a more systematic, robust and effective model of TIs and care and support programmes. Several TIs are run by community-based organizations (CBOs). Further, several community leaders were nurtured and capacitated to advise, support and monitor the programme at national and state level through their participation in committees and technical resource groups. This has led to a stronger ownership of response by the community.

2.5. Lessons learned, best practices and opportunities

Two and a half decades of HIV response using innovations, new implementation modalities programming to scale has led to the halting and reversing of the epidemic. This encompasses the complete 'prevention to care' continuum and the associated strategic management information system. Supportive enablers such as IEC and collaboration with other ministries in the form of mainstreaming have also seen lessons learned, best practices and opportunities.

Some of the unique features of the programme that has resulted in the success in bringing down the new infections by 66% in one and half decade (2000-2015) are summarized below:

- Communities at the center of the AIDS response in a collaborative and inclusive manner
- Evidence-driven strategies such as district categorization for geo-prioritized response to achieve

maximum impact

- Focus on prevention especially in low HIV prevalence settings
- Free treatment scale up including second and third line treatment
- Pilot strategies for scale-up of HIV services such as Link ART Centers, OST Centers etc.
- Leverage of partnerships and strategic in-sourcing of expertise
- Country ownership of the response

Some of the other lessons learned during this period are:

- Decentralized and collaborative approach in programming, with States leading the implementation of the response and the Centre spearheading policy, guidelines and frameworks.
- Role of FICTCs in increasing HIV testing.
- Introduction of accompanied referrals to reduce 'lost to follow up' between testing and enrolment in care and treatment.
- Cross learning and experience sharing especially from states with better public health system (e.g., institutionalized procurement system) in place.
- Treatment literacy and adherence with support from PLHIV and CBOs.
- Embedding voluntary counselling and confidential testing within provider initiated counselling and testing.
- Piloting self-testing.
- Prevention innovations and practices (e.g., basic service package delivery at TIs)
- Consistent investment in capacity-building of various systems including community systems.

3. Gap Analysis in HIV and STI programming

Despite many significant achievements, NACP has had its share of challenges and gaps. This section analyses key gaps in areas of prevention, testing, care support and treatment, and the supportive enablers.

3.1. HIV and STI Prevention

NACP has a major focus on prevention and implements the activities through (1) Targeted Interventions for KPs/at risk population and (2) Generalised IEC activities for other groups.

The major gaps in TIs (MTA, 2016 and NSP TIs March 2017):

1. Population Size Estimates (PSE) for KPs are old. The last mapping and population size estimates have been done in 2009.
2. Gaps in coverage – both in terms of numbers, quality and comprehensiveness of the service package. There is scope to update the composition of services, under a combination prevention approach, to meet the current needs of each KP group at the decentralised level. In the context of changing social and cultural norms, easy access to information technology including mobile phones, internet, more disposable incomes, increased urbanization;engaging of KPs for enrolment and uptake of comprehensive package of services is a challenge.
3. The third gap lies in the current structure and approach to deliver an adequate HIV prevention package for key and bridge population groups. Lack of flexibility, with an adherence to uniformity is a gap when considering the varying needs of these dynamic population groups which may differ across different locations. This may lead to a gap in locating and reaching out to KP sub-groups who maybe more at risk of exposure to HIV.
4. Vulnerability due to increased migration and mobility
5. With evolving information technologies, modes of communication among KPs keep changing.

The other gaps are presented in the section on NSP along with proposed strategies to address the gaps.

Gap in reaching out to '*At Risk Groups*'

The section on epidemiology provides a quick analysis on the 'at risk' population for HIV and STIs. TIs are currently reaching out to KPs. Further granular analysis and local insights are needed to understand the other 'at risk' groups, who would be at greater risk due to the fact of having multiple and concurrent sexual partners, or because ofengaging inunsafe injecting behaviours.

While current program data suggest that most newly detected HIV positives is from unidentified group, this is based on self-reporting and thus would need to be interpreted following further study of the data. Nevertheless,this group has acquired HIV due to either their own or their spouses/ partner's behaviours. National IBBS has revealed that almost half the KP go for HIV testing on their own and hence may not be documented as a KP in ICTC registers, either for their behaviours or for HIV positive results. However, still, there will be a proportion of HIV positives that may fall into population groups that cannot be classified as KPs.

A first layer of people where large number of new cases is detected are clients of sex workers or so-called bridge populations including male migrants and truckers. Out of these populations, migrants and truckers have conventionally been targeted in India by prevention efforts, but additional vulnerable population need to be identified and covered by the prevention programme. Thus, the key gaps currently are:

- Identifying the larger 'at risk' groups
- Designing, demonstrate and upscale appropriate prevention intervention strategies

- Linkage of this group to test and treat services

Gaps in STI Programming

The STI control program is an integral component of HIV program as well as of RMNCH+A. The major gaps identified are:

- Cross-cutting interventions through two vertical programs
- Treatment oriented, not prevention focus
- Gap in coverage and quality especially at sub-district health facilities
- Non-functional aetiology based surveillance system
- Reporting gaps, including those from private sectors and NHM
- Lack of adequate, appropriate and current data for planning

The coverage gap is presented in figure XX below:

3.2. HIV Testing and Counselling Services

HIV testing services forms the gateway to accessing care, treatment and support services. Meeting the SDG and fast track targets are heavily dependent on early HIV detection and swift linkage to necessary treatment and care services.

The key gaps in testing services include:

- Gap in HIV case detection - 1.52 million have been identified and registered at ART centre (till 2015-16)[41]. Considering the estimated total number of people living with HIV at 2.12 million, around 28% are yet to bedetected.
- Gaps in HIV testing among identified groups - Analysis of programme data has indicated that there is 33%-43% gap in testing of KP, around 90% gap in testing of bridge population, around 65% gap in testing of STI clients, 23% in TB patients, 45% in pregnant women and 64% in partners of PLHIV.
- Gap in HIV counselling and testing services (HCTS) facilities - In the states where there is improved public health infrastructure, such as Tamil Nadu, Andhra Pradesh, Karnataka and Kerala, the density of ICTCs range up to 30 per district. But in Northern and Eastern States like Uttar Pradesh, Bihar, Jharkhand, Odisha etc. the density ranges from < 5 to a maximum of about 10 per district. Some of these states like UP, Bihar etc. are showing rising trend and hence limited number of HCTS facilities may hamper the access to comprehensive prevention and detection services.

3.3. HIV Care, Support and Treatment (CST)

Treatment, care and support for aPLHIV is lifelong. As the programme progressed, HIV treatment, care and support services are increasingly shifting its focus on early treatment initiation and retention in treatment and care. There has been a huge impact in terms of AIDS-related deaths averted and lives saved by enabling now more than a million PLHIVs access to ART free of cost. However, despite the phenomenal success, there are certain gaps in terms of current commitment of Government of India.

Among the key gaps in treatment, the major one is maintaining the continuum of care. The major contributors to the gap are:

- Coverage gap: Currently, almost 1.52 million PLHIVs have been identified and 1.04 million are on ART. There is thus a coverage gap of 0.48 million.

[41]Program Data. CST Division. National AIDS Control Organization, Ministry of Health and Family Welfare, Govt. of India

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- Leaky cascade: Linkage loss at various stages of HIV services has been identified. Currently, 12 months retention stands at 70%.
- Infrastructure and human resources gap: 531 ART centres and 1100 ART dispensing units are operational across India, based in a variety of settings from Medical College Hospitals to District Hospitals and distribution points even at sub district health units (i.e., Link ART Centres). But many are overloaded and understaffed. This is one of the major gaps and will need to be addressed.
- Gaps in standards of HIV Care: While India has been using the CD4 to monitor the progress of PLHIVs on ART, the current standards of care suggest using viral load as principal monitoring mechanism.

Figure 14: HIV Retention Cascade, India, 2015-16

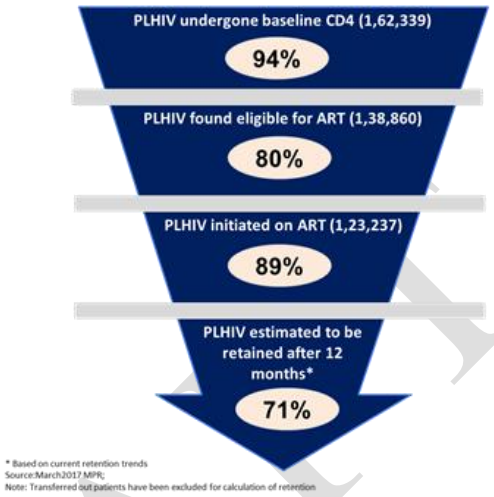


Figure 14 provides the cascade analysis for HIV Test and Treatment.

As the program focus is now to facilitate all PLHIV's access to treatment services, overcoming these challenges is critical.

3.4. Elimination of Mother to Child Transmission of HIV and Syphilis (EMTCT)

India is committed to the 'Elimination of mother to child transmission of HIV and Syphilis' by 2020. While these targets are reachable, there are lots of gap in reaching the target particularly at the inter-state level.

The key gaps noted are:

- Gaps in current EMTCT cascade: India is committed to eliminate mother to child transmission of HIV and Syphilis by 2020. It means testing of 95% of pregnant women for HIV and Syphilis, putting 95% of estimated Positive pregnant women on ART and achieving a mother to child transmission rate of less than 5% by 2020. However, in 2015, India has tested only half of the pregnant women for HIV, has put only half of the estimated pregnant women on ART and the final MTCT rate is estimated to be 27%. Clearly, there is a major gap in terms of testing and treatment initiation of pregnant women as per the population estimates that need to be covered to achieve the stated elimination of MTCT by 2020. The penetration in private sector is also sub-optimal. Almost 40% of the total deliveries are conducted at private sector facilities; however only 10% of the total HIV testing among pregnant women under NACO is through private sector. Clearly, less penetration into private sector has contributed into less coverage of HIV testing and subsequent ART initiation among pregnant women.
- Out of an estimated 29.7 million pregnancies per year, about 74.2% attended at least one antenatal care (ANC) visit. Out of the 27.6 million ANC registered in HMIS, 59% were tested for HIV[42]. Against estimated PMTCT need of 35255, the coverage is around 45% in 2015. Similarly, only 9 million pregnant women are tested for Syphilis translating into a coverage of around 30% in 2016.

[42]UNICEF fact sheets for India. Available at https://www.unicef.org/infobycountry/india_statistics.html. Accessed on 23 March 2017.

This is a major gap in view of achieving 95% coverage target for elimination of congenital syphilis by 2020. This gap is higher in States with less HIV and Syphilis testing facilities such as Uttar Pradesh and Bihar as compared to high prevalence States such as Maharashtra, Tamil Nadu and Karnataka.

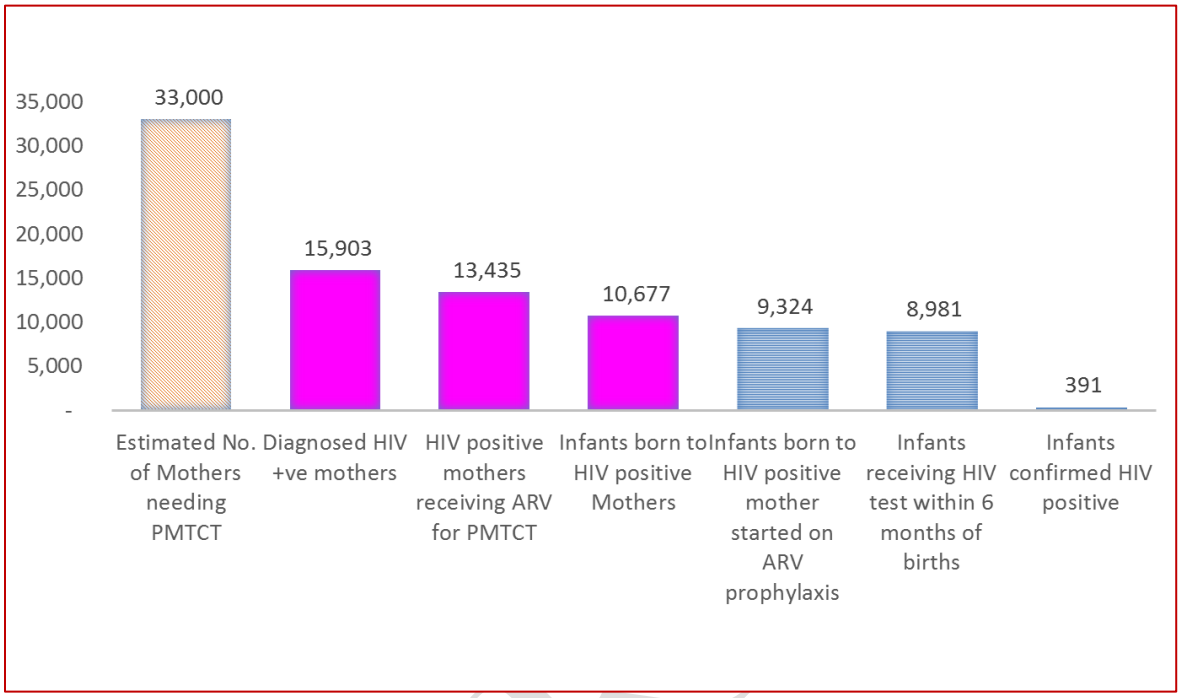


Figure 15: PPTCT Cascade for HIV, India, 2016

- Gaps in early infant diagnosis and continuum of care: Out of the 10677, HIV positive live birth, 85% of the babies have been tested at least once for EID in 2016-17. However, only 59% of the babies have been tested within 2 months. 500 babies have been detected PCR positive; 394 of them have been initiated on ART.
- Cohort Follow-up management: The EMTCT services start with detection of HIV positive mother and continues till HIV exposed baby has reached to 18 months. In the absence of strong IT enabled and automated system, the follow-up of birth cohort under EMTCT becomes challenging.
- Challenges with availability of Injection Benzathine Penicillin and fear among clinicians of its use is a major deterrent of achievement of eMTCT of HIV and Syphilis.

3.5. Laboratory Services

Laboratory services are essential for any good public health programme. Starting from diagnosis to outcome, quality-assured laboratory services is an essential component of the NACP. The package of laboratory services articulated under the NACP IV includes quality assurance in HIV testing, CD4 testing, Early Infant Diagnosis (EID), Viral Load and STI labs as critical components.

The key gaps in laboratory services are:

- Routine HIV Viral Load testing is still in its inception phase. Currently, measuring the progress towards achieving the third 90% remains an important gap which is being addressed.
- Quality assurance of testing especially in F-ICTCs (where screening for HIV is done) remains a challenge.

3.6. Blood Transfusion Services

Blood Transfusion Services (BTS) has been managed by NACO under NACP since 1992. Unfortunately, there are multiple agencies that are not only stakeholders but also controllers for part of operations.

The key gaps noted are:

- Multiple systems for BTS: The work related to BTS is being carried out, overseen and monitored by multiple controlling agencies/Departments within the MoHFW. There is the National Blood Transfusion Council (NBTC) and each state has their State Blood Transfusion Council (SBTC), NACO and SACS, DCGI/State FDA, and National Blood Cell (NBC) and their state bodies. The limited coordination between the agencies leads to inefficiency in service provision and duplication of efforts.
- Gaps in accessibility and availability of safe blood: India collects 10.9 million blood units against an annual requirement of approximately 13 million units (WHO norm of 1% of population). The voluntary blood donation (VBD) in NACO supported blood banks is 80%, which is lower than proposed NACP IV target of 90%. There continues to be reliance on replacement donation.
- The component separation in NACO supported blood banks at 69%, which is lower than proposed NACP IV target of 80%.
- As per the Baseline Assessment conducted across all licensed Blood Banks, there is lack of uniform Quality Management Systems with 33% pendency in licensing.

3.7. Information Education and Communication (IEC)

Information, Education and Communication (IEC) for promoting behaviour change and to encourage and sustainpositive healthy behaviours among individuals and communities is the cornerstone of HIV programming. However, the recent NFHS-IV has shown that comprehensive knowledge about HIV/AIDS among men has been at 32.3% against the 33% in NFHS-III; in fact, the knowledge has declined in few of states. The last two years of NACP IV has seen a paucity of funds coupled with change in the mechanism for disbursement thus affecting the scale and nature of IEC initiatives. Some of the challenges and gaps in IEC and communication are:

- Newer Technologies needs to be tapped.
- Communication need assessment may be undertaken for developing target specific BCC package for HRGs
- Extensive 360-degree multimedia approach with specific messaging to be coined. There is need to have specific intervention for reaching to out of school youth.
- Communication Need assessment for in school, in college and out of any educational system adolescents & youth
- Lack of coordination between different departments and NACO on youth programmes
- Lack of Innovative activities under youth intervention
- Mainstreaming efforts to be extended in more departments

3.8. Monitoring, Evaluation and Surveillance

Collection, management, analysis and use of various information sources are the key for monitoring the epidemic and evaluating the response at different levels. These activities need to be undertaken in a rigorous and timely manner. During various phases of NACP, many program information systems were developed as deemed necessary by various NACO divisions or programmes and projects including the Strategic Information Management System (SIMS). These systems need to be linked for facilitating patient monitoring across the HIV cascade. Equally, the program, epidemiologic and behavioural data

available needs to be analysed in conjunction with one another for a more comprehensive understanding of the epidemic, response and needs at the decentralised level.

The key gaps in MES are summarised as follows:

- Multiple data systems at NACO: Most of the systems that have been developed are stand-alone and works in isolation. This presents several challenges to monitoring the programme and the epidemic and tracking clients across the continuum of care.
- Real time monitoring of NACPcontinues to remain a gap.
- Epidemic surveillance and analysis at State and District level is a major gap with almost no representation from private sector.

The other gaps are presented in section 6 along with strategies to address these gaps over this NSP period.

3.9. Research and Evaluation

HIV related research in India in diverse disciplines, i.e. epidemiological, clinical, behavioural and social sciences, based on sound knowledge and research support, has contributed to a much better understanding of the dynamics of the epidemic. NACO recognizes rigorous and scientific evidence as central to an effective response. However, critical gaps were observed under Research & Evaluation Division:

- **Lack of assured funding support for research activities**: There are no dedicated funds available for operations research within NACP. Funding is available more on an *ad hoc* basis rather than in a planned manner. Donors have mostly funded programme activities while research and evaluation have been a low priority.
- **Procedural delays in the processing of research proposals at NACO**: The approval process on research studies needs a revision. Further, there are administrative delays in the release of funds which dissuades many researchers from even applying for the grants. This has led to loss of relevance of some studies since they do not serve the purpose of informing the programme in a timely manner.

3.10. Procurement and Supply Chain Management (PSM)

Procurement and supply chain management is one of the most important critical enabler in NACP and central to ensuring continuous, uninterrupted supply of services. In the absence of a well-functioning PSM, the implementation of prevention programs, HIV testing services, and Treatment, care and support for HIV will be defunct and ineffective. For instance, a PLHIV who may not receive regular access to medicines is at increased risk for developing drug resistance which could lead to treatment failure unless second or third line treatment regimens are made available and easily accessible.

PSM practices under NACP have many gaps and challenges. The key gaps are:

- Lack of effective forecasting and real time data.
- Inadequate organizational arrangements to coordinate and manage an effective PSM.
- Lack of standard inventory management system across the system.

4. National Strategic Plan for HIV/AIDS and STIs

4.1. Context of the Plan

India contributed to the elaboration of the Sustainable Development Goals (SDGs) for 2030. SDG 3 encompasses Sub-Goal and Target 3.3 which includes 'Ending of the AIDS epidemic as a public health threat' by 2030. To achieve the target, countries need to fast track their HIV-response by 2020. India aims to achieve 90-90-90 as well as other Fast-Track targets and proposes to do so by scaling up strategic efforts while simultaneously maximizing returns on investments – which require sufficient human resources, technical know-how and financing. Enhancing the effectiveness and cost-effectiveness of interventions is a guiding principle for the NSP with specific attention on sustaining service-delivery in the long-run.

Figure 16: UN Sustainable Development Goals

Fast tracking the AIDS response requires strategic planning, predictable resource mobilization and reinvigorating implementation which is more responsive to the local contexts and needs. Based on the Political Declaration at the High-Level Meeting (HLM) on HIV/AIDS inJune 2016, which India was a signatory to, the United Nations defined ten global commitments that are essential to ensuring a continuum of prevention-testing-treatment and the required social enablers. The implementation of the Political Declaration is being monitored under the Global AIDS Monitoring (GAM) framework.

- Evidence–informed and result-oriented
- Coverage and Quality
- Rights-based approach
- Investment
- Flexible andadaptive
- Multi-sectoraldesign and implementation

Box 4: NSP Guiding Principles

Despite the milestones achieved by the National AIDS Control Program, new HIV infections are still occurring across the country and particularly among certain geographic areas and populations. On an average, new infections are declining at a rate of 3% per year since 2010, and this poses a significant challenge towards achieving the fast-track target of reductions in new infections by 75% by 2020. It is estimated that around 28% of estimated PLHIV do not yet know their HIV status and have no access to life-saving ART. Adherence to ART needs to be urgently increased to reduce mortality, morbidity and improve quality of life, but also prevent transmission through effectively reducing viral load. There is also an urgent need to close the testing and treatment gaps. The continuum or cascade of interventions can be strengthened through improved service accessibility, the reduction of stigma and discrimination and stimulating other social enablers. Considering the epidemic trends and geographical variations, the 2017-24 NSP will focus on the attainable vision of *'An AIDS Free India by 2030'*.

4.2. Guiding principles

This NSP was developed in line with the following guiding principles:

- *Evidence-informed and result-oriented programme design*: The strategies detailed in this NSP draw on evidence and accordingly prioritize results.
- *Coverage and quality of interventions across regions:* Scaling up programmes for the greater good is the mantra, without compromising quality and comprehensiveness of services and equitable access.
- *Equity, gender and rights-based approach:* The AIDS programme is a unique public health response that touches multiple facets of human lives and should remain people and community-centric.
- *Relevant, efficient and result oriented investment:* Investment in combination prevention, which includes behavioural, bio-medical and enabling interventions,must be cost-effective and have the benefit of minimal disruption to the socio-economic and cultural situation and development of individuals, families and the nation. The gains made due to infections averted or the loss accrued due Disability Adjusted Life Years (DALY) should be very high.
- *Flexible and adaptive*: The drivers of the epidemic as well as the response depend on various factors, including socio-economic and life-style context. The HIV response needs to considervarying epidemiological, structural and socio-cultural scenarios across states moving beyond the one-size-fits-all approach and shift analysis and planning to the sub-national and local levels.
- *Multi-sectoral and inclusive*: The health sector provides many but not all services in the continuum associated with HIV/AIDS. Therefore, a strategic multi-sectoral partnership is required involving various areas in the public sector, the private sector, civil society and community-based organizations.

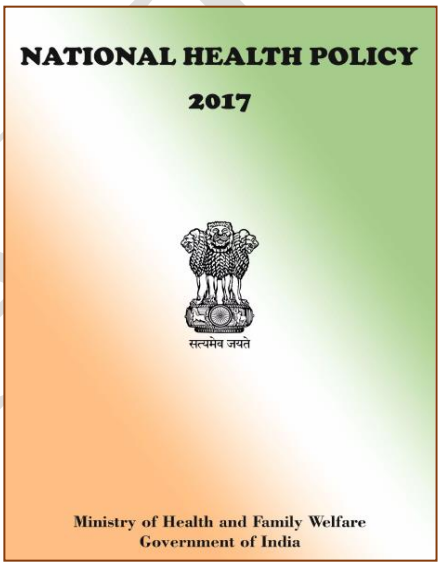


Figure 17: National Health Policy, 2017, Ministry of Health & Family Welfare, Govt of India

In the development of this strategy, defining policy frameworks concerning the national, regional and global level were drawnupon, to articulate the vision, mission, goal and objectives of this NSP 2017-2024. Thesehave includedIndia's National Health Policy 2017.

4.3. Vision, Mission, Goal and Objectives

Vision: An AIDS Free India

Mission: Attain universal coverage of HIV prevention, testing, treatment to care continuum that is effective, inclusive, equitable and adapted to population and local needs.

Goal: Achieving zero new infections, zero AIDS-related deaths and zero AIDS related stigma & discrimination.

Strategic Framework: The NSP is designed around a results-based framework that reflects the fast-track targets and the 'ending of AIDS' commitment. The framework is based on a causal relationship between the vision, mission, goal and the outcomes. This will be articulated in terms of inputs, outputs and costs in

the implementation plan. While there are several external and internal risks that may positively or adversely affect results, the combination of strategies adopted will be calibrated according to the epidemiological, health priorities and resource scenarios of different states and in cognisance of needs of people living with HIV and communities. Figure 18 below provides an overview of the overall NSP framework that is being proposed.

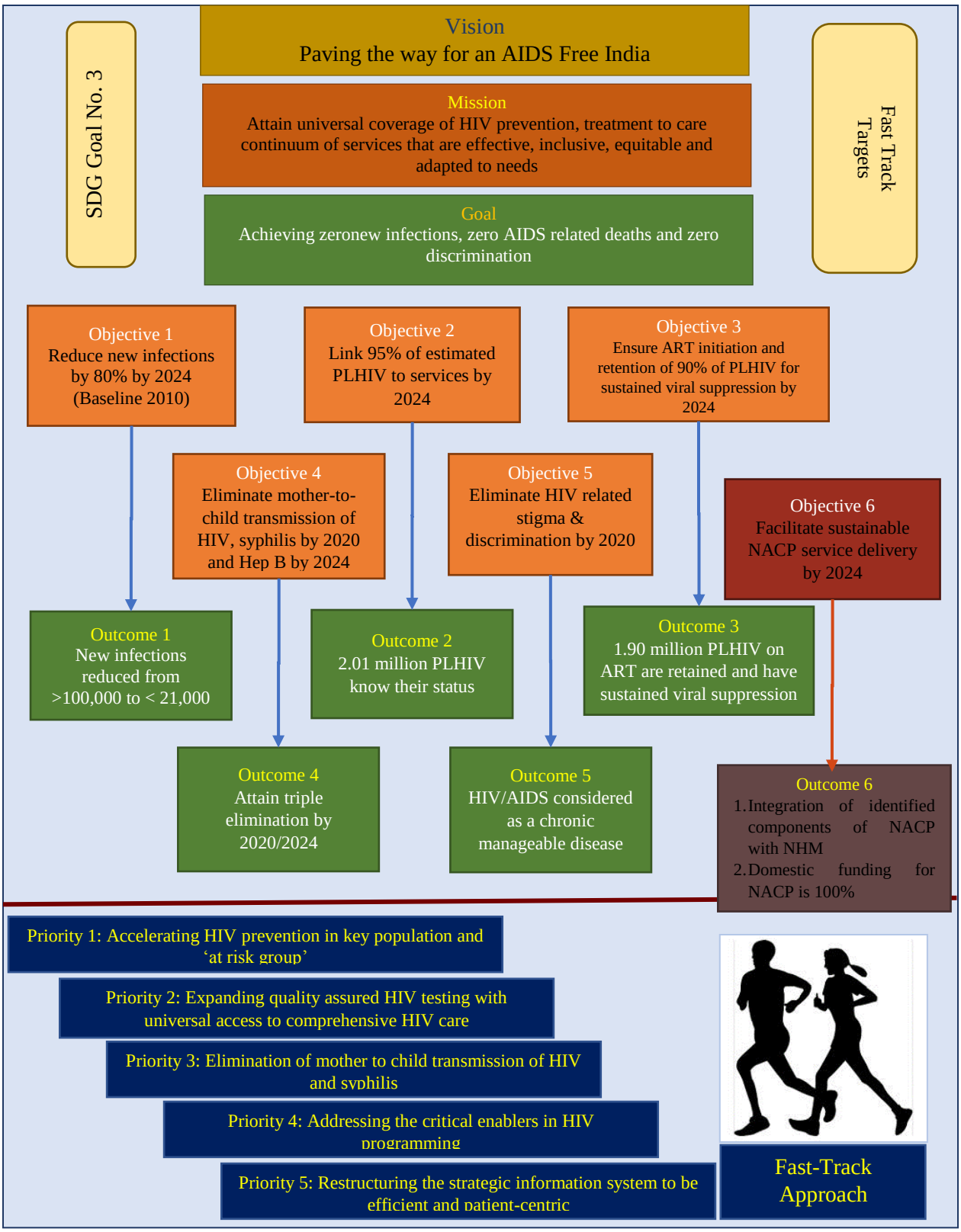


Figure 18: Overview of HIV NSP India 2017-2024

Based on the above strategic framework, a specific planning approach is required that differentiates States and Union Territories (UT) according to three predominant epidemiological contexts: first, are those States/UT with a 'mature' epidemic where HIV incidence and prevalence are high in key, bridge and other at-risk populations and, in some cases, in other segments of the general population; second, there are those where there are 'emerging' epidemics with relatively new and rising rates of infection among key, bridge and other at-risk populations; and, third, there are those with 'low' or stable epidemics where there is still need to focus on potential risks among key, bridge and other at-risk populations, to maintain the low infection rates and eliminate HIV transmission. While a range of services is needed in all three case scenarios, the mix and relative weight of each set of interventions and service-delivery models may need to vary. The most critical interventions include prevention, outreach, testing& counselling, treatment, prevention of mother-to-child transmission, viral load suppression, care and support, as well as social protection. Programmatic support components (e.g. M&E,surveillance, research, laboratory services, procurement etc.) remain relevant across all three contexts. However, the service delivery modality, the level of integration into health systems and corresponding budget requirements will vary according to the epidemiological, social and demographic characteristics of the above three contexts.

Objectives: This NSP proposes six objectives towards fulfilling its vision of an AIDS free India. These are

Objective 1: Reduce new infections by 80% by 2024 (Baseline 2010)

Objective 2: Ensure 95% of estimated PLHIV know their status by 2024

Objective 3: Ensure ART initiation and retention of 95% PLHIV for sustained viral suppression by 2024

Objective 4: Eliminate mother-to-child transmission of HIV and Syphilis by 2020

Objective 5: Eliminate HIV/AIDS related stigma and discrimination by 2020

Objective 6: Facilitate sustainable NACP service delivery by 2024

Meeting these objectives by 2024 would result in:

1. Estimated new infections will reduce from 1,02,226 (2010) to < 21,000 per year
2. 2.14 million PLHIV of total estimated PLHIV (2.25 million) would know their status
3. 2.03 million PLHIV would be put on ART
4. 1.93 million PLHIV would be retained on treatment and have HIV VL <1000 copies/mL
5. Attainment of ≤50 cases of new paediatric HIV infections per 100,000 live births with a mother-to-child transmission rate of <5% by 2020 and maintenance of same thereof
6. Attainment of ≤50 cases of congenital syphilis per 100,000 live birthsand maintenance of same thereof
7. HIV/AIDS is perceived as chronic manageable disease with no stigma and discrimination attached to it
8. Key components of NACP such as prevention outreach, testing, treatment, prevention of mother-to-child transmission, viral load suppression, care and support, as well as social protection schemes willcontinue through 100% domestic funding

The *Strategic Framework* for this NSP is presented in Figure 19

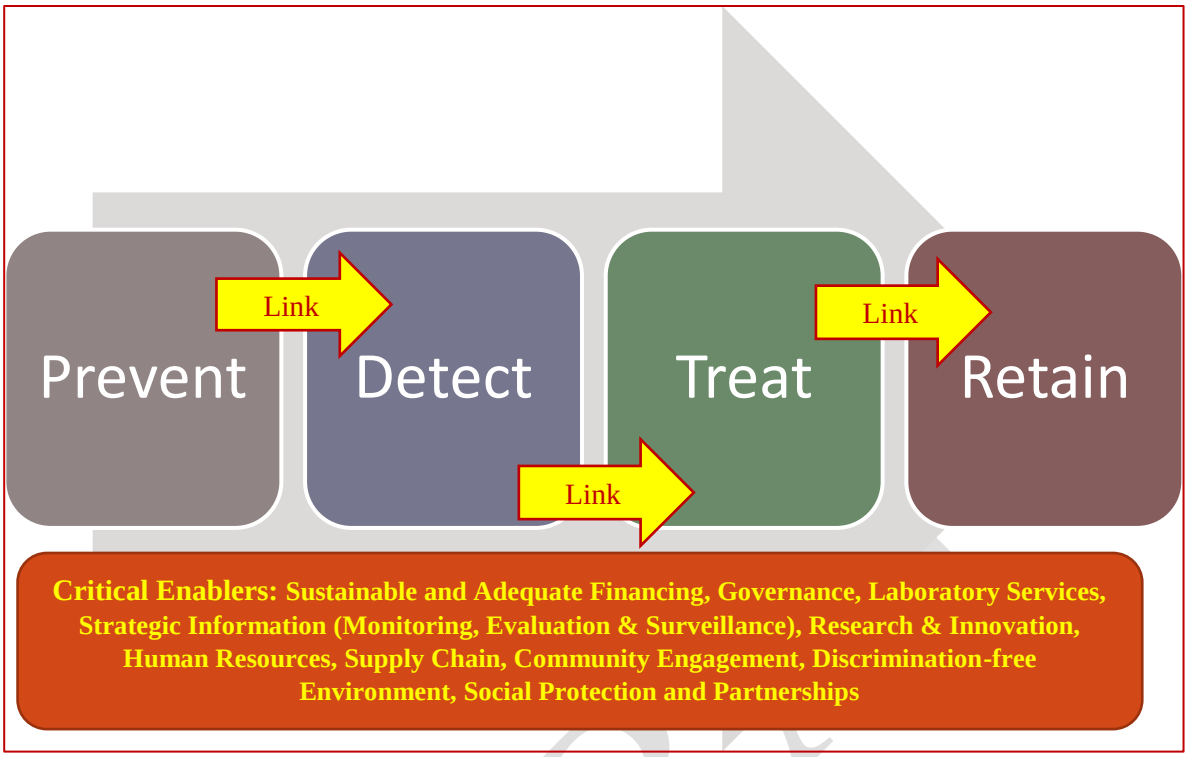


Figure 19: Strategic Framework of NSP

The section on Gap Analysis provides information on key lacunae in selected program areas of NACP that are currently challenging the program to attain its intended objectives. This NSP proposes a set of three major strategies to address the gaps for NACP to reach the milestones and goal.

i. ***Fast-Tracked Flexible Approach to HIV Programming***: The HIV epidemic is not uniform in all States and Union Territories of India and even within the States, there are vast differences in situation and epidemic trends. To address this issue, a flexible approach to HIV programming and implementation is proposed. The approach is shown in figure 20. The critical elements to be considered are:

   - Improving knowledge of level, trendsand drivers of HIV epidemic and tailoring the response
   - Capacitating Stateand district to fast track the response
   - Active involvement of PLHIVs / NGOs/ CBOs/Private Sector, as well as different sectors/departments

It must be kept in mind that walking the last mile becomes progressively challenging due to saturation of identifiedgroups and targets, especially in mature epidemic states which may have relatively higher program coverage as compared to emerging epidemic states which have lower program coverage. Moreover, tailored high-impact; low-cost response strategies will need to be considered noting the epidemic pattern, volume or number of people in need of services, and overall public health infrastructure. To reach the intended targets of this NSP,there should be enough flexibility to use relatedresponse mechanisms such as non-governmental agencies, private agencies etc. to fast track the response in areas where immediate action is required.

All people living with HIV and their spouses should know their status and be initiated on treatment soon after detection. This will substantially help in reducing new infections. Encouraging people living with HIV to voluntarily reach their otherpartners and contacts, without breaching privacy and confidentiality of individuals, will increase the detection of HIV and linkage to care. This will also enable the program to reach wider at-risk populations through a social and sexual network approach.

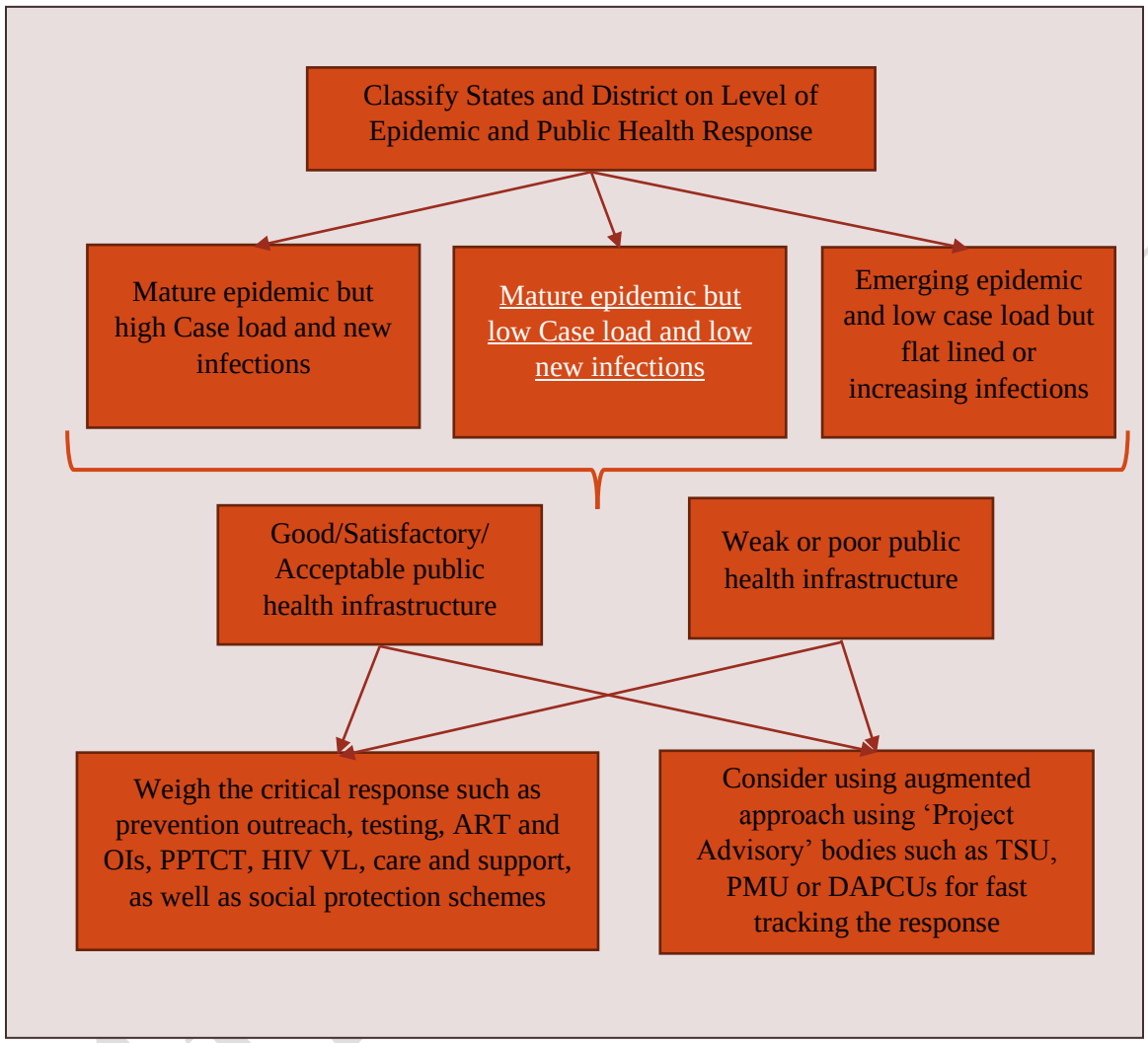


Figure 20: Fast Tracked Approach to HIV Programming

ii. ***Leveraging integration of AIDS Program with National Health Mission***:

NACP is in its fourth phase and has accomplishedseveral targets. Support is received from many external donors such as the World Bank, Global Fund for AIDS, TB and Malaria, UNAIDS, WHO,CDC, USAID, BMGF etc. But because of the dwindling funding scenario, increased domestic budget support will be required in the future to continue the program to successfully accomplish the last mile. A comprehensive resource mobilisation plan may also need to be considered to ensure adequate resources availability at the state and district level for operationalising the NSP.

Many components of NACP require support from general health systems and other programs. For example, PPTCT is heavily dependent on RMNCH+A program to get pregnant mother under ANC care

and hence tested for HIV. The STI program also requires support from NHM for reaching its targets. In districts, DAPCU's already work closely with DPMU of NHM on many activities.

India has passed the HIV Prevention and Control Actin 2017. This seeks to ensure that PLHIVs have access to sustainable lifelong treatment, care and support beyond the life of NACP.

NACP would need to plan and transition its principal activities in a phased manner to NHM for sustainability and continuation of services. In order to achieve this goal, NACP and NHM would have to work together and develop an action plan to attain the milestones as detailed in this document. An advisory committee is proposed under this NSP to oversee the leverage, convergence and integration. The implementation details are presented in the section on implementation arrangements.

iii. ***Active collaboration with private sector***: Over the years, increasing efforts have been made to engage the private sector, but more work is needed in this area. This NSP recognizes it as an opportunity for expanding the coverage of services and achieve greater impact. Suggested strategies along this line include:
   - Developing an Advocacy, Communication and Social Mobilization (ACSM) approach
   - Introducing policies and/or legislation on integration of private sector reporting with national programme management information systems
   - Engaging public and private sector companies through their corporate social responsibility (CSR) functions and funds.

Core indicators for monitoring the NSP

Globally, a set of ten commitments and corresponding indicators have been adopted for monitoring efforts to end the AIDS epidemic by 2030[43]. The indicators allow tracking progress on key components of the national response encompassing the complete spectrum of prevention, detection, treatment as well as stigma and discrimination related issues (Figure 18). A range of indicators are included, such as condom use, which has a direct impact on reducing new infections; HIV testing and counselling for PLHIV to learn about their status; enrolment of those who know their status on ART to reduce AIDS-related deaths; keeping those on ART on treatment to achieve suppressed viral load, and hence reduce HIV transmission; and the degree to which the national response is domestically funded. The progress on these core indicators will be measured through a comprehensive monitoring, evaluation and surveillance (MES) system. Tencore indicatorsare suggested to monitor progress and evaluate results of the NSP[44].

Table 3: Indicators for monitoring NSP progress 2017-2024

Indicator	Baseline	2020	2024	Data

[43] Global AIDS Monitoring, 2017. http://www.unaids.org/sites/default/files/media_asset/2017-Global-AIDS-Monitoring_en.pdf
[44]Consolidated strategic information guidelines for HIV in the health sector, 2015. http://apps.who.int/iris/bitstream/10665/164716/1/9789241508759_eng.pdf

	(2010)			source
1. # of people living with HIV/AIDS (in million)		2.13	2.25	HIV Estimates/ Modelling
2. % HIV response financed through domestic budget (sustainable service delivery)		80%	100%	Program data
3. % condom use among key populations and sterile needles/syringes among PWID		80%	90%	IBBS or HSS Plus
4. # and % of PLHIVs who have been diagnosed with HIV (in million)		1.75 (82%)	2.14 (95%)	Program data
5. # and % of diagnosed PLHIVs currently on ART (in million)		1.53 (87%)	2.03 (95%)	Program data
6. % PLHIVs retained and surviving on ART (12 months, 24 months and 60 months)		78% - 12 months	95% - 12 months	Program data
7. # of PLHIV undergone VL test(In million)		1.1	1.6	Program data
8. # and % of PLHIV and on ART who are virologically suppressed (among all those currently on treatment who received a VL measurement regardless of when they started on ART) (in million)		0.99 (90%)	1.52 (95%)	Program data
9. # and % pregnant women tested for HIV		28.5 (90%)	25.69 (95%)	Program data
10. # and % of HIV-related deaths		TBD	TBD	HIV Estimates/ Modelling
11. # and % of new HIV infections (Incidence)			< 21,000 (80%)	HIV Estimates/ Modelling

The details of measurement design of these indicators have been described in MES section.

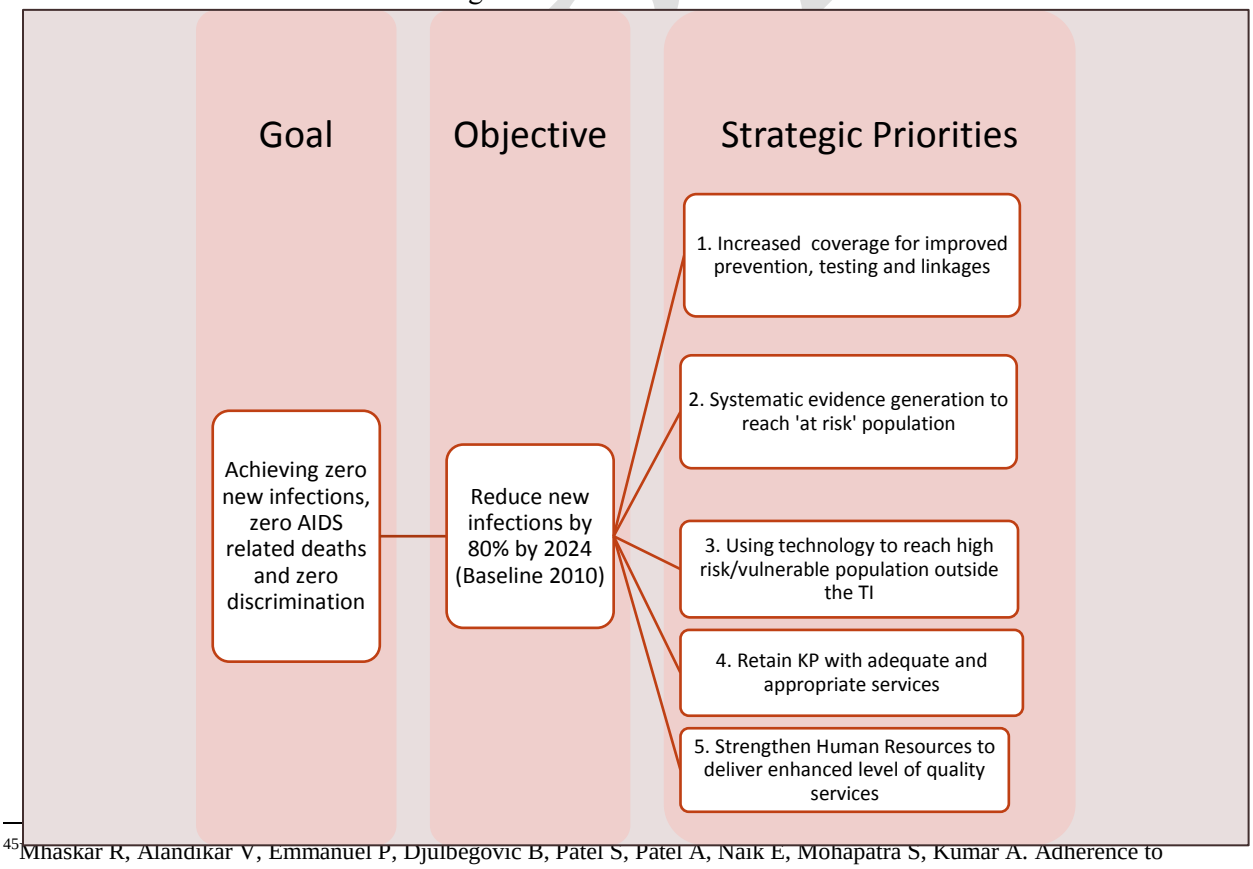
4.4. Priority areas

4.4.1. Priority 1: Accelerating HIV Prevention in 'at risk' population including 'key population

A. Refocusing HIV interventions in Key Populations for improved reach

Addressing the gaps in prevention outreach for KPs is vital at this stage of the program. In addition to the major gaps noted in the previous chapter, the following are other broad gaps.

- Intervention intensity generally follow prevalence data, though greater focus needs to be on monitoring annual new HIV infections across various populations. Available evidence reflects a rising epidemic in certain low prevalence states and districts, owing to new HIV infections. These areas have higher vulnerabilities, including migration to high prevalence areas. These areas need to be given priority when moving towards Ending AIDS.
- Linkage of sub-set of populations from TIs (truckers, migrants, FSW and PWIDs) to treatment, care and support continues to be weak. Anecdotal evidence indicates that HIV service uptake in a general health setting is also poor.
- ART adherence among KPs is a major challenge[45]. Additionally, the HIV and TB co-infection rates are higher with low uptake of services.
- Evidences have indicated higher prevalence of HCV among PWIDs. The programme need to address the situation considering the same transmission route of HIV and HCV.



[45] Bhaskar R, Alandikar V, Emmanuel P, Djulbegovic B, Patel S, Patel A, Naik E, Mohapatra S, Kumar A. Adherence to antiretroviral therapy in India: A systematic review and meta-analysis. Indian J Community Med 2013;38:74-82

Figure 21: Overview of Strategic Priorities for HIV Prevention for KPs

- There is a resource gap in implementing the KP interventions.
- The profiles of KPs have changed. The '*identifiable group*' may possibly be having lower risk behaviour and saturated with TIs. The '*expanded group*' that is yet to be clearly identified and reached, could fuel the epidemic in the future. There is a gap in identification and reaching this 'expanded group' of FSW,MSM and PWID while focus on those already receiving services sustained.
- Within a TI, individuals have different risk and vulnerability profiles and needs. These are not optimally addressed in a comprehensive and conducive manner, as per risk profiles, which affect service uptake and leadingto lower efficiency.
- While the aim was to strengthen, and empower the community, consistent CBOs capacity across the country is a challenge.

1. Governance and administration
2. Design of next generation TIs
3. Immediate course corrections in programming
4. Strengthened M&E and improved population size estimates for KPs

Box 5: Strategic Directions of TIs

The HIV epidemic level and trend among key and other at-risk populations is not uniform at the inter-state level. Updated data on HIV prevalence among key population is expected this year, 2017, However, available information suggests that HIV, though declined significantly among FSW, continue to pose challenges among other key populations - especially PWID, TG and MSM - at national, state and district levels. Even among FSWs, HIV prevalence among southern and western states of Andhra Pradesh, Maharashtra and Karnataka remains high. It indicates that the scenario continues to be challenging and there is no place of complacency as the endeavour is to secure the end of AIDS as a public health threat. The epidemic among key populations has potential to rebound — and may further proliferate to other 'at risk' populations considering the transmission dynamics — that may undo the gains of three decades of programming. If the quality and comprehensiveness of all services are scaled-up to reach all those in need, and the linkage between prevention with care and treatment is strengthened; this would help break the chain of HIV transmission as treatment adherence contributes to viral load suppression and therefore reduces transmission.

Program gap analysis has highlighted a decline in the coverage of KP in NACP IVthrough decline in number of Targeted Interventions (TIs). This is a concern as KPs remain at risk and vulnerable to HIV infection. National IBBS 2014-15 has indicated while the reach of targeted interventions is quite high especially in certain states, the intensity of the coverage has lots of scope of improvementand access to a comprehensive range of services. National IBBS has also revealed that prevalence of safe risk behaviours, such as consistent use of condoms, is moderate in FSW and MSM[46] while a sizeable proportion of all KPs are married. This highlights the need of sustained coverage of high intensity among the group to ensure that further HIV infection is prevented and does not spread among KP's spouses as well as regular and casual partners.

The HIV prevention programme has enabled epidemic control as evident particularly in the now mature epidemic states where annual new HIV infections has declined sizeably, however addressing identified gaps is necessary to reach the primary objective of reaching 80% reduction in new infections by 2024.

A brief strategic approach and plan is presented in this section. For more details kindly refer to the above-

[46] National IBBS among HRG, 2015-15,

mentioned document.

I. Increasing coverage for improved prevention, testing and treatment

a) Increase the number of TIs for better coverage

TIs have proposed a scale up plan for optimal coverage from 2017 – 2020. Current funded through The World bank NASCP, the funding comes to an end in 2020 unless there is an extension to the support for TIs.

The proposed targets for the 2017 – 2024 period is provided in table below:

Table 4: Scale up plan for 2017-2024 Targeted Interventions for KPs and At Risk Groups

Year / Group	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
	Coverage in Lacs						
FSW	6.5	7.0	7.7	8.1	8.3	8.4	8.4
MSM	2.20	2.40	2.60	2.73	2.80	2.83	2.85
TG/Hijra	0.30	0.35	0.40	0.42	0.43	0.44	0.44
PWID/IDU	1.21	1.31	1.41	1.48	1.52	1.54	1.55
Migrants	33	36	39	40.95	41.97	42.50	42.76
Truckers	11	11.5	12.0	12.60	12.92	13.08	13.16
LWS (KP)	1.13	1.25	1.37	1.44	1.47	1.49	1.50
LWS (VP or At Risk)	16	17.6	19	19.95	20.45	20.70	20.83

The quickest way to increase coverage is to rapidly increase TI sites, and ensure efficient outreach and service quality — for better uptake and retention of KP, bridge and 'at risk' population. Efficiently linkage to care and treatment services are critical under the new 'test and treat' approach and ensure no leak in the HIV care continuum cascade.This ensures coverage of the easiest to target 'high risk' population groups. The increased coverage and reach will cover the mapped community, while moving beyond the mapped community would require other outreach strategies.

b) Adapt TI strategy for interventions among newer static groups, including prisoner populations and adolescent PWIDs

Global evidence shows that prevalence of HIV, viral hepatitis, tuberculosis (TB) and other viruses in prison populations are many times higher than the general population (2 to 50%). A study conducted in Tihar Jail in Delhi has shown that 8% of prisoners[47] were known to be drug users. A more recent study of 466 inmates in Delhi, Mumbai and Punjab prisons showed 63% reporting ever using illicit drugs[48]. In India, seven studies showed HIV rates up to 14% among female prisoners and up to 7% among male prisoners.

Indian prison data indicate that across 1,401 prisons there were 4,19,623[49] prison inmates including 2,82,076 under trial (67.2% of total inmates). 88% of the under-trial prisoners were below the age of 50 years and will eventually return to the community outside the prison. To address this population, static

[47]Sethi HS. Drug abuse among prison population: A case study of Tihar Jail. New Delhi: MSJE, Govt. of India and UNODC; 2002.

[48] Prevention of spread of HIV amongst vulnerable groups in South Asia: Our work in South Asian prisons. New Delhi: UNODC; 2008

[49] As on 31st December 2015. National Prison Directory data. As quoted in Restructuring of TIs 2017-2020 pp 28.

prevention service will be provided. Introduction of TI in prisons will require close coordination with the Ministry of Home Affairs (MHA) to effectively implement the HIV prevention and treatment service. National Prison HIV strategy has been developed, funded and will be implemented in the next phase of TIs (2017-20).

II. Systematic evidence generation and data mining to locate newer high risk population groups for focused delivery of prevention services

Male Migrants, who move across districts or states for work/employment, are estimated at about 46 million according to the 2011 Census. Tracking them and providing prevention services to them across the country is not feasible. However, increasing use of 'big data' may provide an opportunity to enhance knowledge on migration and mobility and information on their trends and patterns. The data is collected from various sources including from the railway booking systems and by post offices offering money transfer services. Banking and digital payment transfer platforms are another source of such data. Negotiations to use big data to facilitate health service delivery will be required and checks and balances to ensure anonymity and confidentiality need to be put into place.

Concurrently, existing NACO database on migrants called Migrant Service Delivery system (MSDS) may be mined for providing differential prevention and care services to population groups within the broad migrants' category.

Special Population Groups

Mining of available TI data on PWID, FSW, MSM, H/TG could identify behaviour patterns, movement patterns, smaller or newer groups. Definitions of KPsand their sub-groups will need to be refined to ensure all vulnerable groups are adequately captured and targeted by prevention interventions. This will enable focused prevention and treatment services as well as differentiated services.

Addressing the Prevention Needs of 'At Risk Population' for HIV and STIs

Three decades of HIV programming has communicated HIV prevention messages across to youth and population at large. However, with an ever-growing younger population, targeted prevention interventions among the newer or expanded young population and those 'at risk' require strengthening. While combination prevention services available under the program can be accessed by youth and the 'at risk' population at large, this NSP proposes time bound epidemiological and behaviouralinvestigations to get information on this population and design more appropriate prevention measures to address the risk of HIV (Annexure 1).

It is further understood that the effective coverage of this 'at risk' group may not be possible before 2020, which is the end date for 'fast track' targets. Thus, alternative measures that could be taken during the intermediary period could include:

- Use of mass media, mid media, social media and IEC to have HIV prevention messages, and information on service availability, spread out in population groups beyond KPs, including youth who do not fall into the conventional KP groups.
- Expand sexual and reproductive health education with focus on HIV prevention across allpublic and private high schools and among youth in and out of school.
- Target youth with focused intervention and convergence with NHM.

III. Using technology to reach high risk/vulnerable population outside the TI

Information technology is rapidly evolving and changing the channels of interaction between people, including how sexual partners meet and sex is transacted. Social change is occurring more rapidly, and with it sex work has begun to move from physical venues to mobile phone and web based virtual sites. Presently smart phones/mobiles have become one of the primary mechanisms for soliciting commercial sex[50]. Peers willing to embed themselves within these networks will be used to reach and provide services to the mobile and internet networks.Another area to explore further is the use of biometrics to map migratory sex workers and locate newer areas of sex work.

Differential approaches are required to cater to the changing trends in sex work from brothel to streets, lodges and hotels, homes, rented spaces and other non-traditional hotspots as also confirmed by the 2014-15 IBBS. The differential approach will consider specifically tailored strategies for urban and rural based sex workers more generally, while also considering the volume of populations that would need to be reached at the district/state level and this would require innovative local mechanisms to reach out to a wider gambit of population. Younger peer workers may be required to reach young and new sex workers and especially use of social apps and media. Accessing younger workers may require agreements with the network drivers or owners which will have policy and legal implications.

Under a comprehensive health service approach, use of a common platform of 'sexual and reproductive health' to provide telephone counselling and referrals would generate linkages that can be converted for prevention services[51].

A groundswell of information will need to be created through use of social media and over a variety of channels within a concentrated period. This will be used to establish contact recall for SRH information for provision of prevention services.

IV. Retain KP with adequate and appropriate services

Commodities

The efficacy of comprehensive combination prevention services is highly dependent on the availability of essential commodities and provision of appropriate services. KP under TI need an uninterrupted supply of commodities in adequate quantities to ensure effective prevention. Presently supply chain glitches as well as modest forecasting of commodity requirements mean poorer quality of protection services with gaps.

Services

TI programme need to be updated considering the current needs of KP, bridge population and other 'at risk' focus populations as well as local socio-cultural contexts. The TIs at present provides basic prevention services. Under a combination prevention approach, testing and treatment for HIV and SRH will also be included. Mobile KP will benefit from 'one stop' prevention, testing and treatment facilities which will create increased demand and prevent multiple loss to follow-up.

Risk segmentation and prioritization of services

[50]Navani-Vazirani S, Solomon D, Gopalakrishnan et al. Mobile phones and sex work in South India: the emerging role of mobile phones in condom use by female sex workers in two Indian states. Culture, Health & Sexuality Vol. 17, Iss. 2,2015.

[51]Sambasivan N , Weber J , Cutrell E. Designing a phone broadcasting system for urban sex workers in India, May 1, 2011; Proceedings of the annual conference on Human Factors in Computing Systems. 2011

Enhanced services will also focus on risk segmentation to move less risk behaviour individuals faster through the unit and focus on those who are more at risk. Vulnerability profiling by using data from different sources will also be an important means to develop outreach and IEC strategies. However, this vulnerability profiling and risk segmentation needs to be done strategically as those who may be perceived at 'less risk' still require access to prevention commodities, HIV testing services, etc. Similarly, the design of prevention interventions should be informed through closer collaboration with people living with HIV and communities in designing and contextualising the services, and by research, including qualitative studiesfor better understanding of behaviour of different groups.

Hep C:

A 2014 study on Burden of hepatitis C virus disease and access to hepatitis C virus services in people who inject drugs in India by S S Solomon et al, was the most recent study to assess the burden of Hep C among PWIDs. The study tested 14,481 PWIDs in 15 cities across India. The prevalence of HIV among this population was found to be 5.7%, however the Hep C prevalence was 25.6% and prevalence of coinfection of Hep C and HIV was 14.4 %. In addition to this 6 of the 15 cities showed a co-infection of higher than 30%. To address this a comprehensive, NSP envisages comprehensive Hepatitis C screening and treatment among KP. It will include capacitated delivery of comprehensive package including IEC, screening and linkages for KP.

V. Strengthen Human Resources to deliver enhanced level of quality services

Prevention services to the last mile clients will need dedicated and skilled human resources at all levels of the service continuum. Both numbers and quality of staff will need to increase. A comprehensive capacity building cum training plan, with induction, refresher and multiple thematic trainings provided.

Capacity building

- The cascade training plans (across all thematic areas) could make way for more cost-effective web based training sessions. These video and podcast based training modules will allow for less disruptive training, pursuing of training at individual speeds and an evaluation at the end. All modules would include a specific session on non-discriminatory, quality service provision, as appropriate.
- Using these training methods, all staff would be expected to complete a set of modules. Completion of training modules could have a significant weightage on their next increment.
- Telephone based mentorship and supportive supervision would also be made available for all staff to motivate and keep them focused.
- Team building time and budget could be made available for all TIs.

Addressing stigma and discrimination

In addition to focusing on reducing stigma and discrimination through focused IEC, engagement with law enforcement agencies, mechanisms for formal engagement with professional bodies will be developed to reduce stigma and discrimination and enhance the access to HIV prevention and treatment services. Sensitization and training programmes for healthcare professionals will be carried out. Advocacy will be carried out to make such training an integral part of the medical curriculum, especially in practical testing.

Peer Ratio, Peer Navigator and Peer Advocate

A human resource ratio for 'Peer to Key Population' (1:40 and 1:60) will be maintained with flexibility available to states to decide on the HR requirement to reach a wider population catchment as required, within reason, and without creating an adverse effect on quality of outreach services.

An intermediary resource person, called a "peer advocate" and 'peer navigator'**,** functioning between the Outreach Worker (ORW) and the Peer Educator (PE) to undertake responsibilities such as advocacy with law enforcement, external stakeholders, linkages to ICTC/ART, District Legal Services Authority (DLSA) among others, will be introduced, wherever necessary.

Community strengthening to reach last mile

Creating an enabling environment through community involvement and participation at various levels of decentralised planning/programming and implementation is crucial to ensure that services available for various population groups are relevant, and designed in a manner that will is responsive to their needs and can facilitate service retention across the HIV care continuum. Involvement of people living with HIV will also be critical to design more inclusive approachesfor facilitating couple counselling andtesting, HIV prevention services for partners of migrants in source sites, and referral and access of women and spouses to wider HIV-health services including STI, cervical cancer screening, etc. Community mobilization and ownership building is essential to reach the last mile.

B. Strengthen STI/RTI Control and Prevention

There is an established epidemiological synergy between HIV and STI. To impact HIV transmission and improved Sexual and reproductive health, there is a need to strengthen STI/RTI diagnosis and treatment. The vision of STI/RTI control and prevention program is to provide standardized STI/RTI services as part of Sexual and Reproductive Health services (SRH) at all levels of health system through convergence with NHM and private sector; especially focusing on 'at risk' population, women, adolescent and marginalized population.The program will build capacity of health care providers in both public and private sector and position regular supportive supervision to enhance the quality of services. The specific strategies are as below:

I. Comprehensive STI/RTI services as a part SRH umbrella

Sexual and reproductive health is a state of complete physical, mental and social well-being in all matters relating to the reproductive system. Every individual has the right to make their own choices about their sexual and reproductive health. Syndromic case management with appropriate laboratory test, inclusive of screening for HIV as well as Syphilis,will remain the corner stone of STI/RTI management for 'at risk' as well as general population at all levels of care. The service package would include free supply of condoms, partner management and counselling services.*'Suraksha Clinic'* brand may be extended to all health facilities to destigmatize as well as standardize.

II. Partnership with organized public sector and private sector to enhance coverage and reach

Large proportion of the STI/RTI burden is hidden and service providers range from unqualified practitioners to highly qualified specialists in public and private settings. NSP envision partnership with organized public sector and private sector through nationally accredited professional organizations to build capacity, standardize service delivery and improve reporting.

III. Standardize Service package for 'At risk' population through flexible service delivery approach

Regular clinical contact with key populations is important to reinforce preventive communication, counselling, addressing the SRH need and providing free STI/RTI management. STI/RTI services will be provided at all TI's as part of the enhanced response. This will include symptomatic and presumptive treatment, a regular medical check-up, and biannual periodic syphilis screening. Different modalities of service delivery, including static clinics, mobile clinics, preferred providers, health camps, linkage to government facilities and hybrid models, would ensure flexibility.

IV. Strengthen the laboratory support for etiologic diagnosis and surveillance

Syndromic case management needs validation by laboratory tests and periodic monitoring of anti-microbial susceptibility testing. Existing network of regional and state STI laboratories would be strengthen and capacitated to conduct etiologic diagnosis, syndromic validations, gonococcal anti-microbial susceptibility (GASP), Syphilis EQAS and provision of evidence based directions to STI program through research activities. STI etiologic based surveillance system would be set-up to monitor trends of STI over time.

V. Strengthening of STI/RTI information management

Data reporting, analysis and feedback mechanism, inclusive of NHM, will be strengthen using the integrated information management system. Community based prevalence studies will be implemented to have a recent burden estimates and assess elimination of STIs. Feasible bio-markers for STI would be included in routine HIV Sentinel Surveillance.

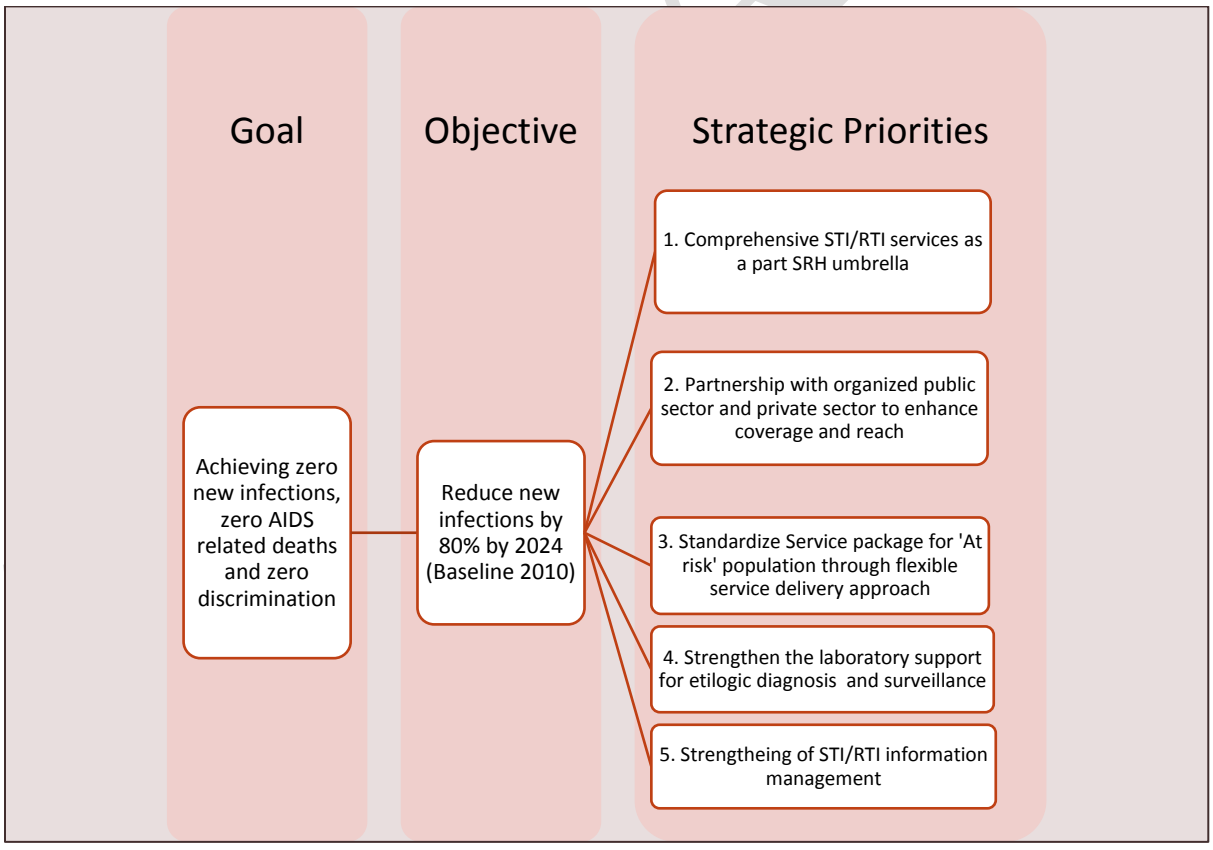


Figure 22: Overview of Strategic Priorities to Strengthen STI/RTI Control and Prevention

4.4.2. Priority 2: Expanding Quality Assured HIV Testing with Universal Access to quality assured comprehensive HIV care

A. Expanding Quality Assured HIV Testing

India is committed to achieving the 90-90-90 targets across the country and population groups by 2020. To reach the second and third 90, it is necessary to achieve the first target i.e. 90% of PLHIV know their status. This cannot be achieved unless the programme significantly scales up HIV testing and counselling in key geographies and populations with highest yield using a mix of strategies including facility based services, use of mobile clinics/vans and community based testing, etc. A continuum of supplies to all HIV counselling and testing facilities i.e. Screening (F-ICTC) & Confirmatory (SA-ICTC) for effective programme performance and satisfactory service to clients must be ensured. Presently ICTC facilities are available at 22,222health units in both public and private sector, reaching every block in the country.

As detailed under gap analysis, NACP IV surpassed its proposed targets, but nevertheless, the PLHIV who know their status are still below the 'fast track' target of 90%. Some of the other gaps identified under MTA and program review are:

- ***Gaps in HIV testing*:** Analysis of programme data has indicated that there is 33%-43% gap in testing of KP, around 90% gap in testing of bridge population, around 65% gap in testing of STI clients, 23% in TB patients, 45% in pregnant women and 64% in partners of PLHIV. HCT facilities are only available in 40% of government health facilities. The gap at the PHC level is 60%, at the CHC/RHC level it is 39%, at UHP/Maternity homes, it is 95% and in Prisons/Jails, it is 89%. Private sector response is believed to be limited.
- ***Gaps in HIV case detection*:**Out of the estimated 2.12 million PLHIV, 1.52 million have been identified and registered for ART care as on March 2016[52]. In other words, there is a gap of 28% in detection of PLHIV. Also, there is need to plug the gap between screening and confirmatory test if someone tested reactive to HIV and referred from different sources of screening points.
- ***Latedetection of PLHIV:*** As noted from programmatic data analysis, the medianbaseline CD4 count was 256[53]. With the focus now on '90-90-90', the emphasis would need to be on early detection through strategies of community based testing, graded approach to testing and geo-prioritization.
- ***High concordance among spouses*:**There is scope to reinforce couple counselling and HIV testing for early detection. The current high concordance is assigned to time lapse in testing. It is expected to shift to higher proportion of sero discordance when couple testing becomes normalized, testing uptake increases, and treatment initiated soon after detection for viral load suppression. Primary and secondary HIV prevention services to reduce the transmission are critical in this context. Currently, the sero-discordant rates are approximately 30%. Early detection would lead is expected to lead to lower levels of sero-discordance over time.
- ***Gaps in reporting on HIV testing by private sector*:** HIV tests are performed in the private sector especially in large conglomerate laboratories. However, the current reporting system at NACO does not capture this data.
- ***Unequal distribution of Testing Centres*:** There are 22,222 ICTCs in India. However, their

[52]Program Data. CST Division. National AIDS Control Organization, Ministry of Health and Family Welfare, Govt. of India
[53]Program data analysis provided by CST division of NACO

distribution is unequal across the states. In the states where there is improved public health infrastructure, such as Tamil Nadu, Andhra Pradesh, Karnataka and Kerala, the density of ICTCs range up to 30 per district. But in Northern and Eastern States like Uttar Pradesh, Bihar, Jharkhand, Odisha etc. the density ranges from < 5 to a maximum of about 10 per district. Some of these are states are showing a rise in the epidemic.

Further, as members of the pool of HIV positive people are identified and swiftly put on treatment, the positivity rate will go down with diminishing testing yield, and it will become harder to find the remaining cases for which more strategic interventions and approaches need to be and are being considered. Of the 29 million tests done in 2015-16, newly detected HIV positive cases were 200,465, of which 182,743 were linked to care.

Basic estimate of the numbers of tests required to reach '90% of estimated PLHIV' across different sub groups such as pregnant women, TB, STI patients and chronic disease patients are in Table 5

Table 5: Estimates of Test required among different population groups to achieve first 90

	Preg. Wom.	TB	STI	Chronic. Pat.	KP	Gen Clients	Total
Min # of HIV tests req. (in millions) for saturation	30	9.8	30	15	7	35	126.8
# of HIV tests required for scale up (Moderate Coverage)	30	2	9	3	5	11	70

Using the table above a graded target for testing is presented in the Table below:

Table 6: Targets for HIV Testing 2017-2024 India

Indicator	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1. Estimated number of PLHIVs (in mil.)	2.11	2.11	2.11	2.12	2.13	2.18	2.21	2.25
2. HIV Positive detection	1.58	1.60	1.64	1.70	1.75	2.00	2.03	2.14
3. Proposed coverage (in mill)	34.6*	36.14	40.0	45.0	50.0	66.80	78.83	90.01

* Actual data for testing;

As detailed in section on gap analysis, the current pace is not adequate to detect the targets proposed under 95-95-95 scenario. The above table proposes two scenarios, a moderate increase in testing and another, the optimal requirements. These are estimates and have been derived through linear forecasting methods.

The key strategies propose for increasing the HIV testing coverage keeping in view, the yield and value for money context, it is imperative that high yield areas are saturated first and then the others could be covered. The overview of strategies is shown in figure xx.

The major strategies proposed to increase HIV testing include: (a) Geo prioritizing the districts where higher positivity is noted but low coverage of testing; (b) using a graded approach of screening in wider net (PHCs, Community Based Testing, Self-Testing etc.) and confirmatory in select quality assured centres; (c) Pilot and scale up newer modalities of HIV testing such as community based testing for KPs, pregnant women, TB patients, STI and others as appropriate, self-testing and (d) Active use of IEC to increase demand for HIV testing

Some other strategies would include cross cutting areas such as

- Develop technological solutions for reporting diseases including HIV, syndromic STI, TB, Hepatitis C and Hepatitis B (part of MES)
- Strengthening CHC to work as HIV confirmation centres (Institutional strengthening)
- Integrate gender sensitive HIV and STI testing with NHM facilities (integration strategy)

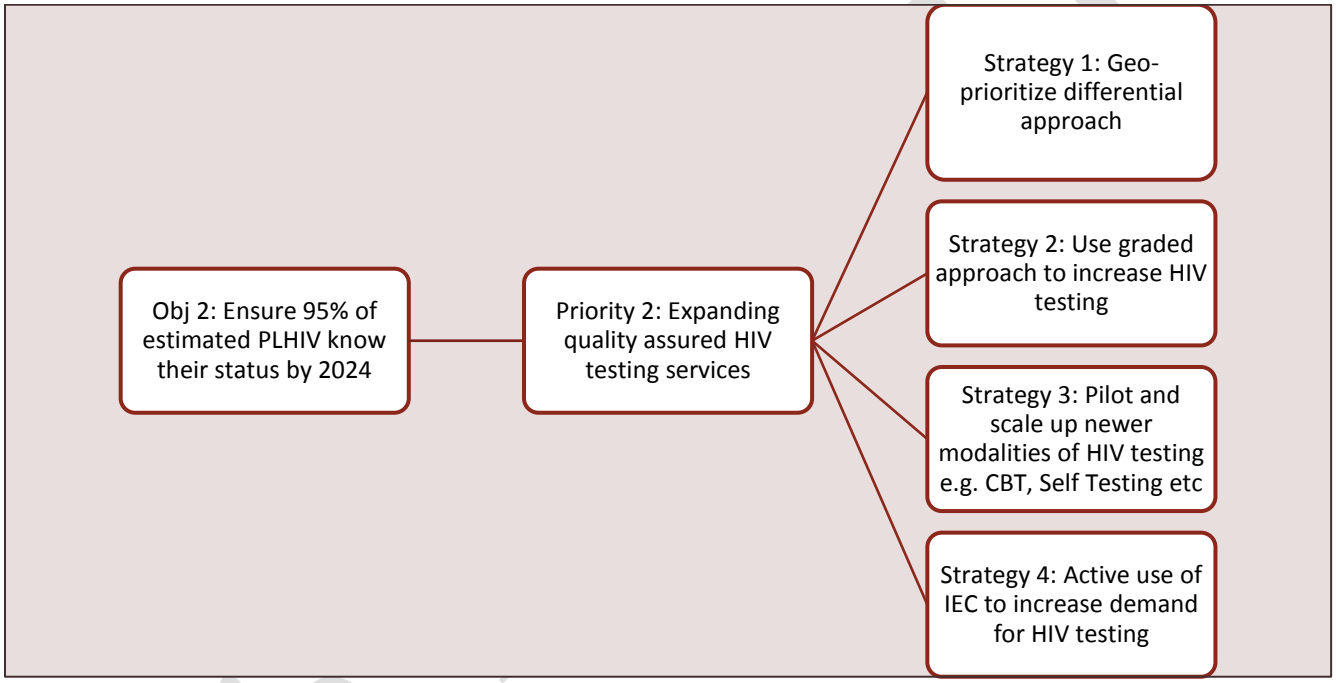


Figure 23: Overview of major strategies for HIV testing services

Community based screening would be an important strategy for improving early diagnosis especially reaching the people who seldom use clinical services, including men and adolescents in high-prevalence settings and HRG populations.

Graded approach to testing i.e. more screening centres with a single screening test and fewer confirmatory centres so that reach and workload is distributed for high efficiency while maintaining quality of services.

The other strategies of testing are discussed in detail in the operational guidelines for HIV testing and counselling (HTCS).

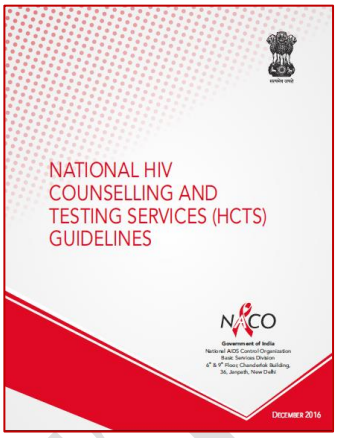


Figure 24: HCTS Guidelines Dec 2016, NACO

B. Universal access to quality assured comprehensive HIV Care

Government of India announced the '***test and treat***' policy for all PLHIVs keeping in line with WHO/UNAIDS recommendations in providing universal access to comprehensive, equitable, stigma free, quality care, support and treatment services to all PLHIV. As noted earlier, this is the key area for NACP to address. There is currently a gap of almost 700,000 PLHIVs who are yet to be put on treatment. As detailed earlier, ART coverage, leaky cascade, quality of care and poor functioning of LACs remains a major gap. Apart from these gaps, there are cross cutting challengessuch as (1) lack of manpower and infrastructure, and (2) supply chain management.

The current structure of treatment care and support consists of:

- Standardized Antiretroviral Therapy including first, second and third line treatment.
- Prophylaxis – diagnosis – management of Opportunistic Infections and comorbidities.
- Laboratory monitoring of response to treatment with CD4 and Viral Load testing.
- Care and Support through individualized and thematic counselling, positive living, positive prevention, family centric approach, and linkages to social beneficiary schemes.

The major strategies planned in CST to achieve the objectives of this NSP presented in the figure 25.

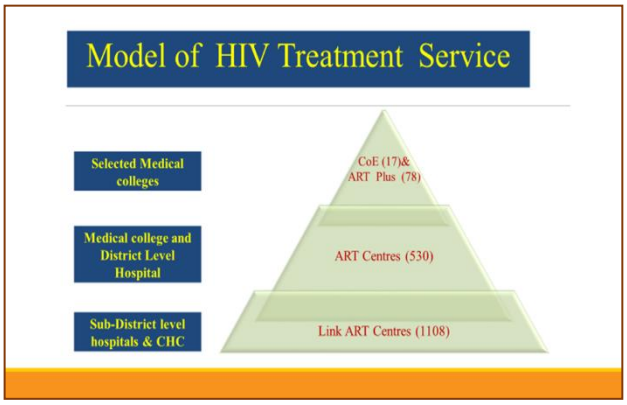


Figure 25: Model of HIV Treatment Services in India

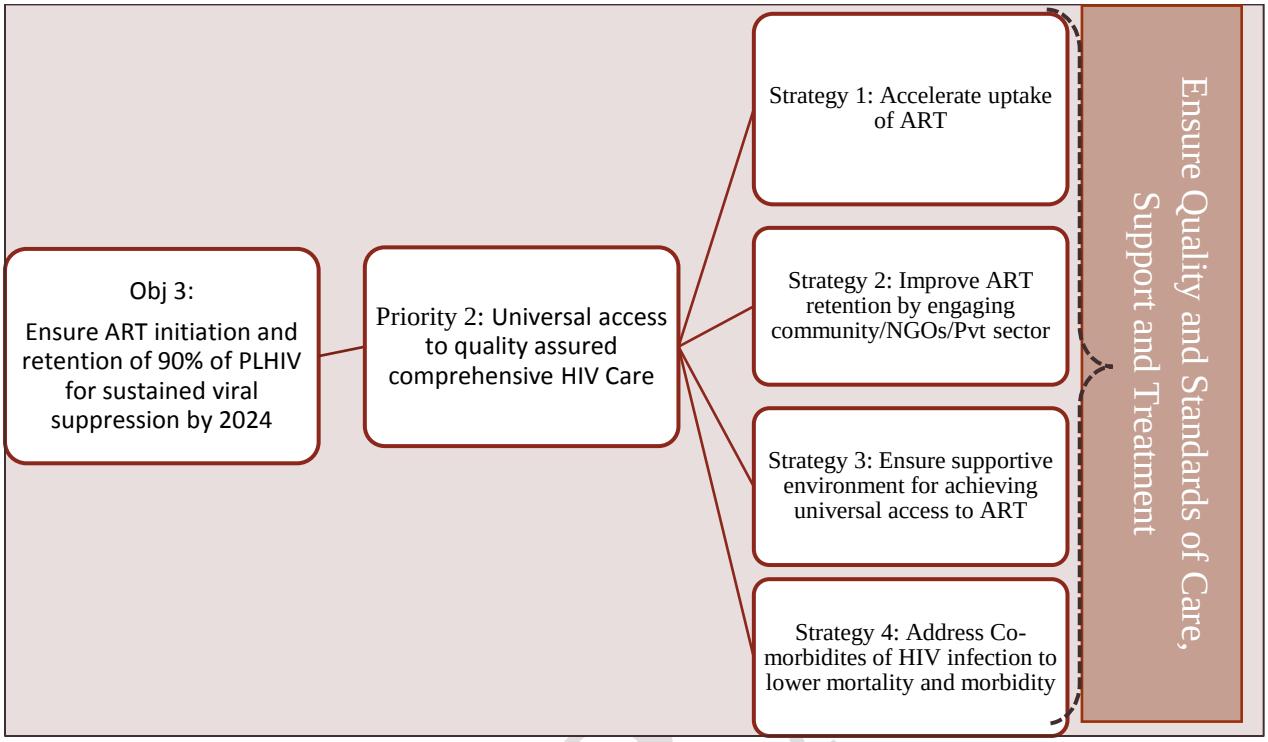


Figure 26: Overview of key strategies in achieving universal access to quality assured ART

I. ***Accelerate uptake of ART***: Increasing the pace of expansion of ART coverage and improving ART adherence are the primary objectives of this NSP to reaching the second and third 90. However, as noted from the section on gap analysis, by 2020, around 700,000 more PLHIVs would be put on treatment if the detection of HIV positives happens as planned. To enhance coverage for ART and improve retention, a multi-pronged strategy has been planned.
    a. Plugging the loss of clients from ICTCs to ART. Use of Care Support Centres (CSCs), PLHIV networks, CBOs/NGOs and private sectors
    b. Improving access to ART. ART services will be scaled up, in a phased manner, based on geographical variations, epidemiology and need. Differentiated care to improve efficiency at ART centres, client led counselling etc. will be piloted.
    c. Comprehensive clinical management with global standards of HIV care.
    d. Addressing the cross cutting issues of paucity of human resources and monitoring and evaluation.

More details on these approaches are available in technical and operational guidelines on ART services.

The scale up and uptake targets for ART are proposed as follows:

Table 7: Scale up and uptake targets for ART under NSP

Indicator	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1. Estimated number of PLHIVs (in mil.)	2.11	2.11	2.11	2.12	2.13	2.18	2.21	2.25
2. HIV Positive detection [in mil.]	1.58*	1.60	1.64	1.70	1.75	2.00	2.03	2.14
3. PLHIVs on ART [in mil]	1.04	1.13	1.26	1.39	1.53	1.87	1.97	2.03
4. PLHIV tested for VL	NA	NA	0.5	0.7	1.1	1.3	1.4	1.6
5. Number of PLHIV and on ART who are virologically suppressed (among all those currently on treatment who received a VL measurement regardless of when they started on ART) (in million)	NA	NA	0.25	0.49	0.99	1.17	1.26	1.52

* Actual achievements

At current pace of ART uptake, reaching the fast track treatment target 90-90-90 for ART and Viral Load suppression which is needed to secure rapid decline in annual new HIV infections (75%) and AIDS related deaths (65%) by 2020, will be a challenge.

The modelled scenario is presented to show the fast-tracked approach to achieving the second 90. It is critical that of the 90% PLHIV who are detected, 90% are on treatment by 2020.

II. ***Improve ART retention:*** ART retention is a challenge particularly considering that in India, a million plus PLHIVs are on treatment. Current retention rates (12 months) are close to 70%. The following mechanisms are proposed for maximising ART retention:

e. Mobilize PLHIVs, through community engagement and private sector involvement, for better adherence and retention of PLHIVs on ART.
f. Address quality assurance and quality improvement activities in all HIV care and treatment sites.
g. Implement pre-defined guidelines on CSCs, basic care package, treatment literacy and adherence, linkage to social support schemes, loss to follow up management and engaging the private sector.
h. Strengthen monitoring of chronic HIV care and treatment including scale-up of viral load monitoring and surveillance for drug resistance.
i. Strengthen treatment monitoring and evaluation of clinical complications and effects of long-term use of antiretroviral drugs.

III. ***Ensure enablingenvironment for achieving universal access to ART***: To maintain good quality of care support and treatment services, which is provided in a non-discriminatory sensitised manner, at all service delivery sites, a comprehensive approach for ensuring high quality implementation of services for PLHIV is planned. It will include onsite and distantmentoring of service delivery sites, supportive supervision, cadre wise induction and refresher trainings of the health care workers (HCW) using updated training curricula, continued medical education programme for clinical staff, and focused quality improvement initiatives at each site. Clinical and programme mentoring will

enable HCW to practice new skills at service delivery sites with the support and guidance of more specialized and experienced professionals. Effective mentoring will promote the application of classroom learning in clinical and programme settings by enhancing skills, knowledge, and confidence of HCW in service delivery; improves the quality of care and patient outcomes; and strengthens systems, policies, and procedures that support delivery of high quality care. Some key areas under this would be:

j. Mentoring and supervision support
k. Focussed quality improvement
l. Developing revised and updated training curricula
m. Regular review meetings for continuous improvement in quality
n. Strengthen M&E system
o. Convergence with general health system for effective utilization of infrastructure and facilities

IV. Address Co-morbidities of HIV infection to lower mortality and morbidity

The major co-morbidities are: (1) HIV-TB; (2) HIV – Hepatitis B/C and (3) HIV – Visceral Leishmaniasis (VL). Among these, the most common is HIV-TB, which is also the leading cause for AIDS related mortality. People living with HIV and PWID are also vulnerable to both Hepatitis B and C.

i. HIV -TB

As detailed in the section on gap analysis, there are challenges in implementation of HIV-TB collaborative activities despite almost 16 years of programmatic associations. Some of the other major noted ones are summarised below:

Collaboration of the HIV Program with the TB Program is imperative to ensuring the survival and quality of life of people living with HIV as TB is a leading cause for morbidity and mortality among people living with HIV. HIV testing among TB patients needs to be further strengthened, which currently stands at 88%. Similarly, the screening of people living with HIV for TB in ART centres is 81% (20-100%) with wide variation (Jan-Feb 2017).

Some of the operational *and technical gaps include the following:*

- Challenges in countrywide implementation of 3'I' strategy[54], including Isoniazid prophylaxis treatment (IPT) at ART centres, and in daily Anti Tubercular Treatment (ATT). Approximately 3% of the total PLHIV on active care have been put on IPT with variation of 0% to 15% among the states.
- Decentralizing IPT to ICTCs as per the operational guidelines needs to be implemented.
- Decentralized ART services through the Revised National Tuberculosis Control Program (RNTCP) facilities for co-infected patients to be provided: especially in areas with minimal coverage of ART services. Decentralised services for drug resistant TB (DRTB) cases — which accounts for 500/51 MDR/XDR cases annually — is also a gap.
- Awareness and implementation of airborne infection control measures for people living with HIV in hospital settings, especially in high TB burden places.
- Privately notified TB patients are seldom screened for HIV and thus large numbers are lost. Among 3,30,186 TB cases notified from private sector, accounting for 19% of total notifications, 2% knew their HIV status.

[54] Intensified case-finding (ICF), Isoniazid preventive therapy (IPT) and Infection Control (IC)

- Supply of Rifabutin and loose anti TB drugs for PLHIV on PI based regimen.

Universal access to TB care for HIV patients and routine provider initiated counselling and testing for HIV testing for TB patients are the two important targets that need to be achieved.

As a brief background, HIV-TB collaborative activities between Revised National Tuberculosis Control Program (RNTCP) and National AIDS Control Program were started initially in the year 2001 under an integrated approach. Since then, HIV-TB activities evolved in line with updated scientific evidences. National Framework for joint TB-HIV collaborative activities was developed under which National and State TB/HIV coordinating mechanism were put in place. Service delivery level coordination bodies were established at district level. Components such as dedicated human resources, integration ofdata systems, joint training, standard recording and reporting, joint monitoring and evaluation, operational research were strategically implemented and nationwide coverage was achieved in July 2012. The National level TB-HIV coordination committee (NTCC) and technical working group (NTWG) regularly monitor and make suggestions on key policies related to TB/HIV Collaborative activities. It aims to significantly reduce the morbidity and mortality due to HIV/TB co infection through prevention, early detection and prompt management of both HIV and TB.

The proposed strategic approaches are detailed in the section below:

Leveraging Active case finding for TB in HIV prevention services–The approach is to establish F-ICTCs in all designated microscopy centres (DMC). This will have the following dual benefits: (1) availability of testing services in TB centres; and (2) in the longer run, support of HIV patients on ART for adherence and retention.

Active case finding / HIV testing – Revised National TB control programme is initiating the active TB case finding in the community to enhance its case finding ability. This presents a good opportunity to introduce basic service package for prevention of HIV among the TB suspects.

Intensified TB case finding (ICF) activities in HIV care settings – Cross referrals for TB include verbal screening for TB symptoms in PLHIV. At every visit to the ART centres, the PLHIV needs to be screened for four main symptoms of TB. If any of them is positive, the patient should be referred for TB diagnosis usingrapid molecular testing systems such as CBNAAT, etc. Once found positive for TB, treatment with daily ATT should be initiated without any delay along with ICT based adherence tools for tracking.

Preventive therapy for TB – Isoniazid preventive therapy would be scaled up to cover all the HIV patients across the country. Innovative short course therapies would also be included in the programme after pilot testing, including means to assess its adherence.

Involvement of private sector: The private sector must be involved if we aim to achieve the end AIDS. A substantial proportion of TB patients are diagnosed and treated in private sector. There is no provider initiated counselling and testing for HIV in the private sector. Thus, a good number of patients are missed by the programme. A collaborative effort by both TB and HIV programme is necessary to address this gap.

Strategies for TB HIV high priority 20 selected districts: including early diagnosis, decentralized service delivery models, private sector engagement and increased uptake of newer initiatives like test and treat.

ii. HIV-Hepatitis B and C infection

Population prevalence of Hepatitis B is around 3-4 %[55] and that of Hepatitis C is around 1%[56]. This accounts for almost 40 million chronic HBV and 12 million HCV infections in India. Unfortunately, there is no strategic plan for addressing the issue of chronic hepatitis in India as of now, and it is recommended that this be remedied.

PLHIV are at high risk of co-morbidity with hepatitis B and C. It is important to ensure timely detection and initiation of hepatitis B or C treatment in HIV/ viral hepatitis co-infected patients to minimize hepatitis-related liver disease and its long-term negative impact on HIV outcomes. Hepatitis B and Cdetection and treatment for PLHIV will be provided at ART centres. Hepatitis B treatment is available as part as ART programme since ART regimens containing tenofovir (TDF) plus a second NRTI active against HBV (3TC/FTC) are shown to suppress both HIV and HBV viral replication. Treatment for hepatitis C using direct acting antivirals (DAAs) such as sofosbuvir, grazoprevir, glecaprevir etc. will have to be procured.

Plans are underway to address the larger issue of hepatitis in India. Till that becomes a reality, detection and treatment strategies will be planned under this NSP for the co-infection.

iii. HIV – Visceral Leishmaniasis (VL)

HIV-VL is endemic in some States like Bihar, Jharkhand and Uttar Pradesh. As the Government of India aims for elimination of VL, addressing the HIV-VL comorbidities will be critical. The gaps in diagnosis are the main impediment to appropriate treatment and favourable outcomes. This NSP will address the HIV-VL co-morbidities through active case finding that will include universal screening of all VL cases/ suspects for HIV and all PLHIV for VL in VL endemic states.

4.4.3. Priority 3: Dual Elimination of Parent to Child transmission of HIV andSyphilis

India accounts to about 29.7 million pregnancies annually. Antenatal clinic check-up (ANC) is one of the first steps in ensuring good health of the mother and child and steps are being taken by the Government to increase ANC service utilisation and institutional delivery. Interventions to improve the screening and treatment coverage of pregnant women for both HIV and syphilis could reduce incidence of stillbirth and perinatal deaths, thereby facilitating advancement to the SDG Goal. If India aims onachieving the targets of MTCT elimination for HIV and syphilis, an accelerated response with focused tracking and uptake of syphilis and HIV related services are required at the state and district level. The gaps in programming, linkage and implementation — as reflected in the section on PPTCT cascade 'Gap Analysis' — will need to be addressed using tailored strategies as reflected ahead.

The NSP proposes the targets for double eliminationof HIV and syphilis by 2020.The targets for testing and syphilis /ART uptake for pregnant women are presented in the table 8 below:

Table 8: PPTCT Targets for elimination ofHIVand syphilis

Indicator	2017	2018	2019	2020	2021	2022	2023	2024
1. Est. # of Pregnancies (in million)	29.68	29.27	28.92	28.55	28.17	27.79	27.42	27.04
2. Estimated number of HIV positive	32,238	31,000	30,008	29,192	28,516	26,972	25,806	24,684

[55]Indian Council of Medical Research. New Delhi: Indian Council of Medical Research; 2010. Minutes of the Expert group meeting on Hepatitis B and Hib vaccines.
[56] NCDC Newsletter Jan -Mar 2014. Available at http://ncdc.gov.in/writereaddata/linkimages/NewsLtr0103_20146480274026.pdf. Retrieved on 7 May 2017.

	pregnant women							
3.	**Estimated number of syphilis positive preg. women**	102,806						
4.	**Testing for syphilis andHIV (in mil.) (%)**	16.5 (59%)	19.02 (65 %)	23.13 (80%)	25.7 (90%)	26.76 (91%)	26.40 (92%)	26.05 (93%)	25.69 (95%)
5.	**% positive for syphilis received treatment**	90%	90%	90%	90%	95%	95%	95%	95%
6.	**# and % HIV positive on ART**	14526 (45%)	15669 (51%)	18905 (63%)	23646 (81%)	24229 (85%)	24277 (90%)	23742 (92%)	23450 (95%)
7.	**# and % of HIV exposed infants receiving virological test for HIV, within 2 months of birth**	8000 (28%)	10000 (36%)	14000 (52%)	18000 (68%)	20000 (78%)	20000 (82%)	20000 (86%)	20000 (90%)

It must be noted that out of an estimated 29.7 million pregnancies in India, the programme intends to cover 28 million by 2020. With the HIV programme being dependent on RMNCH+A (NHM) for the ANC registrations and convergence for HIV and syphilis testing, prioritization will be done to focus on States and districts with high HIV and syphilis prevalence, while simultaneously saturating convergence of HIV and ANC services to increase testing and treatment coverage, in those states where integration is optimized.

Elimination of parent to child transmission of HIV and Syphilis

The primary route of HIV transmission to children is from mother to child. The transmission of HIV from an HIV-positive mother to her child during pregnancy, labour, delivery or breastfeeding is called mother-to-child transmission. In the absence of any interventions, transmission rates range from 20-45%. This rate can be reduced to levels below 5% with effective interventions. The global community has committed itself to accelerating progress for prevention of vertical HIV transmission with the goal of eliminating new HIV infections in infant by 2020 and improving maternal, new-born and child survival and health in the context of HIV.

India started the mother-to-child transmission of HIV and syphilis in early part of NACP II in the year 2002. Using 'single dose nevirapine (SD-NVP) to both mother and child' the programme rapidly scaled up. More efficacious medicines for eMPTCT were introduced under the programme in 2012-13. In September 2012, Option B+ as a policy was adopted, based on WHO (2010) recommendations and the country transitioned from the SD-NVP strategy to that of multi drug ARV prophylaxis irrespective of CD4 count. Globally, evidence suggested that ARV prophylaxis using SD-NVP is effective in reducing risk of transmission from about 45% to around 10%. However, the 10% uncovered risk is unacceptably high since paediatric HIV can be eliminated if the currently available drugs are used effectively and started early on during the pregnancy. To detect HIV among all positive pregnant women and eliminate transmission of HIV from parent to child, HIV screening is conducted by frontline health workers (Auxiliary Nurse Midwives) at the sub-centre level.

Package of services currently offered:

- HIV testing and counselling (pre-test and post-test) services are offered as part of the ANC package at the ANC clinics and ICTC.
- All HIV positive pregnant women, including those presenting in labour and breastfeeding, are to be initiated on lifelong triple ART, irrespective of CD4 count and WHO clinical stage, for

preventing mother-to-child transmission risk.

- The recommended duration of NVP for the infant is a minimum 6 weeks but extended to 12 weeks, if the duration of ART during pregnancy is less than 24 weeks. This recommendation on extended NVP duration applies to infants of breastfeeding women only and not those on exclusive replacement feeding.
- The prevention and treatment services to all pregnant women attending the health care facility are availed through 22,092 ICTCs and 1,636ART centres (including LAC) established in the country as of October 2016.

The key for elimination of e-MTCT of Syphilis is to universalize syphilis testing and treatment among the pregnant women, their partners and new-born. The elimination efforts require use of newer and low-cost technology like dual point of care test for enhancing the syphilis and HIV testing access in the community. NSP envisage to immediately overcome the gap between HIV and Syphilis testing using the resources and information system technology resources under NACO. Elimination efforts will also require close coordination with National Health Mission and use of their infrastructures like manpower (ANM, lab technicians etc.).

India being a signatory to UN SDG and elimination of mother to child transmission of syphilis and HIV, the programme needs to pace up to address the issue of MTCT on a war footing. The strategic approaches are based on attaining the elimination targets.

The WHO Indicators used for elimination for MTCT of HIVandsyphilis are:

Table 11: Impact and process indicators to support validation of EMTCT of HIV and syphilis

Impact indicators [at least last one year data]
• Case rate of new paediatric HIV infections due to mother-to-child-transmission (MTCT) of HIV of ≤50 cases per 100 000 live births and
• ≤ 50 cases of congenital syphilis per 100,000 live births
• HIV transmission rate of <5% in breastfeeding population OR <2% in non-breastfeeding population
Process indicators [at least last two-year data]
• Antenatal care (ANC) coverage (of at least one visit) of ≥95%
• Coverage of pregnant women who know their HIV status of ≥95%
• Antiretroviral (ARV) coverage of HIV positive pregnant women of ≥90%
• Treatment of syphilis – sero positive women of ≥ 95%

Reaching out to all pregnant women in this country with services for HIV and syphilis may appear to bechallenging, considering the volume of estimated annual pregnancies in India. However, service scale-up is reliant on substantial support from RMNCH+A Program under NHM and the Government focus and commitment to expand ANC coverage and safe institutional delivery practises. Differential state specific strategies need also to be framed between HIV and RMNCHA+A program considering the level of integration

Figure 26 provides the overview of major strategies planned to address the gaps and meet the intended targets for elimination of HIV and Syphilis.

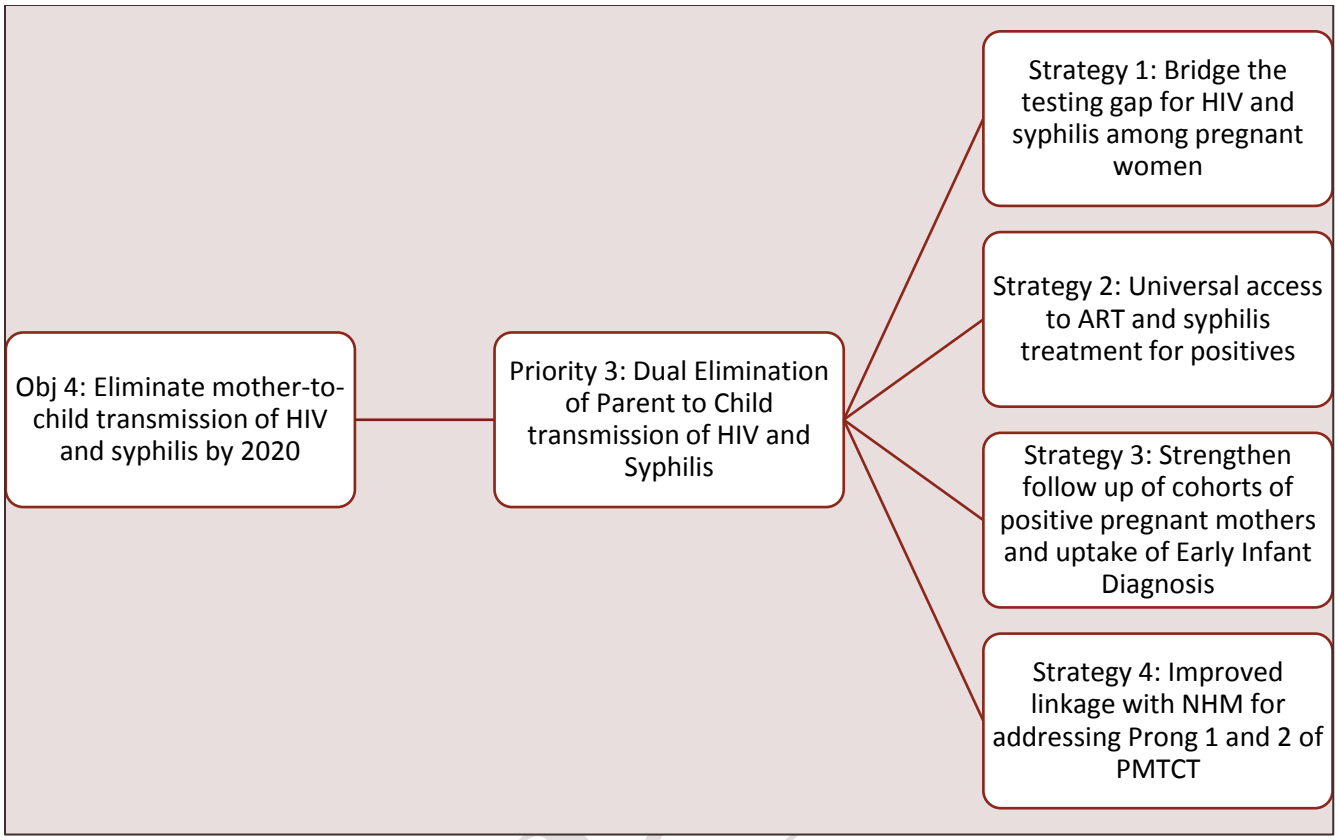


Figure 27: Overview of Strategic Priorities for EMTCT

1. *Bridge the testing gap for HIV and syphilis among pregnant women*: The approaches described are in brief. Please refer to operational guidelines on PPTCT for more details:

- Regular monitoring of the HIV care cascade and situational analysis at the state level to understand specific contexts and factors affecting coverage and retention—which may be particular to a district or group of districts—for appropriate differential strategies to be formulated for service uptake and retention in the state.
- Geographic prioritization for establishing HIV screening facilities at all public health service delivery points.
- Strengthening mechanism for reporting from private sector.
- Bridge the testing gap for HIV and syphilis among pregnant women by reinforcing universal screening of pregnant women during the first antenatal visit in both private and public sector. Encourage couple counselling and partner notification.
- Use innovation to improve testing uptake for pregnant mother such as CBT testing during village health and nutrition day (VHND), Health Camps, etc.
- Stronger integration between NACP and RNMCH+A programme at the field level particularly in northern states.
- Improve private sector reporting through innovative and expanded approach such involvement of professional bodies like IMA, FOGSI, active case detection and focussed outreach

2. *Universal access to ART and syphilis treatment for HIV positive pregnant women and mothers:*

To address this gap, the critical enablers are good outreach and universal availability of ART and syphilis treatment. The latter is a part of NHM and would require good coordination between the two programs.

Follow up of positive pregnant women for HIV would require dedicated coordinating agency if the targets for elimination should be reached.
Linkage and retention on ART must be ensured through excellent coordination between screening, testing and ART centres.

3. *Strengthen follow up of cohorts of positive pregnant mothers and uptake of Early Infant Diagnosis:*

- Point of care EID test at EID centres
- PCR testing at birth may ensure that the baby undergoes testing before being discharged from the hospital
- Establish the strong mechanism for timely follow-up and tracking/monitoring of HIV exposed infant/child for early diagnosis at 6 weeks, 6 months, 12 months and 18 month.
    - Establishing follow-up mechanism through routine immunization visit.
    - Implement the cohort monitoring system (i.e.PALS) at all facilities and following up on case wise basis.
    - Auto generated Monthly Work plan of ICTC should include all the follow up activities through PALS (PLHIV ART linkages System).
    - Innovative solutions such as SMS alerts to service provider as well as beneficiary.
    - Outreach/home visit through service providers.
- Ensuring all HIV exposed babies are followed until 18 month of age for confirmation of HIV diagnosis and accordingly retained on treatment.

4. *Improved linkage with NHM for addressing Prong 1 and 2 of PMTCT*

To address the primary prongs of PMTCT i.e. preventing HIV infection in young reproductive group through prevention messaging and prong 2 addresses unmet needs of family planning in HIV positives. These two prongs can be well addressed with collaboration with NHM.

The approaches are detailed in the section on integration with NHM.

- Universal ANC Check up
- Single prick for HIV and syphilis
- Treat all who are syphilis positive
- Active case detection for partners with testing and treatment for HIV and syphilis
- Available supply of commodities and drugs
- Collaboration with other agencies
- New detection and point of care tests
- Feedback surveillance for a rapid response

Box 6: Summary of Key Elimination Strategies for syphilis and HIV

In summary, the key for elimination is to universalize HIV andSyphilis testing and treatment amongst the ante natal women and their partner across all health facilities and use of newer and low cost technology such as point of care test for enhancing accessibility of testing in the field. The elimination effort will also require collaborative effort from the NHM functionaries, physician in private practice and sharing of resource from EMTCT of HIV and syphilis.

4.4.4. Priority 4: Addressing Critical Enablers in HIV Programming

There are many critical enablers for HIV programming which need to be addressed for the programme to achieve its intended objectives. Some of the key enablers are presented in the sections below:

A. Laboratory Systems (LS) and Support

NACP recognized that emphasis on quality assured laboratory service delivery is important to the success of the programme. NACP IV build upon the stage set by NACP III that laid the foundation for institutionalizing a culture of quality in laboratory services, specifically HIV and related testing with establishment of the laboratory services division for standardization of tests, technologies and logistics, formal recognition for the laboratory network for implementation of EQAS programme. Technical support was provided to testing laboratories through the existing three-tiered network of HIV reference laboratories at the apex (1), national (12), and State level (117) through a cascade of mentoring and monitoring system and EQA programme. The External Quality Assurance Scheme (EQAS) was set up which ensured high reliability and validity to the HIV and CD4 tests under the programme and higher levels of proficiency in the participating laboratories.

The package of laboratory services articulated under the NACP IV includes quality assurance in HIV testing, CD4 testing, Early Infant Diagnosis (EID), Viral load and STI labs as critical components.

Some of them have been discussed in the respective sections and the overarching strategy is presented in the sections below:

Building on the learnings and achievements of LS in the past decade, it is rational and imperative that NACP scale-up good practices to other service deliveries under NACP, with an objective of achieving HIV epidemic control through systems strengthening. This section outlines a strategic overview of activities proposed for next phase of NACP aiming at providing reliable quality services across various service deliveries under the NACP. The foundation of strategies proposed is based on the following elements:

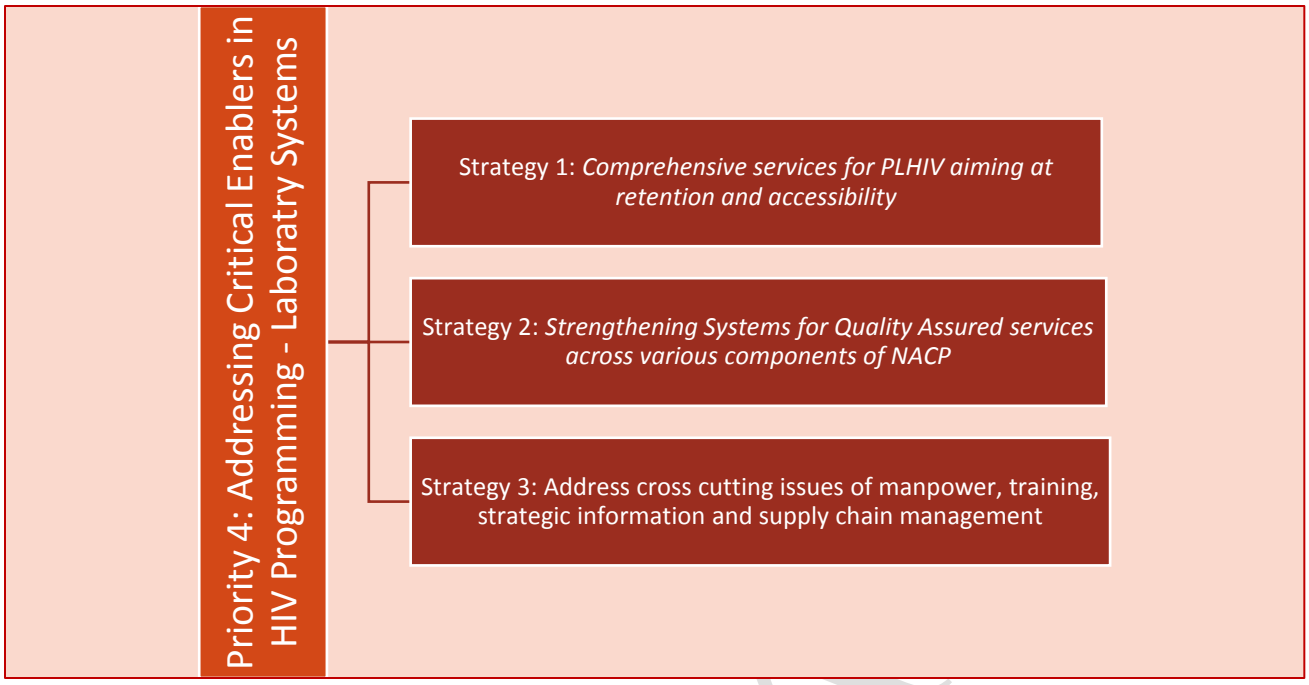


Figure 28: Overview of key strategies for Laboratory Systems

I. *Comprehensive services for PLHIV aiming at retention and accessibility*: This strategy proposes to include diagnostic services for complete clinical care of PLHIV

- Introduction of diagnosis for Co-infection & Opportunistic infections: inclusion of diagnosis of co-infections like HBV, HCV, HPV, Candida, Cryptococcus etc. will be considered under the programme.
- Innovative mechanisms/options will be piloted to increase accessibility of HIV lab services for hard to reach populations including KPs and difficult geographic terrains like the NE: Validation of POCT, DBS specimens for testing etc.
- Operational research for CQI will be promoted: aiming at efficient sample collection and transportation, testing and report delivery mechanisms.
- Drug Resistance: developing labs for surveillance of drug resistance.

II. *Strengthening Systems for Quality Assured services across various components of NACP*:

For a continued focus on quality assured services at various facilities under NACP a dedicated 'Quality Cell' to ensure developing, implementing and monitoring quality management systems across all facilities under NACP with a focus on Lab services and including care, support and treatment; and prevention. Main functions of a QA cell include:

QA for Lab services:

- NABL accreditation - for HIV testing referral labs (NRLs and SRLs), CD4, EID, STI and VL labs. NABL accreditation of HBV, HCV & opportunistic infections
- System for certification will be developed for other sites that conduct lab testing viz. ICTCs, SRL, DSRCS etc.
- Viral Load –set up national EQA programme.

- Quality assured HIV Testing towards increased accessibility – to support community based testing and/or self-testing under NACP for improved accessibility to HIV testing aiming at first 90 (Fast-Track 90-90-90 HIV treatment targets), a QA procedure will be developed.
- Set up calibration labs to facilitate accreditation.

QA for CST services: Identify and institutionalize quality indicators (QCI and EWI) and consider NABH accreditation for facilities providing clinical care (ART centres etc.).

- Prevention: Certification for OST centres and TIs will be promoted.

III. *Address cross cutting issues of manpower, training, strategic information and supply chain management*

System Strengthening through Capacity Building: for a large programme such as India's, NACP training needs are humongous. It is well recognized that for efficient services a trained human resource is of critical importance. Under this strategic plan, it is proposed to;

- Develop a NACP specific web-based training hub: for cost-effective distance learning, self-learning and readily accessible training platform.
- Promote certificate course for specialized HIV related diagnostics and quality assurance: for HIV, molecular testing viz. HIV drug resistance testing and viral load.

Validation of newer tests: Set up of systems for validation of all new technologies that are expected to be introduced in the next 7 years like POC testing/ Incidence testing and tests like oral self-testing etc.

Data management and health informatics:

- Data management for the quality assurance will be completely integrated with the MES framework of NSP. The framework will take advantage of case based surveillance system and will focus on improving the analysis and feedback mechanism on the lab related aspects.
- Additional benefit to quality of care is optimizing the costs involved in healthcare delivery. This strategic document therefore, proposes adoption of health informatics including Laboratory Information Systems (LIS) and data analytics and making use of Real Time Analytics (RTA) for improved response.
- Mobile & other newer technologies would also be used to maximize information flow and improved communication between various divisions and beneficiaries.

Sample referral & sample transportation: A robust mechanism for sample transportation and its proper documentation into the larger MES system will be developed such that the patient must travel a minimal distance and only the sample is transported to the testing laboratory. System would ensure that quality of sample is not compromised during transportation.

B. Blood Transfusion Services

Blood Transfusion Services were brought under the purview of NACP in 1992 since the start of NACP. The licensing part remains with Drugs Controller General of India (DCGI). Currently,overall the services work as a collective effort by NACO, NHM and the Ministry of Health and Family Welfare in general at national as well as at State level.

The gaps analysis section has brought out a variety of challenges and gaps that need to be addressed. Some of the major thought provoking issues are:

a. Should the Blood Transfusion Services be a part of NACO or should be housed under Ministry of Health and Family Welfare as part of general health systems?
b. Blood is considered as drug under the Drugs and Cosmetics Act and Rules thereof, with licence

being issued by State FDA with the approval of DCG (I). Dual control and authority is creating a challenge. Should the licensing of Blood banks be taken up at State or Central level?

With the plethora of issues ranging from fragmented blood transfusion system, inequitable availability and accessibility of blood, unequal distribution of blood banks andvariablequality of service, the proposed strategy seeks:

'to ensure universal access to safe blood and blood components to those who are in need with optimum quality by strengthening the structure, systems, and services across the country under the unified umbrella of National Blood Transfusion Council (NBTC)'. The approach seeks to improve the referral linkages for the HIV-positive donors, to care continuum towards achieving the 90-90-90 treatment target. The key components of strategy are:

I. Advocate for developing a Nationally Coordinated National Blood Transfusion System in two years' time

Since the establishment of National Blood Transfusion Council in 1996 and the adoption of the National Blood Policy in 2002, the yeoman role played by NACO in ensuring availability of good quality blood and blood products, now can be taken over by an agency designated for the purpose. NACO's role would be in advocating for and handing over the expertise in a timely and efficient manner.

NACO will advocate for a National Blood Transfusion System with single decision/policy making body for BTS at National and State level i.e. NBTC – the apex central body and SBTC at the state level, directly under the umbrella of Ministry of Health and Family Welfare. The advocacy will seek to review and suggest legislative changes to the existing National Blood Policy and NBTC guidelines to give it the necessary authority to streamline and improve the functioning of Blood Banks. NACO will support the development of common national standards for Blood Transfusion Services and Blood Banks enforceable by law.

II. Build capacity of NBTC to promote voluntary non-remunerated blood donation ensuring universal access to blood and blood components and strengthening Quality Management Systems (QMS)

NACO will focus on transferring knowledge and skills for promotion of voluntary non-remunerated blood donation (VNRBD), building a base of regular repeat donors, including proper donor selection, counselling, recruitment, and retention using the latest technology, advocacy, communication and social mobilization(ACSM).

For universal access to blood and blood components, especially to the rural hinterland, modern technologies and contemporary supply chain management using hub and spoke model will be implemented to improveavailability and optimum utilization.

State of the Art Centres of Excellence in Transfusion Medicines and Plasma Fractionation centre will be established through PPP approaches to enhance component separation and develop self-sufficiency in plasma derived medicines.

e-Initiatives to ensure transparency, effective networking and efficient blood transfusion management will be strengthened and implemented. Deployment of bio-metrics devices to track and eliminate deferred donors will be explored.

Capacity building of Blood Bank staff foreffective counselling of blood donors, strengthening QMS and appropriate clinical use of blood would be emphasized. Introduction of EQAS programmes with encouragement to move towards accreditation will remain a focus area

III. Provide support for improving reporting, counselling and referral of HIV positive cases including follow up to ensure transfer completion.

NACO will support Institutional Strengthening of NBTC for establishing a robust testing, reporting, counselling, and referral of donors whose blood has been found seroreactivefor HIV. Donors who test sero-reactive for Transfusion Transmissible Infections (TTIs) will be referred to related services facilities for confirmation and further management. NACO will build capacity including follow up sessions especially for counsellors to ensure 100% referral. NACO will also support NBTC to establish a follow up system to ensure transfer of HIV sero-reactivedonors are completed and not lost within the transfer process. NACO will also support the development of a Donor Look-back Mechanism to identify donors potentially within the window period and refer them to care continuum, if necessary.

The proposed targets under BTS are summarized in table 11 below:

Table 9: Proposed target under BTS, NSP-NACO

Targets	2016	2020	2024
1. % of Voluntary Blood Donation (VBD)	80%	100%	100%
2. HIV reactivity among blood donors	0.14	<0.10%	<0.05%
3. % of HIV positives referred for care continuum	25%	>50%	>90%

C. Advocacy Communication and Social Mobilisation(ACSM)

A significant scaling up of Advocacy, Communication and Social Mobilization (ACSM) will be needed to achieve the programmatic goals set for AIDS control as per different milestones. The ACSM work plan focuses on those areas where ACSM has most to offer and where ACSM strategies can be most effectively concentrated to help address the key challenges to AIDS control at country level:

- Reaching out to 'At risk', youth and others unattended population groups to promote safe behaviours and HIV testing
- Promoting 'gendered' messages for HIV prevention, against intimate partner violence, and couple testing.
- Early diagnosis/detection and treatment adherence
- Addressing stigma and discrimination
- Information on social protection and other supportive measures
- Empowering people affected by AIDS
- Mobilizing political commitment and resources.

Two major strategic directions have been proposed based on gaps that have been identified in MTA as well as gap analysis sections:

1. **'the call for action'**	2. **'the framework for action'**
• describes the key challenges to be addressed; • summarizes the current evidence of ACSM contribution and lessons learnt; • sets out the key principles underpinning the work plan.	• explains the vision, goals, objectives and targets of the ACSM strategic framework; • outlines the framework's basic components; • examines how progress could be monitored and evaluated; • explores key partnerships and roles;

	• presents and justifies the budget.

In the 'Call to Action', many states and different districts in India present different levels of prevalence and the situation and response needs are highly varied. The Communication Strategy, therefore, needs to be innovative and flexible to be adopted and adapted according to different audience needs. Equally, it has been designed to build and reinforce the gains of previous phases according to the evidence base, while developing a strategic response to the emerging communication challenges in the new programme.

The key principles are:

- Knowledge is critical
- Knowledge is not enough
- ACSM should be integral and proportionate to NTPs
- ACSM should be non-discriminatory and rights-based
- ACSM requires country-led approach, and investment in national and State capacity

In the second part of the action strategy, 'the framework for action' specifies the action plan and implementation modalities

The vision is one where all communities reach a level of empowerment to protect themselves against HIV and access HIV-health services. By applying ACSM strategies from health-care settings to house-holds, PLHIVs will be supported and treated with dignity and respect. Furthermore, steps will be taken forpeople living with HIV and communities to increasingly be involved in shaping the AIDS response.

Over the next 7 years, the ACSM strategy aims to establish and develop a core component of AIDS prevention and treatment efforts. The ACSM strategy has the following goals:

- To provide communication support for meeting different programmatic targets such as prevention messages for pregnant women for early testing.
- To develop a communication strategy to meet 90-90-90 HIV treatment targets and providing way for elimination of HIV by 2030
- To foster participatory ACSM planning, management and evaluation capacity at regional, national and State levels, involving people living with HIV and communities.
- To support and develop strategies to achieve key behavioural and social changes, and leveraging the health messaging component of NHM, with a focus on local context.

Objectives:

- Enhancing comprehensive knowledge and creating environment for early testing and treatment by motivating key populations, bridge population and other groups, including women, through innovative communication approaches.
- Target age specific messaging for promoting ABC approach among general population and vulnerable groups including youth.
- Generating demand for quality services, strengthening linkages and availing social protection schemes by PLHIVs.
- Providing enabling environment to reinforce positive attitudes, beliefs and practices to address stigma and discrimination.
- Reinforcing messages on sexual, reproductive health and rights for women.

- Mobilizing political commitment and resources for AIDS control.

Adolescent and Youth

a) **Adolescence Education Programme (AEP):** AEP is a key intervention to build life skills of young people and help adolescents cope with negative peer pressure through a 16-hour module based teaching.The Programme at present is being implemented in more than 55000 schools across the country covering 8th, 9th and 11th standardclasses.
b) **Red Ribbon Clubs (RRC)**: Red Ribbon Club (RRC) Programme is a comprehensive promotional and preventive intervention to harness the potential of youth in educational institution. The programme is being implemented in over 12000 colleges across the country.
c) **Out of school Youth (OSY):** This Programme targets the youth who have either dropped out of school or have never been to school. At the national level collaboration with NIOS has been critical in reaching out to adolescents not in school.

Intervention required –Future

- There is thrustto continue AEP and RRC programme with regular monitoring through coordinated efforts at national and state level.
- Further sensitization required - school teachers, principals, parents, collectors, state and district level officials
- Estimation of adolescents and youth in need of care support and treatment for HIV/AIDS
- Sustained efforts to increase awareness in adolescents through new innovative mediums utilising the existing apparatus and Innovative approach to reach the tech Savvy youth.
- Development of e portals for engagement of youth in expressing their views and accessing knowledge on HIV/AIDS and real time interaction with experts

Strengthening of collaboration and support from all the partners working on youth and adolescent issues in the country.

Partnerships with other constituting ministries are fundamental in reaching the IEC targets etc. The strategic approaches proposed are:

Mainstreaming & Partnership

- **MoUs with Ministries/ Departments**
  - Set up strong coordinating mechanisms & structures between NACO & other ministries/ departments with which MoUs are signed, to prevent fragmented multi-sectoral response and to make the efforts most productive; including synergistic reporting systems.
  - Formalize partnership of all key Ministries which include social, infrastructural and uniform forces. MoUs proposed for 31 Ministries. 14 MoUs have already been signed. 15 Ministries/ Department may be mobilized for partnership with NACO.
  - A Gender Unit at NACO could be set-up on special gender-transformative initiatives, which could also work on mainstreaming approaches with other ministries and departments (e.g. WCD and Social welfare departments) so that sexual and reproductive health and hygiene can be integrated into the work of other departments.

- Leveraging resources from Ministries/ Departments at national as well as state level.
- Institutionalize HIV/AIDS prevention activities as one of the planned activities in each Ministries/ Departments at the central and State level.
- Inter-departmental meetings bi-annually at the state level for enhance administrative support to HIV/AIDS prevention activities.
- Plan and undertake comprehensive capacity building on issues of mainstreaming and social protection for staff at all levels (District, State and central level), avoiding standalone training of different ministries staff.

- **Political and Administrative supports**
  - Constitution of State Council on AIDS (SCA) / Inter-Department coordination committee in all States/ UTs to enhance administrative support and involvement on HIV/AIDS prevention activities.
  - Constitution of Legislative Forum on AIDS (LFA) in each States/UTs to enhance political support & mobilization on HIV/AIDS prevention activities.
  - Engagement of urban and rural local bodies, PRIs in the districts for HIV/AIDS prevention activities. Build ownership on HIV/AIDS prevention activities by district administration, municipal corporation etc.
  - Engagement of District Health Society for decentralized planning & implementation, monitoring & review of programme support.

- **World of Work Response**
  - Strengthen response of World of Work through enhance coverage of formal and informal sectors.

- **Social Protection**
  - Evolve and recommend a basic minimum social protection package for PLHIV (nutrition, financial assistance, education, shelter & travel for ART etc.) across all states and ensure SACS work with concerned departments to operationalize them and facilitate uptake.
  - Directives to be issued from State Governments to extend benefits of social, legal and economic protection of people infected and affected by HIV and Most at Risk Population.
  - Strengthen district level mechanism for enrolment of PLHIV in social entitlements and social protection schemes.
  - Mechanism of social protection uptake to be established in all districts.
- **Legal Protection**
  - Mechanism for legal protection in each district for PLHIV, children affected by HIV and key populations.
  - Enhance involvement of SALSA, DALSA and Bar Council on legal aid.
- **Mainstreaming Training**
  - HIV and related issues to be a part of induction training of each Government department.
  - Integration of HIV/AIDS in every induction training programme of H&FW department.
  - Emphasis on Training of Trainers (ToT) instead of sensitization programmes/ standalone training.
  - Involvement of Positive Speakers in all major trainings.
  - Capacity building of SACS officers on legal issues related to HIV/AIDS.
  - Along with basic information on HIV, topic on Stigma and discrimination needs to be addressed in each training programme.

- Trainings of Health Care Providers on Stigma and Discrimination.
- Impact assessment of the training needs to be conducted before refresher trainings

D. Finance, Procurement, and Supply Chain Management

Procurement & Supply Chain Management (PSCM) is the backbone of any public health programme as programme delivery depends immensely on it. Across NACO & SACS, procurement & Supply Management of HIV/AIDS commodities involves a series of activities to ensure the continuous supply of products from the point of manufacture to the point of care. The supply chain functions operate within a system that provides programme managers with data to help determine what types of products are needed, where and when they are needed, and in what quantity and condition.

I. **Institutional mechanisms will be established for comprehensive uplift of PSCM functions under NACP**

i. **Human Resource:** Role and responsibilities of staff related to procurement and supply Chain managementwill be clearly defined.

ii. **Training:** Regular Capacity building of NACO/SACS staff on Supply Chain Functions, guidelines and SOPs.

iii. **Policies & Procedures, Guidelines, SOPs, Manuals (e-procurement):** Develop/update the Guidelines and Standard Operating Procedures for supply chain functions, including the standard formats for PSCM functions.

iv. **Governance/ Redressal Mechanism**

- **Maintenance of complaint books and action taken:** This is the basic documentation that needs to be maintained at state and national level. These complaints shall be documented in detail and shall be reviewed periodically. This will also strengthen the internal system to keep the track on nature of complaint that will improve the future procurements to avoid such complaints.
- **Immediate experience sharing between centre and state on common issues/complaints:** A knowledge bank on the issues will be prepared and shared among the states and centre to find the solution for most common problems faced by the states. Specific issues will be dealt on case to case basis and steps would be taken to resolve them within the prescribed time frame.
- **Establish mechanisms for client/community feedback:** Feedback systems for client/community feedback to be established including 'real time monitoring' of commodities and services.

II Strengthen Operational Mechanisms across the spectrum of PSCM functions

v. **Forecasting:** Development of tools and training of staff on effective forecasting

vi. **Indenting and Inventory management:** Mapping of existing indenting, issuing and receiving processes of commodities will be done to suggest the necessary changes in the process for overall improvement in commodity management. An agency would be identified for end-to-end supply chain management.

Follow standards to ensure sufficient stocks (i.e. Maximum and minimum inventory levels

III Storage/Warehousing (Ambient & Cold)

vii. **Assessment of storage and warehouse requirement:** An assessment of the existing

warehousing facilities at SACS level will be done to find out the actual space requirement. This assessment will also focus on various facilities required to be in place at warehouse to manage Pharma grade storage practices.

viii. **Development / Hire requisite infrastructure at SACS Warehouse, DAPCU & Facility comprising of IT enabled tools, Manpower, material handling equipment**

IV AMC/CMC Services: A database of all the functional equipment needs to be prepared and assessment will be done to verify their functional status. This will cover all the details about the equipment and type of maintenance services required to keep it functional.

V Centralized Inventory Management System: An online Inventory Management System will be developed and integrated into the larger MES framework. The system will be implemented across all the Facilities for better monitoring of inventory movement and report generation.

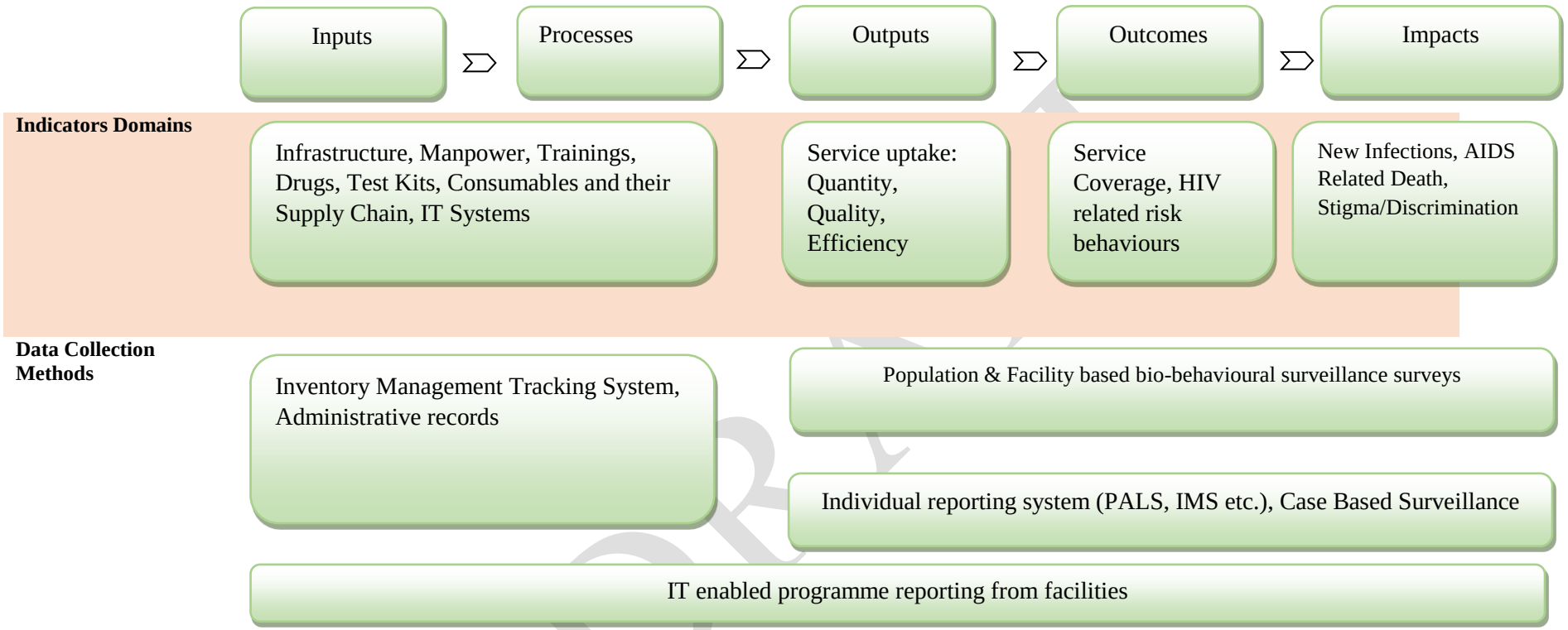
5. Priority 5: Restructuring the Strategic Information System to be efficient and patient centric

Strategic information (SI) is one of the most important piece that shapes the direction and quantum of the response to HIV/AIDS epidemic. Strategic information management and evidence based decision making through a strong monitoring, evaluation and surveillance (MES) framework has been fundamental to the India's successful response to the HIV/AIDS epidemic. It started with setting up of surveillance systems in early days of HIV/AIDS epidemic that guided initial response under NACP 1. Since then, the system has evolved as an extremely comprehensive system over the time. Over the last three decades, the number of data sources has expanded and currently consists of many complementary sources that included specific bio-behavioural epidemiological studies (HSS, IBBS, HIV estimations etc.), general population household surveys (NFHS, DLHS), population size estimates as well as routine programme monitoring data (consolidated as well as individual tracking). While the data sources have expanded over the years, the geographical unit of data generation, analysis and use for planning has shifted from the national to the state, district, sub-district level and now up-to the individual level. NSP 2017-24 envisage to further strengthen the rich tradition of evidence based decision making under the programme through sustained focus on strategic information systems and their timely upgrade in terms of methods as well as technologies.

NSP envisage to establish an overarching strategic information management strategy encompassing all strategic information activities to ensure:

- Implementation of one integrated MES system encompassing all information systems used in different programme areas
- Sustained generation, analysis and dissemination of high quality strategic information using contemporary methods and technologies
- Systematic engagement with policy makers and programme managers at national, state and district level enabling further strengthening of evidence oriented policy making, planning and implementation at all levels
- Design and implement robust concurrent evaluation systems to measure progress and assess impact with regard to stated targets and goals of NSP

The MES framework for the NSP has been summarized in the Figure 29 below. The major activities that are included in the MES framework are periodic bio-behavioural surveillance focusing on HIV and STI trends and their determinants, HIV estimations, IT enabled programme monitoring and in-depth data analysis and dissemination. Together, these systems form a complementary system for epidemic and programme monitoring and contribute into the evaluation design of NACP on core indicators.



Analysis & Synthesis	HIV Epidemic Profiles, Estimation and Projections, Data Triangulation, Facts Sheets on inputs, progress and performances, Impact Evaluation Reports
Evidence Communication and Use	Technical Briefs, National and State Specific reports, Fact Sheets: National, State and District, Policy briefs and periodic reporting sessions with Policy Makers and Program Managers; national and global reporting

Figure 29: Monitoring, Evaluation and Surveillance Framework under NSP, 2017-2024

Epidemic Surveillance:

HIV Sentinel Surveillance (HSS) and HIV estimates provide key evidences on the level of the HIV epidemic and its trends across population groups and locations. Data from HSS, available across a large network of 776 ANC sites and 663 key and bridge population sites, has been used to generate estimates of HIV burden at national and state levels in the country through two successful rounds of HIV estimations in 2012 and 2015 during NACP IV. HIV estimations in 2015 were done using the latest version of Spectrum with most recent epidemiological and programmatic data. Additional bio-markers were added in surveillance which resulted in all specimen having been tested for HCV in ANC HSS 2015 and IBBS 2014-15. Findings from surveillance were used not only to produce HIV estimates and for programming and M&E, but also published in a timely manner in the form of Technical Briefs, National Reports and Epidemic Fact-Sheets. Various studies have been completed on HIV incidence surveillance, case based surveillance as well as on use of PPTCT data for HIV surveillance.

HSS among KPs have been accorded priority to understand the epidemic trends and spread. With a view to strengthen the surveillance activities among KPs, NACO implemented the National Integrated Biological and Behavioural Surveillance (IBBS). The IBBS has generated evidence on characteristics of KPs and BPs and their vulnerabilities and risk behaviours to support planning and prioritization of programme efforts at the district, state and national levels. Never has an attempt been made to capture nationally representative biological and behavioural data. IBBS covered 138,400 individuals from 258 domains across around 350 districts of the country - the largest sample for an IBBS in the world. Computer assisted personal interview (CAPI) devices were used for conducting all interviews and have helped minimize data recording errors. Both of HSS and IBBS has provided critical evidence, like that of expansion of IDU epidemic in northern India, that has guided the programme in fine-tuning its response to the HIV/AIDS epidemic.

Program monitoring:

The Strategic Information Monitoring System (SIMS) is an integrated web-based data reporting and management system. It captures programme monitoring data monthly from over 30,000 facilities and users across the country who operate under various components of HIV/AIDS Control Program. SIMS facilitates data entry and access to data by programme implementers and managers with functions allowing to produce reports. These present data in graphic format for analysis and evidence based action to monitor progress and put in place corrective measures in a timely manner.

Data Analysis and Dissemination

NACP IV already identified as a critical priority the need to disseminate and use data and translate knowledge into action at different levels of the programme. The NSP will focus on capacity building of Epidemiologists, M&E Officers, Statisticians as well as Program Managers using simple methods and tools of analysis and modelling. Institutional linkages and partnerships will be fostered to support the programme with its analytical needs at national and state levels. Specific activities will be undertaken for promoting data use at national, state and district levels. Scientific writing within the programme on important topics will be undertaken and articles published in peer-reviewed journals and conferences will be facilitated.

Based on the gaps identified in strategic information management, the following strategies are proposed for a patient centric and efficient MES under NSP.

5.1 Program Monitoring

- **One integrated M&E IT framework:** One integrated M&E IT framework will be the core strategy of the strategic information management. SIMS will be capacitated and maintained as comprehensive system for data management and data analysis to avoid multiple data reporting and parallel data management systems and to ensure linkages and individual patient tracking across programme components. It will be proposed that all the M&E personnel sitting in various divisions will sit and work with MES unit as a team to avoid the duplication and increase the efficiency.
- **Established of IT cell**: IT cell would be established composing of manpower having specified skills relatedto the ongoing IT applications – SIMS, IMS, PALS, ITS, NIRANTAR, MSDS and other portals like NACO website, Digital resource library, NBTC website and HSSP portal. For long term arrangement vendor will support for new development, implementation, maintenance and helpdesk at NACO, for troubleshooting, resolution of errors etc. Also, additional post will be created at SACS level along with M&E to support ongoing IT related hardware and software management
- **Assessment of IT Systems of NACO**: An agency will be hired to assess the needs and requirements of different divisions like changes in MIS Formats, new developments, unique ID number, development of dashboard, alerts / SMS based key outputs for fast transmission of data and information and plan for integration of the different IT Systems developed on different platforms in SIMS.A white paper document indicating clear and transparent road map for long term and short term planning will be developed.
- **Project Management Team:** A Project Management Team having technical and IT experts will be constituted at NACO for regular management of different software and vendors including SIMS. The team will be responsible for smooth functioning of IT systems at NACO.
- **IT enabled atmosphere:** As IT infrastructure become obsolete, new infrastructures with in-built maintenance plan will be introduced. It will include providing the computers with latest hardware and software with proper licensing systems at the National & State level. All the IT applications are to be migrated to Meghraj-Cloud Technology of Go.
- **IT infrastructure for paperless reporting:** This is a cross cutting issue within many areas such as ICTC, ART, Blood banks and TIs. It needs to be effectively used for real time data especially in case of supply chain issues. This NSP proposes a dedicated unit to address this critical issue that has bearing to improve most critical areas of each component programs
- **Indicator Rationalization:** M&E systems under NACP will focus on collecting only those indicators which are of programmatic or epidemiological relevance. An indicator rationalization exercise will be undertaken with objective of minimizing the reporting burden from peripheral level and simplify reporting formats as much as possible. The MIS formats needs to be frozen to increase the data consistency and meaningful output reports.
- **Strengthening MES Manpower:** Filling up of all the sanctioned positions, at national and state level, will be vital to the strengthening of MES functions. At state level, post of JD(M&E) IT officer will be created in each state to monitor the progress and support the IT components of MES division. With the increase in number of facilities over the years it is also proposed to add one data entry operator cum and M&E staff at the testing centre.
- **Capacity Building:** The knowledge transfer, update of latest systems, data definitions, revised guidelines, changes in formats needs to be percolated to M&E officials on frequent basis to increase the performance and efficiency. The trainings need to be organized to build the capacity and

coordination with other divisions at the state level.

- **Core Committee:** A Core Committee of IT / M&E expert will meet on quarterly basis to discuss and review the progress at NACO. A team of key M&E officials will be identified for sharing of knowledge and capacity building to increase the monitoring, quality and use of data.
- **Evaluation Systems:** The NSP 2017-2024 will have a strong in built component to measure its impact and guide the programme in evaluating in achieving the fast track and sustainable development goal of ending HIV/AIDS epidemic by 2020 and 2030 respectively. It will be done through a complementary system of IBBS, NFHS, estimations, evaluation surveys and program data. A joint participatory mid-term and end-term appraisal engaging all stakeholders will be also implemented to (i) review the achievements, (ii) to identify the opportunities and challenges and (iii) to advise and offer recommendations for planning the next steps of the programme.

5.2 Epidemic Surveillance

- **Strengthening of epidemic surveillance at State, district and sub-district level:** The epidemic surveillance will be strengthened at the State level and the state will provide support for epidemicsurveillance at district and sub-district levels to enable the front-line workers to understand the epidemic and fine tune their response for the same. It will be done through simple tools that will draw and triangulate data from both of surveillance as well as programme systems with automated epidemiological dashboard that will enable the front-line workers to identify the geographical areas and population groups that require attention.
- **Program based surveillance:** There has been tremendous increase in terms of programmatic data sources. The programme data sources are providing monthly consolidated reporting as well as also doing individual tracking of beneficiaries. This provides a unique opportunity to complement the current periodic HSS as well as bio-behavioural surveillance survey with a system of programme based surveillance. Among ANC, operational framework for PPTCT based surveillance will be developed and implemented in established high coverage States. TI-based HRG cohorts for epidemiological monitoring and modelling at state and national levels at selected TIs will be developed for ensuring representativeness at regional/ national levels (well-performing NGOs with good data documentation practices). This will be used to generate epidemic indicators of incidence, prevalence, etc. at state and national level using back calculation methods.
- **Case Based Surveillance:** With the successful roll-out of individual tracking system among different components, there is a potential to implement the case based surveillance in India. To develop this, a system of unique identifiers like that through linkage to national IDs or any other method like capturing biometrics etc. will be explored. A detailed analysis of existing system of PALS and IMS will be carried out for reviewing the India's status and taking next steps for strengthening of case/cascade based surveillance in India.
- **Strengthening of existing periodic bio-behavioural surveillance:** As the complementary new surveillance model based on programme will be developed and launched, the existing model of epidemic surveillance through periodic bio-behavioural surveillance survey will be further strengthen. HSS has been upgraded to provide complete cascade information among key population; systems will be explored to do the same among the ANC also. Among HRG, to improve the representativeness of key population for surveillance who are outside the programme area, the strategies like Respondent Driven Sampling or rapid hotspot listing and size estimation will be piloted under HSS. Addition of Hepatitis as a bio-marker will be considered towards development of integrated surveillance model. Behavioural survey integration with biological component is costly and cannot be done frequently

and hence alternative strategies will be explored. The case of Philippines and Viet Nam where HSS plus is implemented, will be explored for key populations.

- **Generation of evidences for modelling and projections of India epidemic:** All the assumptions under the spectrum model and relevance of inputs for the Indian context will be explored. To the extent possible, programme and other survey data from India will be explored to inform the assumptions with Indian data. However, wherever the data doesn't exist, special epidemiological investigations will be commissioned to generate the India specific evidences for modelling and projections of India epidemic. Newer modelling approaches or techniques like AIDS Epidemic Model (AEM), Case Surveillance and Vital Registration (CSAVR) will be piloted to strengthen the epidemic modelling. The modelling exercises will be upgraded to project the epidemic scenarios under different options for informed decision making by policy makers.
- **Population size estimates:** This NSP recognises thecritical importance of mapping and size estimates of key and other 'at risk' populations. Regular update of population size estimates is indispensable to plan how to reach different population groups and to estimate the costs involved. A white paper will be developed to improve current population size estimates methods and ensure they are updated in a timely manner to adequately inform strategic planning, costing and reporting.
- **Continued Institutional Collaboration:** Epidemic surveillance under NACP has mutually benefitted from the meaningful engagement and collaboration with developmental partners, Indian Council of Medical Research Institutes as well as other reputed government public health institutes like All India Institute of Medical Sciences (Delhi), Post Graduate Institute of Medical Education and Research (Chandigarh) etc. The collaboration will continue the enabling of pooling and maximizing the resources and expertise available in government set-up to conduct robust, high quality, collaborative, multi-centric epidemic surveillance activities that have helped in-depth analysis and evidence based decision making on policy, management and evaluation of interventions. The collaboration will be continued during NSP through MoUs to further strengthen the best use of available expertise.
- **NSP Core Monitoring Indicators:**As mentioned under strategic context, the project will have a strong in built component of core indicators to measure its impact. It will be done through a complementary system of bio-behavioural surveillance surveys, estimations, facility survey and programme data as detailed under the annexure 2. These indicators are consistent with the global monitoring framework for tracking the responses to HIV/AIDS epidemic aiming to end of AIDS as a public health threat by 2030.
- **Development of mechanism to strengthen the dialogue with programme manager on status of epidemic:** As the epidemic surveillance will be strengthen till district and sub-district level and it will be happening on real time basis, a formal system will be developed to strengthen the dialogue with programme divisions on epidemic status so that appropriate programmatic decisions may be taken. It will include publication of quarterly and annual fact sheets, technical briefs as well as organization of formal dissemination meets.

5.3 Data Analysis and Dissemination

- **National Data Analysis:** Developing guidelines and document mechanisms for institutionalizing of the flagship initiative of National Data Analysis Plan and establishing 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 on strong scientific basis.

- Building institutional resource pools in HIV/AIDS analysis in every state to support programme on knowledge management through fostering linkages with academic institutes, research organizations and expert bodies.
- Developing mechanism to dedicate one or two M and E officers under the programme monitoring division exclusively for quality audit, analysis and feedback from routine programme data. This responsibility may be rotated among the M and E officers working in the division, so that everyone has equal exposure to both administrative as well as technical work.
- Devising and putting in place, systems to identify new recruits at NACO, SACS, DAPCUs, TSU and other programme structures and providing them standardized induction training on data systems, data management, analysis and use. Standardized modules and material for such induction training should be developed.
- Developing a plan for promoting data use at national, state and district levels, in consultation with the data management teams and programme divisions at NACO and SACS, that includes activities to:
    - Develop the approach or mind-set of using data for decision-making and programme planning.
    - Inculcate among programme managers, a habit of looking at data regularly.
    - Emphasize the importance of local knowledge and contextual understanding, that only the local level programme managers can add to the analysis
- Standardizing approaches, methods, tools and mechanisms to ensure data quality and for data analysis.
- Developing mechanisms for close coordination between programme divisions and data teams to understand the requirements for evidence and guide the analysis to meet the same and establishing regular processes for identifying strategic knowledge gaps in form of questions that can be answered through further analysis of existing data.
- Undertaking capacity building of programme managers at national, state and district level on applied data management techniques/methods including:
    - identifying programme questions,
    - identifying data sources that can answer their questions,
    - simple methods and tools for quality checks, validation and analysis of data, for routine programmatic analysis, and evidence-based planning, prioritization and decision making for improving the programme
- Undertaking activities to sensitize staff at peripheral reporting units on applied data management techniques relevant at the facility level, to enable them identify quality issues in their data, and to make them understand the importance of data they generate and the need for ensuring its quality, and appreciate the use of data at higher levels
- Promoting scientific writing within the programme on important topics, involving the data management teams and programme managers, and facilitating their publication in peer-reviewed journals and conferences. This will contribute not only to the development of programme, but also to the professional growth of the professionals working in the programme.

Encouraging use of data triangulation methodologies using data from different sources to provide answers to strategic questions. Data triangulation endeavours can be done quickly and efficiently when appropriate process is followed for developing questions and finding answers. The district reports and summaries

developed through the exercise on ‘District Epidemiological Profiling using ‘Data Triangulation’ should be updated by district teams every year.

Community monitoring - Efficient ‘real time’ systems for community feedback and monitoring to be established to cover service availability, quality of services, stigma and discrimination.

6. Research and Innovations

6.1. Research & Evaluation

Research & Evaluation is a vital component of Strategic Information Management under the National AIDS Control Program (NACP). National AIDS Control Organization (NACO) focuses on ensuring translation of research outputs into programmatic action and policy formulation. NSP will ensure that research priorities are customized to the emerging needs of the programme. Emphasis would be given to undertaking HIV/AIDS research required to answer the key questions and gaps in the programme. The research mandate under NACP included preparation of national plan for HIV/AIDS research, promoting and coordinating research on HIV/AIDS through partnership and networking with stakeholders, supporting capacity building for HIV/ AIDS research and being a central repository of all relevant resources, research documents and data base on HIV/AIDS in the country.

India's NACP prides itself in the use of evidence based information to provide the direction of the programme. In the past, various research studies commissioned/initiated by NACO have led to key implications to the programme such as:

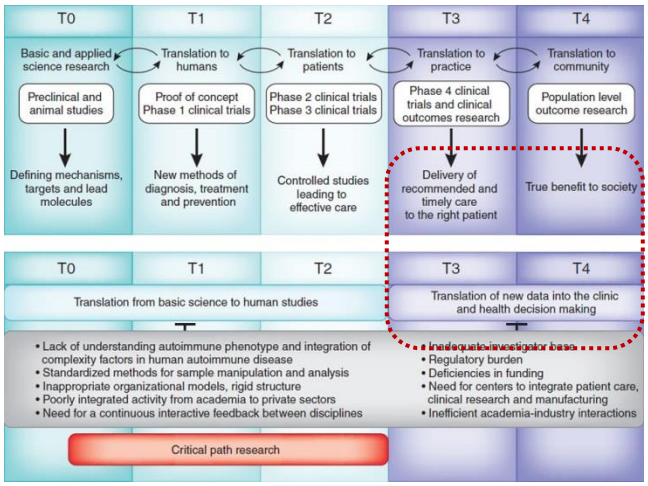


Figure 30 Translation Research and Health decision making

- Emergence of the concept of Link ART Centers;
- Reaffirming the programme strategy of TIs & the programme's response to HIV epidemic being on track;
- The need to link ART patients, have a detailed line-list and do regular follow-up of patients to ensure linkages in logical pathway to Care, Support & Treatment;
- Revision in migrant strategy by establishing linkages between male out-migration and HIV transmission among both men and women in districts with high out-migration – research has contributed to a better understanding and response to the HIV epidemic under the national programme.

This NSP would reaffirm the priority of translational research where outputs could directly feed into programmatic and policy formulation.

NACP has previously articulated the 'National HIV/AIDS Research Plan' (NHRP) with a focus on commissioning time-bound research studies in a phased manner, with multi-centric approach, evolving a strong mechanism to use the research outcomes for programmatic purposes. The key defining features of NHRP were:

1. Research focused at addressing current evidence requirements of the programme and to assist evidence based policy decisions and programming
2. Multi-centric and representative research for meaningful evidence at the national level
3. Ability to offer solutions customized to region specific context
4. High standards of scientific rigour and robustness

5. Innovative research methods to overcome research barriers
6. Institutional collaboration and cross-learning
7. Active involvement of programme leading to ownership of research outcomes and their translation into programme

This NSP will expand the NHRP and include research priorities identified by the technical working group on Research and Evaluation. The research priorities are presented in annexure 3.

With a vision to enhance knowledge and evidence based on aspects of HIV response for an accelerated progress towards achieving SDG to END AIDS by 2030, this NSP will focus on generating evidence and to provide it an enabling environment through the following key strategies:

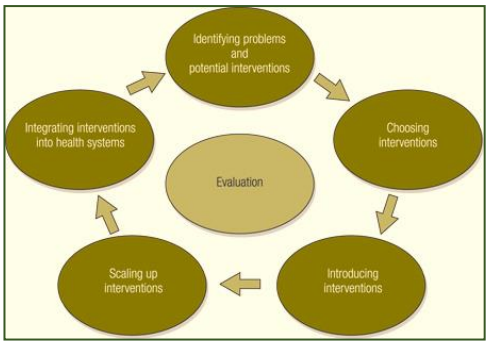


Figure 31: Evaluation as part of Decision making in Health

1. **Identification of research priorities and gaps for Evidence Generation**

Research priorities will be customized to the emerging needs of the programme. Identification and updation of priority research areas will happen once in two years through a consultative process in order to address the goals and motives of NACP.

2. **Promotion ofinnovations and innovative approaches to generate new evidence**

This NSP will have an increasing emphasis on introducing innovative approaches to put new evidence, science and knowledge into practice.Support will be provided for innovations focused on evidence generation for programme management, coverage saturation, treatment adherence and quality improvement, which will improve implementation. This NSP will also emphasize on innovations related to creation of new products and technologies and developing technologies that will enable states and district implementation managers to understand the contours of the epidemic and its movement.

- Fast track commissioning of already approved studies
- Address HR gaps at NACO and States at accelerated pace
- Dedicated funding from partners and government for operations research
- Collaborate with DST, ICMR and CSIR for improved research and information
- Inculcate a quest for analysis and thinking at state and district level

Box 7: Fast Tracking Research and Evaluation

3. **Establish an efficient system for robust and timely programme evaluation**

Procedures for concurrent, mid-term and end-term evaluation of various interventions will be built into the programme, so that timely assessments can be undertaken in a robust and easy manner. These evaluations shall focus on all components such as process evaluation, outcome and impact evaluation, cost-benefit and cost-effectiveness analysis of different intervention strategies and policy scenarios will be undertaken. Impact evaluation studies on each programme component and interventions will be conducted during this plan period.

4. **Promote Operational Research at local levels**

Greater participation of state level and district level agencies in the research activities will be promoted in the coming years. States will be engaged more actively in programme formulation, data generation,

evidence and planning processes. Operations research studies will be taken up for finding localised solutions to programmatic gaps at state and district levels

5. **Collaborative Capacity Building Initiatives**

This NSP will ensure a focus on Capacity Building for research. However, it will do so collaboratively with other research institutions to leverage economies of scale.This NSP will look to continue the NACO Research Fellowship Scheme, Brown Bag Seminar and expand the Network of Indian Institution for HIV/AIDS Research (NIIHAR) network.

6. Ensuring a robust system for quality control and monitoring

This NSP will establish comprehensive guidelines for research proposals and mechanisms for accelerated technical and ethical clearances; and monitoring of commissioned studies.

7. **Development of Dissemination plan for research outcomes through Research & Policy briefs**

This NSP will ensure that the Research and evaluation division will develop a two-yearly plan for dissemination of research studies and outcomes.

8. **Create an additional Pool of Funds for Research activities**

Ensuring investment in research will be critical to generate India specific evidence. This NSP will explore the possibility of NACO's research unit working collaboratively for research funds with other stakeholders, in addition with advocacy to generate more funds within the programme. Efforts will also be made to establish a collaborative mechanism &have synergyywith ICMR/DBT/CSIR and private research institutions for HIV/AIDS Research. Other Departments/Ministries eg. ICMR will also be engaged to undertake collaborative HIV/AIDS research on behalf of NACO.

6.2. Innovation

Innovation has led India's HIV programme in the initial years of the epidemic. Financing approaches, bringing in communities as a pillar for care and support, using F-ICTC, Link ART centres, Link workers scheme, IT enabled surveys, are all innovations, which have helped strengthen the programme. India demonstrated lot of courage and an ability to innovatewhen it started reaching out to key populations using the Targeted Intervention approach leading to the adoption ofnon-traditional distributors, among others, which helped accelerate progress toward programmatic targets.

With adequate resourcesand innovative approaches, India's response can be fast tracked to ensure that the epidemic be ended by 2030. While predictable and sustained AIDS financing and robust service delivery systems will be required, innovation through research and evaluation will be key. Without new innovative techniques, AIDS funding and services will not be able to go the extra mile that is required to reach the end of AIDS.

6.2.1. Financing

Funding for NACP-IV has been below what was estimated. Reaching out with prevention, treatment, care and support, and other services to larger populations will require morefinancial resources than those employed to date. This willrequire innovative ways to attract financial resources for supporting the implementation ofthe programme.

This NSP will advocate the need for financial investment to end the epidemic and achieve India's HIV/AIDS related targets.

The NSP will explore incentive based funding for the states to accelerate achievement of targets. The modalities of this approach will be developed in the first year of the NSP.

6.2.2. Programme:

Programme innovations are the turbo packs for achieving the AIDS related SDG goal by 2030. Innovations are needed in low cost mass coverage communication that will provide the awarenessneeded for reducing the spread of the epidemic. Similarly, innovations are required to develop handheld-device based reporting and adherence monitoring systems. Innovations are needed to locate smaller reservoirs of the virus spread out across the population. Innovation is needed to make condom use normal in every sexual act.

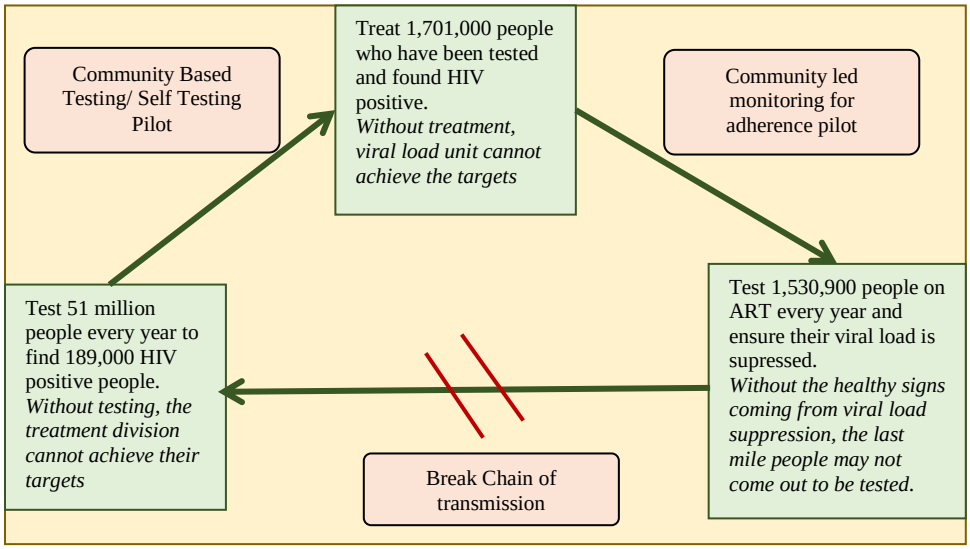


Figure 32: Suggested Targets and Innovations as a Model

6.2.3. HIV and Co-morbidity

Innovative TB prevention therapies like three months of Isoniazid and Rifapentine, four months of Rifampin and others, which offer the advantage of shorter duration of therapy, would also be included in the programme after pilot testing. Various means to assess treatment adherence of both TB treatment and TB preventive therapy would also be undertaken.

6.2.4. Information systems

Reporting systems that allow tracking of individuals using unique ID, acrossdifferent service delivery areas including testing& counselling, treatment & care are needed. Innovation is required to make this happen at low cost and in double time. Using the bench strength of India's software industry to make this happen will be an innovative approach. Another would be to use of dedicated telecommunication network for health applications.

6.2.5. Reaching newer at-risk populations and youth

In this NSP efforts will be focused on devising innovative strategies to reach out with prevention effective interventions to newer 'at-risk' populations, including young people aged 15-19 years. IEC and BCC activities will be revamped for creating awareness onthe benefits of safe sex and HIV testing and early enrolment in and adherence to treatment. Use of data from various sources, including research and evaluation,will help guide investment of limited resources inthose locations and population groups where most new infections are occurring ensuring the best outcomes and impact of the response.

6.2.6. Comprehensive Service Delivery

Stigma and discrimination is an issue in HIV/AIDS related services. To address the stigma and discrimination issues related to HIV/AIDS, it is desirable to design a comprehensive integrated care center model in few identified facilities. This model facility may cater to services related to HIV, TB, Syphilis, Hep B, Hep C or any other disease. This will address the stigma and discrimination issues related to accessing HIV services.

An expert body with members from PLHIV community, Technical experts, ICMR representatives, development partners, Civil Society representatives; may be constituted for designing the Comprehensive Service delivery center model.

Differentiated care service delivery model

Differentiated care models will be introduced to decentralizetreatment services to peripheral levels leading to decongestion of existing services and for reducing frequency of refill of ARV drugs for stable patients will provide improved quality of care.The detail of this model is at annexure 4.

Community led comprehensive care model

This community led model looks at a strategic mix of highly effective and integrated facility for HIV testing, services, referral and linkages, ART retention towards viral suppression,syndromic management of STIs, screening of TB, cervical cancer and other essential Non-Communicable Diseases. This model seeks to complement the existing services including outreach services led by community groups/NGOs to saturate coverage of KPs and other vulnerable groups.

The model has the potential to optimize the roles of ANM, ASHA workers beyond Maternal Health and linkages with public health services. The proposed package of interventions will also strengthen linkages with public, private and NGO service providers to improve health outcomes for all those who are key to the epidemic. This will involve capacity building and empowering of healthcare professionals and different community groups through innovative eLearning approaches beyond conventional training methodologies which are cost intensive in resource constraint settings.

Under this NSP, experiential learnings from the field/local levels where new innovative models have already been implemented will be tested for feasibility and scaled up if found feasible and cost effective.

7. Implementation arrangements

7.1. Introduction

NACO has implementation arrangements in place to deliver HIV prevention, detection, and treatment services. NACO as the central body set up the State AIDS Control Societies (SACS) to speed up implementation during NACP II. During NACP III, District units (DAPCU) were set up in selected districts. Prevention interventions are supported by civil society organizations, while the counseling, testing and ART services are delivered by the public health system. Care and Support for those on ART is also delivered through civil society and community organizations under NACP. During NACP II and III, the community played an active role in demand generation, treatment literacy, adherence and reducing loss to follow up.

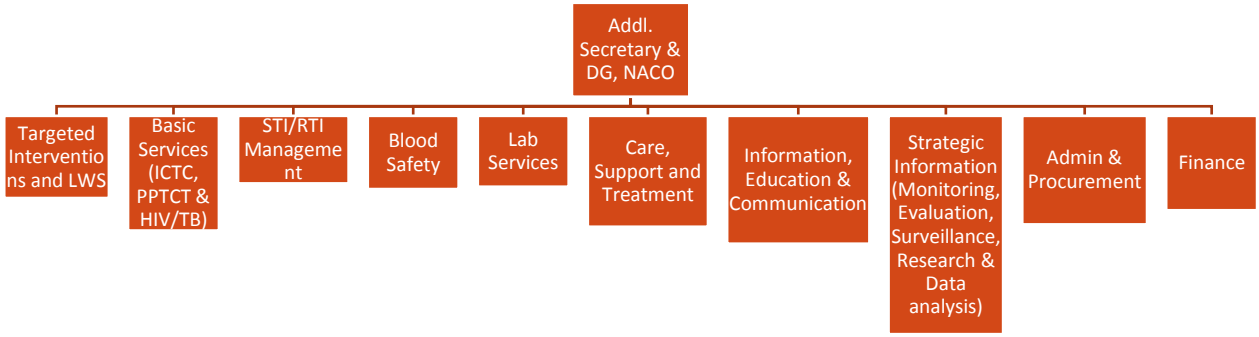
Thissection of NSP is focused on stepping up on the END AIDS pathwayby 2024, an ambitious goal. Achieving this goal would require full funding and an accelerated programming involving all stakeholders to maximize impact.

7.2. Organisational Structure

7.2.1National AIDS Control Organization (NACO)

The National AIDS Control Organisation (NACO) is presently established as a division under Ministry of Health and Family Welfare,headed by Additional Secretary, Ministry of Health and Director General, NACO, GoI (Figure 33). The technical divisions are headed by officers at the level of Deputy Director General, DGHS. Finance division is headed by Director-Finance while Admin and Procurement is headed by Joint Secretary, Ministry of Health.

Figure33: NACO organization structure



7.2.2 State AIDS Control Societies (SACS)

SACS were established at State level to support planning and implementation of the AIDS response. The state unit isheaded by a Project Director (PD), nominated by the State Government. The PD is supported by a Technical team led by Additional Project Director (APD), while finance functions are overseen by Joint Director (Finance)/Finance Controller. The technical components are coordinated by Joint/Deputy Directors.

This NSP envisages leveraging the state health systems for leadership and human resources to plan and implement AIDS response within the state. This will include exploring the possibilities of a joint leadership with NHM. Further, to be able to achieve the 90-90-90 targets, the SACS will also leverage resources from other sectors like private sector, CSR, CSOs and community organisations.

7.2.3 District AIDS Prevention Control Unit (DAPCU)

One of the hallmarks of the India's response to the HIV/AIDS epidemic has been an evidence-based program planning. Categorizing geographical areas and district level programming has been an effective outcome of this response. District AIDS Prevention and Control Unit (DAPCUs), established in 188 high priority districts in beginning of NACP III, resulted in institutionalizing local planning and management. This enabled sharper targeting of resources for the vulnerable populations within the district. The NSP envisages refining and expanding this institutional mechanism of DAPCU, to strengthen implementation and governance across all districts of the country.

It is envisaged that the DAPCUs structure be innovatively designed to leverage NHM and other existing health resources in the district. At the sub-district level, this NSP proposes nominating an officer from the general health system as HIV/AIDS nodal officer for monitoring purposes. It is proposed that DAPCU structure will be further expanded to all districts for improved local level planning and implementation of National HIV/AIDS response. The detail of this expansion is at annexure 5.

7.3. Human Resources

The scale of the HIV and STI prevention, treatment and care program requires diverse cadres of human resources. Approximately 60,000 front line workers, including outreach workers and peer educators, are leading the National AIDS response at the grass-root level. However, to be able to respond to NSP's targets, there will be a need for further expansion ofhuman resources.

This NSP proposes improving and streamlining of existing workforce organization through establishment of a dedicated HR management unit. The unit will be responsible for recruitment, retention and capacity building. Capacity building will be delivered through a blended approach of extensive e-

learning,mentoring using phone/web technology and on-site skill building at premier training organizations. NSP will outsource development of the training material and e-learning systems.To facilitate a seamless delivery of capacity building activity, this NSP will use NACOs dedicated IT cell at the National & State level.

Staff turnover is one of the key challenges for NACP. This NSP will explore wage equivalency as far as possible with NHM to increase retention and enable two-way mobility of staff including doctors, nurses and technicians.

NSP proposes expanding the front-line workers by encouraging involvement of community-based staff of the National Health Mission (ASHAs and AWWs) for the prevention, detection as well as treatment services. Incentives for ASHAs will be provided for this purpose.

7.4. National technical Support Unit (NTSU) and Technical Support Unit (TSU)

The NTSU and TSU were set up during NACP III to provide technical support to NACO and SACS to complement the management of theprogramme with specific focus on HIV prevention. This NSP willexpand the terms of reference of NTSU and TSU to cover all technical areas of the programme.

7.5. Government Institutions

Reaching the pathways to 'END AIDS' will require the engagement of all available institutions especially government health institutions. Government and public sector institutions including Railways and Mining have their own health facilities. However, a large proportion of them are not part of the national MISunder NACP. This NSP will support and collaborate with all public-sector health services to ensure a complete care continuum under national AIDS response.

7.6. Integration with NHM

The National AIDS Control Program (NACP) has been implemented by Government of India as a fully centrally sponsored scheme through State AIDS Control Societies for prevention and control of HIV/AIDS. The focus has been on key populations which has shown results and a decline in prevalence in key populations in high prevalence states.However, there are emerging pockets which are hard to reach.

Additionally, there are unreached 'at-risk' populations, many of whom are spread across traditionally low prevalent states. Integration with the National Health Mission (NHM) will provide synergies of scale, increased reach and continuum of care within the health systems. This NSP will advance integration with NHM in a phased approach through a time-bound systematic plan divided into two phases - medium and long term.NSP envisages transition of medical services beginning in the medium term and prevention services in the long term.

Medium Term

Blood safety is an example of medical services, which can be integrated, in the medium term. Blood safety has been one of the foremost prevention strategies against HIV, launched in India in late eighties. Due to the high levels of HIV transmission through contaminated blood and blood products in the early stages of epidemic, responsibility of ensuring access to safe blood fell under the gambit of National AIDS Control Programme. NACO has been the coordinating agency to ensure provision of safe blood in the

country. To ensure better coordination, efficiency and maintaining quality standards, NSP envisions the phased transitioning of blood transfusion services as a first step towards the integration into the general health systems.

To achieve the target of elimination of EMTCT by 2020, further expansion of services integrated under NHM is envisaged through sharing of human resources- task sharing/task shifting, universal counseling and screening of pregnant women for HIV/Syphilis/, single window testing for routine pregnancy tests/ HIV/Syphilis among pregnant women, single window testing for STI/HIV among general population, leveraging finances, training, drugs, supply chain, kits, consumables, and joint monitoring and evaluation. This is another example of medium term integration.

Long Term

In the longer term, prevention activities will need to be integrated within the national health services. The time will allow innovative approaches being developed to provide effective services using existing human resources of NHM. It will also provide NHM an opportunity to explore using key population members to provide wider health services in the national health services. This NSP envisages the development of pilots and scaling up of successful pilots within NHM for integration of preventive services. A more detailed plan, feasibility of program areas, specific pilots, scale up plans, timelines and budgets will be developed to support smooth integration in a phased manner by 2024.

Coordination for integration

Institutional mechanisms for coordination between NACO and NHM may be established at the National, State and District level to ensure complementarity, joint working and integration of services in a phased manner. Coordination meetings at the National and State level may be held on a quarterly basis between NHM and NACO/SACS to plan, implement and jointly monitor programmes on the ground.

7.7. Community System Strengthening (CSS)

The role of communities in the HIV response in India has been strengthened over the years. Community's involvement in programme planning, delivery of services and monitoring outcomes is not new. Communities have a unique advantage of being close to their peers, understanding the issues and field reality as well the ability to communicate and articulate their needs. This ability is critical for the HIV response and needs to be sustained.

Community systems strengthening (CSS) is about defining a definite role for key affected populations and communities, community organizations and networks in design, service delivery monitoring and evaluation and contributing to achieving overall programme results. However, this is not possible without strengthening the capacity of communities to play an effective role and make resources available for them to contribute to the response.

NACO has been able to, with support of stakeholders, put in place a strong prevention and care support treatment programme with active engagement of civil society and communities. The HIV programme can share the model with other programmes including NHM and bring synergies between programmes.

The role foreseen for communities in strengthening the response includes:

- Supporting an enabling environment including moving towards zero stigma and discrimination
- Demand generation for prevention and increasing testing

- Care and support for those on ART including social protection, treatment literacy, adherence
- Community monitoring and ensuring effective and quality programme delivery including of civil society and community organization

To achieve the 95-95-95 the role of community becomes even more critical to generate demand for testing including community based testing. Expanded testing will require both demand generation and support for those who are negative and positive. With Test and Treat rolled out there will be an increased need for better adherence, treatment literacy, and supportive care.

The community may be included in the cadre of the health delivery system and adequate training provided for them to be able to play the specific role of increasing demand, improving adherence and expanding extensively treatment literacy and establishing linkages with social protection schemes will be placed both at NACO and at all SACS. All new recruitment at States and District level to give preference to communities representing people living with HIV and key populations. With an intensive expansion, the community workers as a workforce they will focus on comprehensive health and include TB and Hepatitis in their outreach.

7.8. Private sector

Private sector is a major player in health care delivery in India. According to National Health Systems Research Centre (NHSRC) and National Sample Survey Organization, about 61% of health care is being rolled out by the private sector for general and specialized health services. Active engagement with the private sector needs to be pursued. This NSP identifies this as a major priority and overarching strategy for path to 'End AIDS'. A multi- pronged approach using legislation, advocacy and active engagement with major players and professional bodies will result in active engagement and routine reporting. Some of the implementation arrangements planned:

- Incentives and benefits for engagement – either through tax savings or material benefits
- Use of policy to ensure private sector reporting of HIV, STI and co-morbidities and use of technology to make this easier
- Use of corporate sector funds to co-finance this initiative
- Use last mile reach of corporates to provide information, replenish drug stocks, transport samples
- Leveraging support from other health programmes in getting access to private sector such as TB, Maternal and Child health etc.

8. Financing the National Strategic Plan

8.1. Introduction

India has embarked on an ambitious target of ending AIDS by 2030. There is considerable political will as well as policy impetus to achieve this, as is evidenced by recent developments;

a) passing of the HIV Act in both houses of parliament and

b) the 'test and treat' policy which permits all individuals with HIV to be put on free and lifelong ART.

To achieve these ambitious goals, the national programme has developed a strategic document that lays out the goals and targets to be achieved over the next seven years (April 2017 to March 2024). These are clearly detailed out in the previous chapters. This chapter cost the strategic plan, as described in previous chapters, to estimate the budgetary requirements to achieve the goals and targets under NSP.

8.2. Method

The NSP cost estimates are based on the following set of activities and assumptions.

1. A series of consultative meetings with a broad range of stakeholders to arrive at a consensus on the target to be achieved in the next seven years considering the current burden of the disease, the Country commitment towards End AIDS, the Sustainable Development Goals and the implementation capacity of the programme.

2. A list of activities year wise was defined for each Thematic areas and each activity was budgeted considering the current costs and assuming an inflation of 5% for each subsequent year.

3. Each Thematic group also defined additional human and material resources required to sustain the activities articulated above.

4. The estimated cost of human resources is considered taking into account parity with National Health Mission (NHM) and assuming an increment of 5% each year

5. The additional human resources have been rationalised to bare minimum and wherever possible the NSP has leveraged on already existing human resources in the general health system.

6. The major equipment has been budgeted at current costs assuming a life of 7 years. Replacements of Equipment which are more than 7 years old have also been considered in this NSP. Further, an annual maintenance of 10 % for each year have also been considered.

7. Consumables have been budgeted based upon successive targets each year and trends observed in prices in the last 5 years.

8. Budgeting for innovations is based on considered judgements of experts

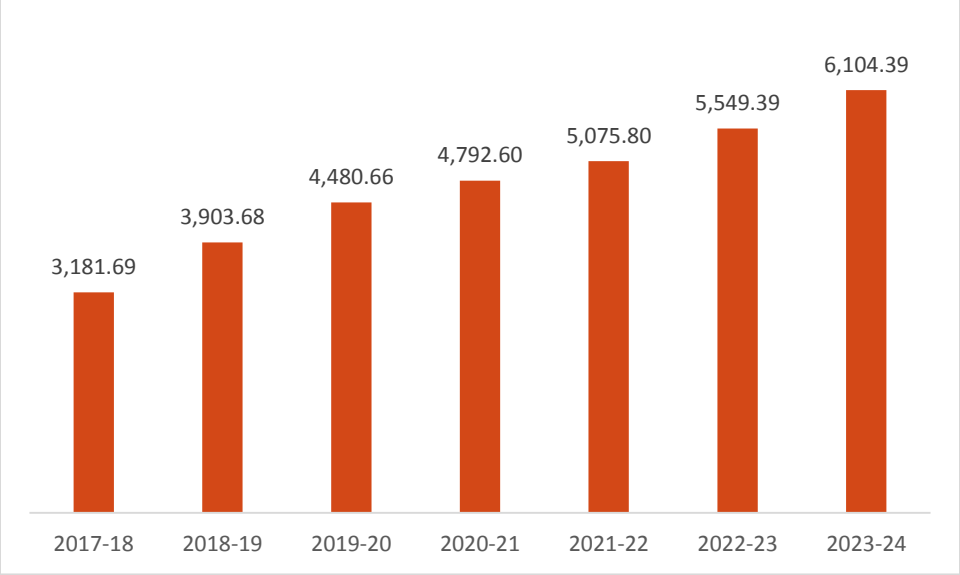
8.3. Cost

The total budget envelope for implementing the NSP for seven years to meet envisioned goals and targets is estimated at ₹ 33,088.19/-- Crores (Table 10). NSP cost estimate is lowest in year one (₹ 3,181.69 crores) when the existing activities are maintained while new activities are either in conceptualization stage or in early phases of the roll out. The budget in year 2 and 3 increased by 23% and 15% respectively from previous year when the new activities are envisaged to be full fledged in operations. The budget in subsequent years increased by 5-10% than the preceding years which is largely attributed to inflation factor, but is also contributed by scale-up and/or consolidations of existing as well as newer activities (Figure 34).

Table 10: NSP Year wise and division wise summary budget estimates (In ₹ Crores), 2017-24

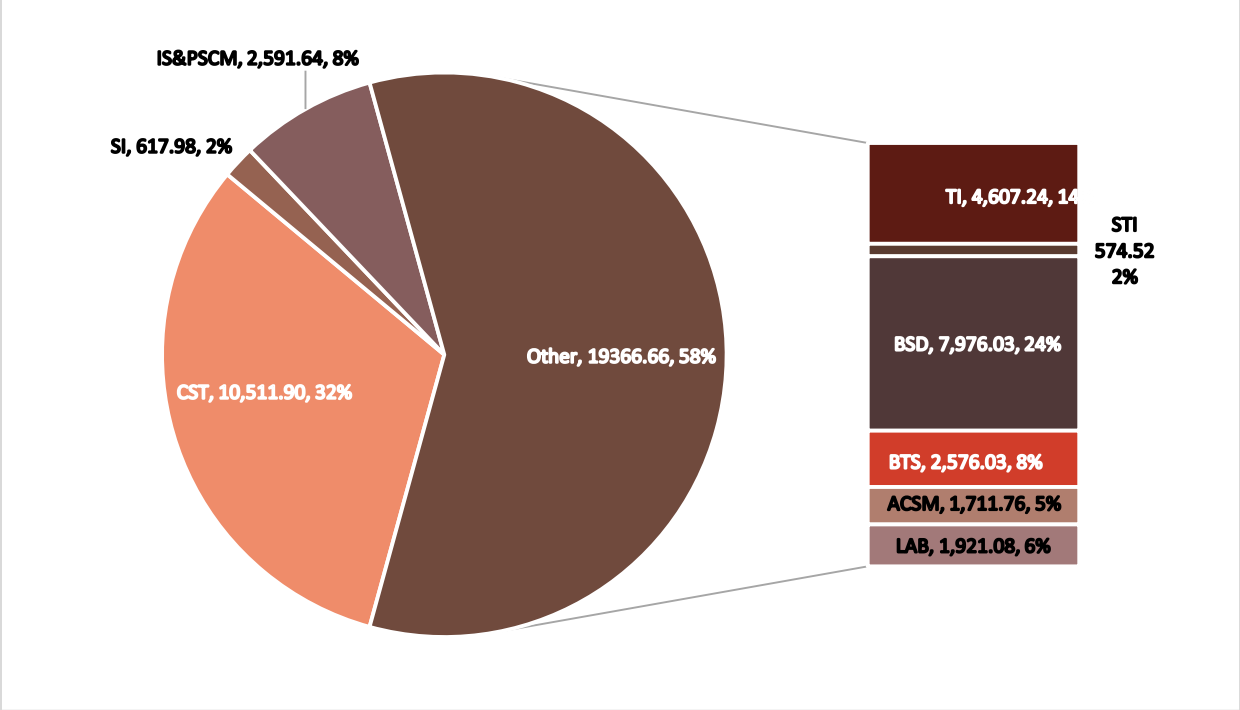
DIVISION	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total	In %
TI	523.25	580.69	638.93	665.04	697.84	732.52	768.96	4,607.24	14%
STI	70.04	83.80	82.28	85.38	83.68	82.61	86.74	574.52	2%
BSD	629.97	883.32	991.05	1,133.06	1,255.74	1,412.50	1,670.39	7,976.03	24%
BTS	236.33	286.68	425.50	405.74	349.73	425.99	446.07	2,576.03	8%
IEC	226.18	204.34	243.56	229.22	265.68	252.72	290.06	1,711.76	5%
LAB	212.19	180.46	244.28	282.74	314.64	333.71	353.06	1,921.08	6%
CST	904.82	1,261.43	1,412.09	1,523.48	1,649.29	1,798.21	1,962.58	10,511.90	32%
MES	28.01	45.12	65.86	62.77	30.58	63.85	54.40	350.60	1%
Research	37.94	44.11	24.54	37.31	39.17	41.13	43.19	267.38	1%
PSM	17.99	24.64	26.13	27.57	29.65	30.98	32.40	189.36	1%
IS	294.98	309.10	326.45	340.28	359.78	375.16	396.53	2,402.28	7%
Grand Total	**3,181.69**	**3,903.68**	**4,480.66**	**4,792.60**	**5,075.80**	**5,549.39**	**6,104.39**	**33,088.19**	**100%**

Figure 34: NSP (Year wise) summary budget estimates (In ₹ Crores), 2017-24



Overall, 58% of budget need is for prevention functions while one third (32%) of the same is to meet the care, support and treatment functions. The prevention budget comprises 14% for TI, 2% for STI, 25% for BSD, 8% for BTS, 5% for ACSM and 6% for laboratories. Around 8% of the total budget estimates is towards the management functions (inclusive of PSCM) while remaining 2% of the total estimates is for strategic information management (Fig 35). Functions wise detailed budget has been presented at annexure 6.

Figure 35: Function wise budget distribution under NSP, 2017-24



8.4. Funding Arrangements

It is expected that the above funding would be available from domestic budgetary sources and support from development partners like World Bank, PEPFAR, Global Fund and others. The program will also leverage the resources from CSR funds, other ministries and other development partners.

The program is also cognisant of the fact that it is difficult to predict activities, resources and targets over a long-time period of seven years. An initial review of programmatic and financial targets and resources will be carried out in the second half of the year 2019, and mid-course corrections in terms of activities and budget estimates will be carried out for the remaining period 2020-24.

Annexure

Annexure 1.Addressing HIV prevention among 'At risk' population with timelines

Activity	Deliverable	Timelines	Comments/Remarks
2. Do in-depth analysis of ICTC data with special focus on the socio-demographic and self-reported risk behaviour information that counsellors collect	Testing data analysis to produce preliminary results and data quality assessments to ascertain to which degree 'belonging to a KP' is under- or misreported	July 2017 – June 2018	This needs to be done at ICTCs in key states/districts
3. Conduct rapid follow up assessments on linking the HIV Positives with their occupation and/or socio-economic status	Defined 'At risk group' of population who could be covered with HIV prevention interventions	July – December 2018	This can be done from the PLHIV profile of PALS data
4. Design and demonstrate appropriate HIV prevention intervention based on the in-depth analysis and rapid assessments	Operational guidelines for 'At risk group' pilot for HIV Prevention interventions are available	July – December 2018	
5. Evaluate the demonstration interventions and assess their outcomes	Pilot studies are evaluated and scale up plan based on the assessment is available	Jan – Dec 2019 – Pilot Jan – Mar 2020 – Evaluation of Pilot	

Annexure 2. NSP Core Indicator framework for measuring progress towards programme outcome and impacts

S No	Indicator	Measurement Method and periodicity	Numerator/Denominator	Disaggregation	Relevance
Impact Indicators					
1	Number and % of people with HIV	Globally consistent estimation method using survey, surveillance and national demographic and program data; biennial measurement	N: Estimated number of people living with HIV. D: Population.	Sex, age (<15, 15+, 15-24, 15-49), key population, States	Key to understanding the epidemic level and trend; basis for determining size of epidemic as well as HIV treatment needs; denominator for treatment cascade
2	Number of people newly infected with HIV in the reporting period per 1,000 uninfected population	Globally consistent estimation method using survey, surveillance and national demographic and program data; biennial measurement	N: Estimated number of people newly infected with HIV D: Uninfected Population.	Sex, age (<15, 15+, 15-24, 15-49), key population, States	Key to understand the direction of epidemic; basis for determining impact of prevention component of HIV interventions
3	AIDS-relateddeaths per 100,000population	Globally consistent estimation method using survey, surveillance and national demographic and program data; biennial measurement	N: Estimated number of people who have died ofAIDS-related illness in the reporting period, D: Total Population.	Sex, age (<15, 15+, 15-24, 15-49), key population, States	Key to understand the direction of epidemic; basis for determining impact of treatment and care component of HIV interventions
Prevention Indicators					
4	% of FSW reporting using a condom t with their most recent client	Collected through behavioural surveillance or other surveys, to be done during 2019-20	N: Number of sex workers who reported using a condom during last sex act with a client. D: Number of sex workers who reported having commercial sex in last twelve months	Age (< 25 and 25+ yrs.), states	Measures the outcome of prevention interventions in key populationstowards control of prevention risks as well as prevention of new infections.

5	% of MSM reporting using a condom the last time they had anal sex with a male partner	As above	N: Number of MSM who reported using a condom the last time they had anal sex D: Number of MSM who reported having had anal sex with a male partner in the past six months	Age (< 25 and 25+ yrs.), states	
6	% IDU who do not share injecting equipment during the last injecting act		N: Number of IDU who reported non-sharing of injecting equipment during the last injecting act D: Number of IDU		
Treatment cascade indicators					
7	Percentage of people living with HIV who know their status' (annual)	Based on facility data with denominator from estimation methods; to be triangulated periodically with surveillance /survey data; annual measurement	**Facility based** N: Cumulative number of PLHIV registered at ART centres (minus deaths –reported and assumed); D: Estimated number of people living with HIV (Indicator 1)	Sex, age (<15, 15+), Key population, States	First indicator to measure the progress on treatment cascade as it will provide the proportion of people living with HIV who know their HIV status
8	Number and % of people living with HIV who are currently receiving ART	Based on facility data with denominator from estimation; to be triangulated periodically with surveillance /survey data; annual measurement	N: Number of people who are currently receivingART at end of reporting period D: Estimated number of people living with HIV (Indicator 1)	Sex, age (<15, 15+), Key population, States	Measures the extents to which needs for ART are met.
9	% of adults and children living with HIV known to beon ART 12 months after starting (annual)	Based on facility data (IMS cohort data)	N: Number of adults and children alive and on ART at 12 months after initiating ART D: Number of all adults and childrenPLHIV initiating ART up to 12 months before the beginning of the reporting year.	Sex, age (<15, 15+), Key population, States	Key to understanding progress in increasing survival among adults and children living with HIV by maintaining them on ART. Measure the quality of treatment program in terms of retention and subsequent progress on viral suppression

10	Number and Percentage of people living with HIV who have suppressed viral loads among those who have been tested	Based on facility data; to be triangulated periodically with HIV surveillance /survey data; annual measurement. Thedenominator is from estimation model (Spectrum model).	N: Number of people living with HIV in the reporting period with suppressed viral load (≤1000 copies/mL) D: Estimated number of people living with HIV	Sex, age (<15, 15+), Key population, States	Measures the success of ART treatment and reduced potential for Transmission.
Elimination of Parent to Child Transmission					
11	% of pregnant women with known HIV status	Based on facility data; to be triangulated periodically with National family health survey/surveillance data; annual measurement	**Facility based** N: Number of pregnant women attending ANC clinic who were tested for HIV during pregnancy or already knew they were HIV positive in the reporting period. D: Pregnant women registered under NHM	States	Measures coverage of first step in elimination of parents to child transmission. High coverage enables early initiation of treatment for HIV-infected mothers.
12	Percentage of HIV-positive pregnant women who received ARV drugs to reduce risk of MTCT (annual)	Based on facility data; to be triangulated periodically with HIV surveillance /survey data; annual measurement	N: Number of pregnant women living with HIV who delivered and received antiretroviral medicines during the past 12 months to reduce the risk of themother-to-child transmission of HIV during pregnancy and delivery. D: Estimated number of women living with HIV who delivered in past 12 months	States	Measures the success of PPTCT program and reduced potential for vertical Transmission.
13	Mother-to-child transmission rate of HIV among breastfeeding populations	Globally consistent estimation methods; to be triangulated with Program cohort data collected at selected facilities; biennial measurement	N: Number of HIV exposed infants born within the past 12 months who were infected during the MTCT risk period. D: Number of HIV positive women who deliveredwithin the past 12 months.	None	Measures the elimination of mother to child transmission.
14	% of pregnant women with known their Syphilis status	Based on facility data; to be triangulated periodically with National family health	**Facility based** N: Number of pregnant women attending ANC clinic who were tested	States	Measures coverage of first step in elimination of parents to child

		survey/surveillance data; annual measurement	for syphilis during current pregnancy D: Pregnant women registered under NHM		transmission. High coverage enables early initiation of treatment for Syphilis-infected mothers.
15	Percentage of Syphilis positive pregnant women who received drugs to reduce risk of MTCT	Based on facility data; to be triangulated periodically with HIV surveillance /survey data; annual measurement	N: Number of Syphilis positive pregnant women who were treated with one with at least one dose of intramuscular benzathine penicillin or other effective regimento reduce the risk of themother-to-child transmission of Syphilis during reporting period. D: Estimated number of Syphilis positive pregnant womenin past 12 months		Measures the success of program and reduced potential for vertical Transmission of syphilis
16	Congenital syphilis case rate	Given the difficulties in diagnosing congenital syphilis, a national case definition and measurement method will be agreed on and then look at trends over time.			
S No	**Indicator**	**Measurement Method and periodicity**	**Numerator/Denominator**	**Disaggregation**	**Relevance**
Elimination of HIV related stigma and discrimination					
17	Percentage of women and men aged 15-49 who report discriminatory attitudes towards people living with HIV/AIDS	National Family Health Survey	N: Number of people ages 15–49 who respond "No" or "It depends" to either of two survey questions ("Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?" and "Do you think children living with HIV should be able to attend school with children who are HIV-negative?") on stigma against people with HIV. D: Number of all women and men ages 15–49 years who have heard of HIV.	Age, Sex, States	Measures the background level of stigma held by the general population against people living with HIV.
18	% of people from key populations who	Sample survey	N: Number of people from key population who experienced	Age, Sex, States	Measures discrimination in health

	have experienced discrimination by health workers		discriminatory actions towards them by health workers within the past 12 months. D: Number of people from key population who sought clinical services within the past 12 months.		care against key population, which may inhibit future use of health sector services and discourage people's participation in program activities

Annexure 3. List of Priority areas for Evidence generation under NSP 2017-24

1. Understanding HIV discordant/ concordant relationship in familial, societal & program context in India - a multi-site qualitative study to inform intervention development
2. Early infant diagnosis (EID) of HIV infection in India: Assessment of EID program – coverage, penetration, implementation process, quality of services including linkages with care support and treatment, loss to follow up (LFU) and clinical outcomes
3. Assessing effectiveness of LACs in executing Care, Support and Treatment Services
4. Survival analysis of PLHA with Adult and paediatric HIV Progression Model
5. Prevalence of select sexually transmitted infections/reproductive tract infections among subpopulations at high risk of HIV in India: FSW, MSM, IDU and Migrants
6. Assessing the burden of HIV infection and the access to HIV services among transgendered persons in India
7. Assessments of implementation of Airborne Infection Control (AIC) Measures in HIV care settings in India
8. Assessment of transmission rates of HIV from mother to child during antenatal, intrapartum and postpartum period with Option B Plus prophylaxis under PPTCT programme and evaluation of survival and growth of affected children: A Multi-centric study
9. Implementing linked services between HIV (ICTC/ART/PPTCT)/ STI and Family Planning at District level in Maharashtra to improve use of dual protection among HIV positive people
10. An assessment of feasibility of operationalization of 'Early or Immediate ART' to HIV infected partner as a combination intervention among HIV sero-discordant couples in India
11. Validation of National syndromic protocol with or without minimal laboratory support among attendees of STI/RTI healthcare facilities in Delhi
12. Dose related pharmacokinetics of rifabutin during concomitant ritonavir administration in HIV–infected TB patients
13. Multi Centre Cluster Randomised Trial Comparing Rapid Plasma Reagin and Point of Care Test for Syphilis Case Detection and Treatment among Pregnant Women attending Ante-Natal Clinics in selected Districts of Tamil Nadu, India
14. Assessment of ARTCs: coverage, penetration, implementation process, quality of services
15. Assessing effectiveness of Care Support Centres
16. Drug Resistance Survey
17. Qualitative test: VL, Gene expert machine
18. Self Testing – feasibility and implementation models
19. Feasibility of PCR testing at birth
20. Feasibility of ART initiation at ANC clinic
21. To prioritising key sub-populations by their size, presence in epidemiologically critical states, program coverage, accessibility to enhance cost-effectiveness
22. To develop a comprehensive holistic intervention package to reduce vulnerability to HIV infection and maintain virologic suppressed status among Transgenders
23. To identify approaches to sustaining focussed HIV prevention programs through social empowerment, self-efficacy and expanding scope of empowerment
24. To identify strategies to enhance program coverage for currently 'invisible' key sub-populations using traditional and technology based interventions

25. To document IDU intervention strategies that have worked or not worked. Develop a prevention package and that to sustain linkage in treatment cascade among injecting drug users
26. To identify effective strategies to reaching the female partners of bisexual males
27. To develop stochastic modelling based on prevention & treatment interventions along with cost-effectiveness for HIV program
28. To develop cohorts to ascertain achievements of zero new HIV infections in known epicentres of HIV and by drivers of the epidemic
29. To identify approaches and feasibility of rolling out viral load testing in different program settings i.e. HIV-Hep C setting; HIV-TB setting and low patient load settings
30. To develop a field model based on effective strategies to strengthen HIV prevention, PPTCT and SRH intervention in at source in a district where migration is a driver of epidemic
31. To develop a model to identify districts requiring introduction of PrEP
32. To identify effective strategies to reduce mortality in HIV-TB co-infection
33. To identify cost-effective approaches to enhance access to HIV testing including community based testing and self-testing
34. To identify enablers for retention of asymptomatic HIV infected individuals in treatment cascade
35. To assess the burden of chronic morbidities among individuals receiving ART for over 10 years and those over 60 years of age to assess their treatment needs
36. Understanding declining coverage of key & bridge population through targeted interventions
37. Strategies to reaching out to informal labour through employer led model and scale up of OST
38. Identification of sub-groups in general population from where rest of the 90% of infections are occurring
39. Understanding contribution of distal networks to the epidemic in places where rising trends and higher levels of HIV prevalence are seen among general population while the HIV prevalence among high risk groups, especially FSW, is very low. Are there any other local general population networks and behavioural patterns that are responsible for such epidemic patterns?
40. Epidemiology of new infections & characterization of at-risk groups
41. Understanding dynamics of epidemic with higher levels in GP than KP
42. Understanding sustained high prevalence among ANC, FSW & MSM in certain pockets despite long-standing interventions
43. Approaches and strategies to capturing mobile populations and their vulnerabilities. Strategies to address the issue of sustained high prevalence among FSW in high prevalence states?
44. What strategies should be put in place to improve the yield of detection of HIV positives and bring them into the fold of care & treatment? How to ensure that they are adopting prevention tools and preventing further transmission?
45. Emerging drug resistant in patients on first line ART
46. Emerging viral STIs among GP & high risk populations
47. Emerging vulnerabilities among high risk populations and use of new technologies
48. Cascade studies: PPTCT-EID cascade, CLHIV cascade
49. Identifying hard-to-reach populations & their network dynamics
50. Effectiveness of existing LFU prevention & tracking system

51. Cost effectiveness studies on new prevention models
52. Cohort studies to assess long-term consequences of treatment
53. Incidence studies
54. Feasibility studies on HIV viral load testing in CBNAAT machines under RNTCP
55. Feasibility studies on Rifapentine-Isoniazid based TB preventive therapy

The list is only indicative and not exhaustive

Annexure 4. Differentiated Care Model

Enhancing Quality of Care through Differentiated Care

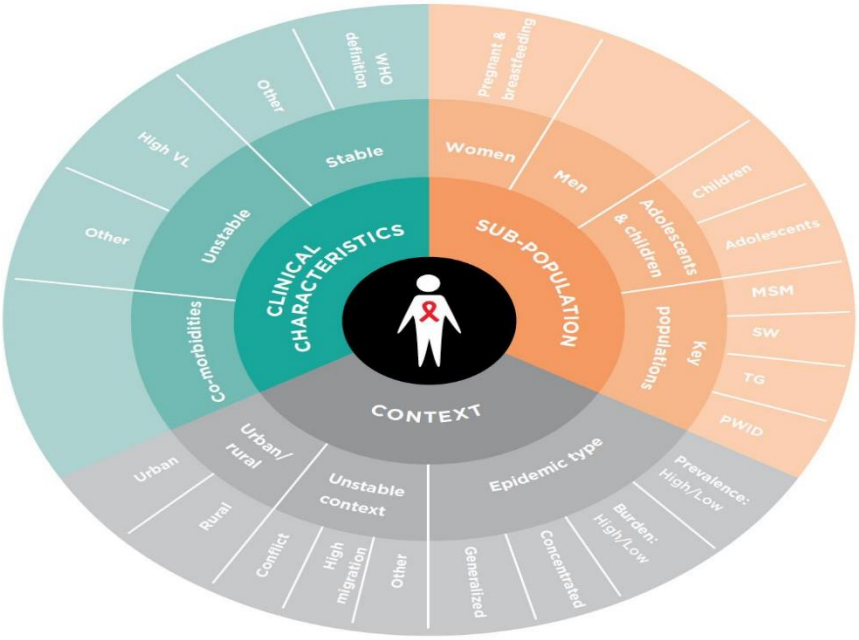
The ART services under the National AIDS Control Program has expanded from 8 centres in 2004 to 531 centres in 2017. Currently, the national HIV program provides free first line, second line and third line ARVs to more than ten lakh patients though these ART Centres.

India is a signatory to UNAIDS's 90-90-90 by 2020 targets which means that India would have 17 lakh patients on ART by 2020. Hence, India only has 61% of its 2020 target PLHIV on ART today and needs to prepare for additional 40% PLHIV which would come under its care in next 3 years. However, the second 90 coverage is not uniform across the country and it varies significantly with some States reaching to only up to 20%.

India has taken a significant step by adopting WHO 2016 guidelines and announcing ART for all irrespective of CD4 / Clinical Stage / age / population. This is expected to increase the ART coverage significantly but at the same time there are concerns of overcrowding which may hamper quality of care.

It has also been realized that "one size cannot fit all" and approach of differentiated care is required for

- Client centric approach to simplify and adapt HIV services
- To meet preferences and expectations of different groups of communities
- To reduce avoidable burden on health system



National AIDS Control Organization plans to expand its ART infrastructure while enhancing quality of care through differentiated care interventions. NACO plans to have a 2-pronged approach of decentralization and decongestion to revamp its ART services to be ready to handle the increase burden while maintaining and even improving quality of care.

Decentralization

Decentralization of ART initiation

Decentralization is required to increase access and retention to care. It is important that client receive quality treatment and care as near as possible to his/her residence. Programme has recently analysed data of address's in line list of 2.1 million ever registered clients since Apr-2014 till Sep-2015.

The starting cohort was 21,06,175. From these records, 31,268 records were removed as they were blank or had incorrect format filled in the address field (date, house number only etc.). 'String Matching' was conducted for address field of the remaining 20,74,907 records to map them to the districts of the country. The matching exercise was performed at sub-district level to ensure higher accuracy of results. Only the patients which were under care i.e. having status On-ART Alive, On-ART MIS, On-ART LFU, Pre-ART Alive, Pre-ART MIS and Pre-ART LFU were retained. 11,87,910 PLHIV having the above statuses were successfully mapped to districts so far and exercise is on-going.

With interim results 236 districts are identified where substantial number of PLHIV resides however does not have facility for ART initialization. It planned to have newer models of service delivery in these districts by establishing facility integrated ART Centres. Most of the districts are in challenging States, list is provided below. It is proposed that we may provide support to the district level institute with Medical Officer, Staff Nurse and one Peer counsellor with leveraging existing institutional human resource of specialists / counsellor / lab technicians.

State/UT	Number of districts identified	State/UT	Number of districts identified
Assam	19	Meghalaya	3
Bihar	23	Mizoram	3
Chhattisgarh	12	Nagaland	2
Delhi	2	Odisha	16
Gujarat	2	Punjab	9
Haryana	20	Rajasthan	10
Himachal Pradesh	4	Sikkim	1
J & K	7	Tripura	1
Jharkhand	14	Uttar Pradesh	38
Kerala	4	Uttarakhand	8
Madhya Pradesh	32	West Bengal	5
Maharashtra	1	Total	236

Decentralization of ART maintenance

Since 2008, concept of link ART centres has been introduced to decentralized services where without any additional human resources ART maintenance for stable clients was provided. Currently 1106 link ART centres are functional. Additionally, 131 districts in India are identified which still do not

have any service even for ART maintenance. NACO plans to operationalize Link ART Centres in all these districts to ensure accessibility to free HIV care in all geographies.

Decongestion

NACO's operational guidelines allow for a maximum of 2000 patients under care in an ART Centre to ensure high quality of care. But there many centres which exceed that patient load with a few centres even having more than 10,000 PLHIV under active care. If the program grows to meet its second 90 target of 17 Lakh PLHIV on ART with the same number of ART centres, then average patient load at an ART Centre would exceed significantly. This would have a detrimental effect on the quality of care provided by counsellors and medical officers due to extreme paucity of time.

Hence, it is essential for NACO to adopt differentiated care interventions to ensure an optimal daily OPD/patient load at the ART Centres. NACO is planning the following interventions:

Multi-month Dispensations (MMD)

In the MMD model, stable patients would receive refills of antiretroviral (ARV) medications for two months instead of one month at a time, so stable patients have six clinic visits per year instead of 12, to reduce burden on facilities and patients.

A patient would be considered stable if he/she:

- Has been on-ART for more than 1 year
- Has good adherence
- Is not suffering from any OI
- Is not suffering from any ARV related side effect
- Is currently on a first line regimen

Successful implementation of 2 month MMD would reduce the average daily OPD by 30 to 40%.

NACO is planning to implement MMD. The following aspects of implementing the MMD model would be designed and refined prior to roll out:

- Definition of a stable patient
- Process flow for a stable patient in an ART Centre
- Virtual Training of counsellor, medical officer and pharmacist
- Ensuring Optimal buffer stock for the supply chain
- Need for additional storage within SACS warehouses and ART centres

Community led ART Refill Groups (CAGRs)

NACO is also exploring to leverage the 350 CSC strong infrastructure of the Vihaan program which has deep roots within the local PLHIV communities. The nature of utilization of the CSC would depend on the geography. NACO is considering:

<u>Community Led dispensations in high prevalence districts with highly overloaded ART Centres</u>

The CSCs associated with high load centres can also dispense medicines to stable on ART patients. These clients can get one / two month from CSC where there will not be long ques. Even the timings can be adjustable/ flexible like evening / Sunday dispensation which will suitable for working class and students. A staff nurse or pharmacist or a trained peer can be utilized for this.

Community ART Refill Groups (CAGRs) in difficult terrain geographies and improving service uptake at LAC

CARGs are self-forming groups of ***stable*** PLHIV from the same geographical area. All members must be willing to disclose their status to each other. In the conventional model, one member is nominated by the group and he/she collects the ARVs for the whole group.

But NACO plans to customize this model by hiring a peer counsellor at Link ART centre or Block level who would be responsible for community level dispensation to these CAGRs and ensuring adherence of all members of the group.

NACO proposes to place 1500 such peers across the country with focus on difficult to reach areas to enhance retention.

CARGs were adapted from a pilot in Mozambique and based on consultations with Ministry of Health, healthcare workers and PLHIV. In the Mozambique pilot, over 4 years more than 5500 PLHIV joined CARGs with retention rates of 98% and 96% in 12 and 24 months respectively. Similar models have been implemented in Malawi, Swaziland and South Africa.

335 centres have been identified who currently requires decongestion, with implementation of above mentioned intervention like MMD, community led dispensation, etc. this may decrease somewhat. However still there will need of new centres in high prevalence districts to decongest existing service delivery sites.

Annexure 5. District AIDS Prevention & Control Unit (DAPCU)

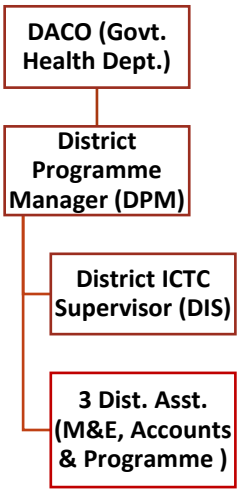
Introduction

India is committed to the end the AIDS epidemic by 2030 as part of the Sustainable Development Goals. Responses till now has been extremely successful; India has not only achieved the Millennium development goals of halting and reversing the AIDS epidemic but exceeded the global average. However, as the landscape of HIV commitment has changed, there is no place for complacency. Achieving the end of AIDS epidemic will require multiprong responses that will require efficient investment in the responses, prioritization of locations and populations, scale up of services as well as expansion of the best practices.

In NACP-III, as a major structural reform, the management of HIV prevention and control programme was decentralised to district level.Using the HIV Sentinel Surveillance data (2004-2006), all the districts in the country were divided into four categories (Category A, B, C and D) based on the disease burden. As per this, there were 156 Category A and 39 Category B districts (total 195 districts) across the country that required priority attention. NACO established DAPCUs in 188 of the 195 districts to provide programmatic oversight through decentralized facilitation, monitoring and coordination of HIV/AIDS programme activities in the district[57].

Current structure:

DAPCU is the eye and ears of NACO and State AIDS Control Societies (SACS) with a cross cutting management structure that coordinates with all the HIV facilities in the district. The DAPCU is headed by a medical health officer of the rank of Deputy Chief Medical & Health Officer known as District AIDS Control Officer. S/he is supported by a team of five people hired on a contractual basis as shown in the diagram. The major responsibility of DAPCU is facilitation, monitoring and coordinating NACP activities at the district and sub- district level by integrating with the health system to the extent possible for better synergy and optimal results. DAPCUs, through active engagement of the district administration engages allied line departments and private sector in mainstreaming the programme and advocates district-specific initiatives even by leveraging local resources. This helps in linking vulnerable population with various social entitlement and welfare schemes. DAPCU staff builds the capacity of the facility staff, monitor the referrals and linkages through regular supervisory visits to HIV facilities and monthly review meetings, addresses supply chain management issues through inter and intra-district transfers and make troubleshoot visits, wherever necessary.



DAPCU Management:

[57]For details, refer Annexure-1

NACO has been managing the DAPCU programme portfolio with technical and funding support from Centers for Disease Control and Prevention (CDC). CDC helped NACO in developing a standardised training programme for DAPCU staff and their training during 2010-11 through their grantee. Subsequently, NACO constituted a DAPCU National Resource Team (DNRT) for continuous mentoring and management of DAPCU activities. The DNRT has experienced professionals with diverse experience in managing public health programmes and has been functioning under the continuous guidance of NACO. The team has a sanctioned strength of 12 members and are regionally placed for providing effective oversight to the states and districts. DNRT supports 22 SACS and mentor 188 DAPCUs. Presence of DAPCUs in high prevalent districts have proved to be pivotal in management of NACP activities at the field level.

Each state is responsible for managing the DAPCUs, which includes hiring and retention of staff, capacity building and providing supportive supervision and day-to-day management. One of the senior officers of SACS, preferably, the Additional Project Director (APD), or in case, APD position is vacant; Joint Director- Basic Services is designated as the DAPCU Nodal Officer (DNO). NACO conducts periodical review of the programme using various forums. With the expansion of service delivery under NACP, the expectations from these units have grown multi-fold.

To capacitate the staff to meet with the growing demands of the programme, DNRT in close coordination with NACO and CDC have developed training modules. All the staffs were trained in FY 2014-15 by the respective SACS using these standard training modules. DNRT, in close coordination with the DNOs in SACS make need-based visits to DAPCUs to mentor the staff and motivate them to continue with their challenging task of involving district administration thus improving the governance, coordinating and monitoring of NACP activities, address the programmatic gaps to realize the programme goals and objectives. In addition to this, NACO has developed various mechansims to monitor the functioning of DAPCUs as mentioned below:

- National level review meetings
- State level review meetings
- Score card based on the performance indicators mentioned in DAPCU monthly report and SACS performance on certain key indicators
- Frequent field visits by the state nodal officers and regional coordinators from DNRT

The fact that more than 70% of the total HIV facilities in the country are located in the high-burden districts provides scope for a positive impact on the NACP through optimal and effective engagement of the DAPCUs.

Knowledge sharing:

To promote wider sharing of knowledge within the districts, different platforms have been created. One of them is identification of successful approaches and models, documenting them as case studies and sharing them widely with all the DAPCU staff in the form of "DAPCU Series". This practice has encouraged many DAPCUs to document and present their achievements to SACS and NACO through DAPCU Series. While it is difficult to include all the experiences through this mode, the need for a larger space was felt. "DAPCU SPEAK" (http://dapcuspeak.blogspot.in/), is another initiative that emerged from this experience. DAPCU Speak, a moderated blog started in February 2012, is to promote sharing of DAPCUs experiences. This helps in peer learning and gradual building of knowledge in the field staff, if used properly.

Way forward

One of the hall mark of the India's response to the HIV/AIDS epidemic has been the intelligent and integrated use of data on HIV/AIDS for an evidence-based response. Categorising geographical areas and increasingly districtlevel programming has been an effective outcome of this response. Establishment of DAPCUs in 188 high priority districts in the beginning of NACP III, resulted into institutionalization of local planning and management unit that led to putting right resources and covering the right population at the geographically relevant places.

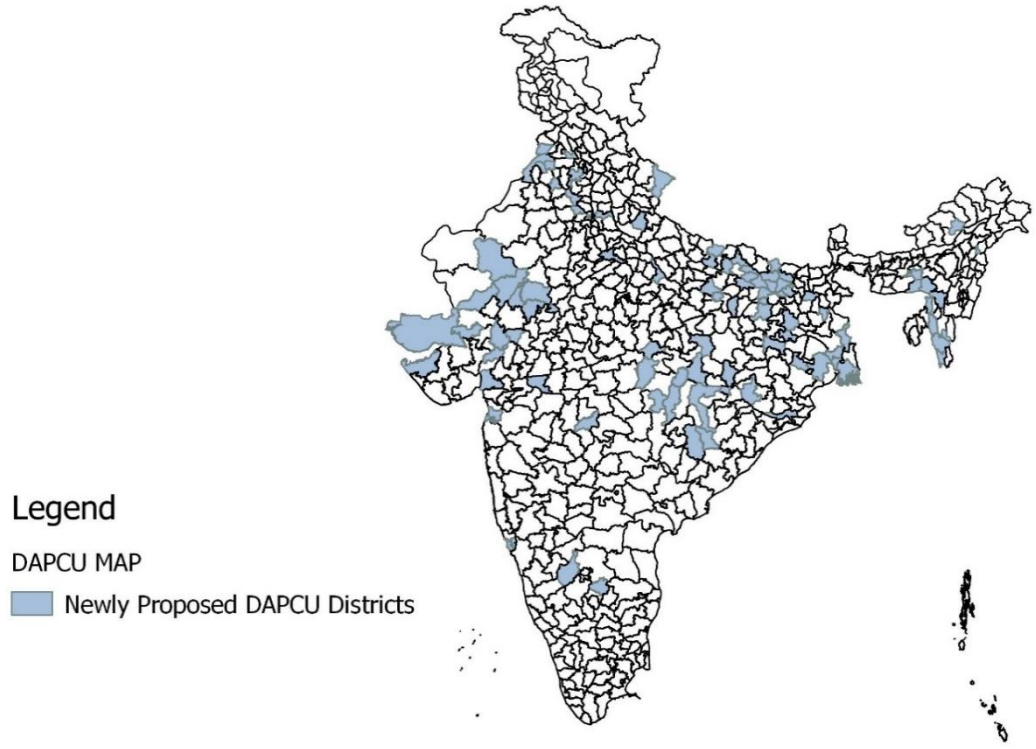
Over the years, there has been a growing need for expansion of DAPCU in the newer emerging pockets. District prioritization in NACP-III was done using data from the HIV surveillance. Analysis of updated epidemiological data from the HIV sentinel surveillance (HSS), Integrated Biological and Behavioural Surveillance (IBBS) and Integrated Counselling and Testing Centre (ICTC) data, has revealed that there are 90 new districts that require prioritization and district units for local level planning and management to boost the HIV/AIDS response in these districts (Box 1).

Box 1. Districts Categorization Methodology

- ✓ Step 1: Definition of district categorization consistent with definitions used in previous categorization; Based on epidemiological rationale of HIV prevalence coming from updated HIV Surveillance results during 2010-15, Highest value among the three rounds considered
- ✓ Step 2: Comparison of results with positivity data from ICTC (April'15-January'16) to check the validity of results; identification of category A and B districts supported by both of HIV Surveillance and ICTC positivity data (concordant districts category)
- ✓ Step 3: Review of HSS, IBBS, ANC-ICTC and GC-ICTC data for the discordant districts category; classification into category after review of each data source with more stringent rules
- ✓ Step 4: Final compilation of district category

Sixty-eight, out of total 90 districts, are in state of Bihar, Chhattisgarh, Gujarat, Jharkhand, Meghalaya, Mizoram, Odisha, Punjab, Rajasthan and Uttar Pradesh (Figure-1). Gujarat, Uttar Pradesh and Bihar are top three states in terms of HIV new infections (HIV Estimations 2015). Together, these 10 states contribute 57% of total adult new HIV infections. Clearly, expansion of DAPCU in the 90 priority districts is required for increasing focus on smaller geographical units (sub-districts) to capture heterogeneity in the epidemic and enable locally relevant programming.

Figure 1: Location of newly proposed DAPCU districts



Based on the above, following is proposed towards strengthening the governance at district level especially for HIV programme in the country:

- The HR in existing 188 DAPCU districts may be reationalised to enhance the efficiency and efficacy of the units and restricting the number of contractual staff to three- DPM, DIS (to be renamed as District Supervisor) and District Assistant- M&E (to be renamed as District M&E Officer).
- The newly identified 90 districts[58] with higher HIV prevalence may also be given a district level unit in the form of DAPCU with District AIDS Control Officer (regular medical health officer), District Supervisor and District M&E Officer.
- An officer of the rank of Deputy CMHO or District Tuberculosis Officer (DTO) may be named as the District AIDS Control Officer in remaining (429) non-DAPCU districts. At the same time, a position may be created as "HIV Coordinator" at the district level under existing DPMU of NHM. District Assistant- Programme and Accounts from DAPCU districts may be given preference to these positions along with the networks community. This will ensure use of investments on building the capacity of above mentioned positions.

The above mentioned proposals will help in achieving the monitoring of HIV programme in each and every district of the country.

Table A: Category A and B District based on HIV Sentinel Surveillance 2004-06

[58]Annexure-2

Category A			
Andhra Pradesh (23/23)	**Haryana (1/20)**	Beed	**Nagaland (10/11)**
Adilabad	Bhiwani	Buldhana	Dimapur
Ananthapur	**Karnataka (28/27)**	Chandrapur	Kohima
Chittoor	Banglore City	Dhule	Mokokchung
East Godavari	Banglore Rural	Gondia	Mon
Guntur	Belgaum	Hingoli	Phek
Hyderabad	Bellary	Jalgaon	Tuansang
Kadapa	Bidar	Jalna	Wokha
Karimnagar	Bijapur	Kolhapur	Peren
Khammam	Chamraj Nagar	Latur	Zunheboto
Krishna	Chick Manglur	Nagpur Rural	**Orrisa (4/30)**
Kurnool	Chitradurga	Nanded	Angul
Mahabubnagar	Devangere	Nandurbar	Balangir
Medak	Dharwad	Nashik	Bhadark
Nalgonda	Gadag	Osmanabad	Ganjam
Nellore	Gulbarga	Parbhani	**Punjab (1/17)**
Nizamabad	Hashan	Pune	Ludhiana
Prakasham	Haveri	Raigad MH	**Rajasthan (1/32)**
Rangareddy	Kodagu	Ratnagiri	Shri Ganganagar
Srikakulam	Kolar	Sangli	**Tamilnadu (22/30)**
	Kopal	Satara	Coimbotare
Vizianagaram	Mandya	Solapur	Cuddalore
Warangal	Mysore	Thane	Dharmapuri
West Godavari	Raichur	Wardha	Erode
Arunachal Pradesh (1/16)	Shimoga	Yevatmal	Kanyakumari
Lohit	North Kannnada	**Manipur (8/8)**	Karoor
Bihar (2/38)	**Madhya Pradesh (4/48)**	Bishnupur	Krishna giri
Araria	Balaghat	Chandel	Mudarai
Lakhisarai	Dewas	Churachnadrapur	Namakkal
Chattishgarh (1/18)	Harda	Imphal West	Perampalur
Durg	Panna	Senapati	Pudukkottai
Gujarat (8/26)	Rewa	Tamenglong	Ramnathapuram
Banaskantha	**Maharashtra (32/35)**	Thobal	Salem
Dahod	Ahmednagar	Ukhrul	Sivaganga
Mehsana	Akola	Imphal West	Theni
Navsad	Amravati Rural	**Mizoram (2/2)**	The Nilgiris
Surat	Aurangabad MH	Aizol	Tiruvallur
Surendra Nagar	Bhandara	Champai	Tiruvannamalai
Tiruchirappalli			
Thoothukudi			
Vellore			
Virudhunagar			

Utter Pradesh (5/70)			
Allahabad			
Banda			
Deoria			
Etwah			
Mau			
West Bengal (4/19)			
Kolkata			
Purulia			
Bardhaman			
Utter Dinajpur			
Category B			
Assam(1/23)	Vadodara	Korapaut	Tirunelveli
Sonitpur	**Kerala (2/14)**	**Punjab (1/17)**	Thanjavur
Bihar (1/38)	Ernakulam	Bhatinda	Villupuram
Khagaria	Kozhikode	**Rajasthan (6/32)**	**Tripura(1/4)**
Delhi(4/8)	**Madhya Pradesh (3/48)**	Ajmer	North Tripura
Delhi central	Indore	Alwar	**West Bengal (4/19)**
Delhi East	Mandsaur	Balmar	Darjeeling
Delhi North	Bhopal	Jaipur	Jalpaiguri
Delhi North East	**Mizoram (1/8)**	Udaipur	Medinipur East
Gujarat (4/26)	Kolasiv	Tonk	Murshidabad
Ahmedabad	**Orissa (3/30)**	**Tamilnaidu (6/30)**	
Bhavnagar	Balasore	Chennai	
Rajkot	Khordha	Kancheepuram	

Note: The NACP activities in the districts of Durg, Pondicherry, Chandigarh, Goa, Mumbai are coordinated through respective SACS/DACS.

Table B: List of newly proposed DAPCU districts

State	District
Arunachal Pradesh	Lower Subansiri
Assam	Cachar
	Karimganj
Bihar	Begusarai
	Bhagalpur
	Darbhanga
	Gaya
	Gopalganj
	Jehanabad
	Kaimur (Bhabua)
	Muzaffarpur
	Patna
	Samastipur
	Saran
	Sitamarhi
	Siwan
	Vaishali
Chhattisgarh	Baster
	Bilaspur
	Kawardha
	Koriya
	Raigarh
	Raipur
	Rajnandgaon
Delhi	New Delhi
	West
Goa	South Goa
Gujarat	Bharuch
	Jamnagar
	Kachchh
	Kheda
	Patan
	SabarKantha
	Valsad
Haryana	Jind
	Rohtak

State	District
Jharkhand	Bokaro
	Giridih
	Pakur
	PurbiSinghbhum
	Ranchi
Karnataka	Chikballapur
	Chitradurga
Madhya Pradesh	Barwani
	Jabalpur
	Seoni
Maharashtra	Gondiya
	Washim
Meghalaya	East Khasi Hills
	Jaintia Hills
	RiBhoi
Mizoram	Lawngtlai
	Lunglei
	Mamit
	Serchhip
Nagaland	Longleng
Orissa	Cuttack
	Nabarangapur
	Sambalpur
Punjab	Faridkot
	Firozpur
	Mansa
	Moga
	Nawanshahr
	Patiala
	Tarn taran
Rajasthan	Bhilwara
	Chittaurgarh
	Dungarpur
	Jalor
	Jodhpur
	Pali

State	District
	Rajsamand
Uttar Pradesh	Agra
	Ballia
	Bareilly
	Basti
	Ghaziabad
	Gorakhpur
	Jaunpur
	Kanpur Nagar
	Kushinagar
	Siddharthnagar
	Varanasi
Uttrakhand	Pithoragarh
West Bengal	Haora
	Hugli
	Nadia
	PaschimMedinipur
	South Twenty Four Parganas

Annexure 5. NACP Component-wise Budget for NSR 2017-24

NSP BUDGET FOR BASIC SERVICES DIVISION (BSD)

BSD	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
ADVOCACY	0.19	0.50	0.69	1.39	4.18	17.36	82.55	106.84
CONSUMABLES	62.15	77.82	99.83	121.85	143.89	155.00	155.18	815.72
EQUIP	24.02	73.64	95.15	48.56	51.75	40.25	28.76	362.13
HR	395.74	504.98	595.43	691.98	787.98	843.82	967.51	4,787.44
IEC	5.39	4.00	0.97	1.93	6.73	30.37	150.00	199.41
KITS	60.68	77.40	84.72	95.71	133.50	136.21	138.00	726.21
MAINTENANCE	5.36	6.46	8.34	10.63	12.33	14.04	15.17	72.32
MEDICINES	0.40	0.42	0.45	0.47	0.49	0.52	0.54	3.29
MONITORING	53.24	64.94	65.82	72.13	72.57	79.37	83.34	491.41
NEW FACILITY	-	-	10.80	-	-	-	-	10.80
OP.COST	3.48	3.34	4.30	5.25	6.21	6.68	7.02	36.27
TRAINING	19.32	69.81	24.56	83.14	36.13	88.90	42.33	364.18
Grand Total	**629.97**	**883.32**	**991.05**	**1,133.06**	**1,255.74**	**1,412.50**	**1,670.39**	**7,976.03**

NSP BUDGET FOR CARE SUPPORT DIVISION (CST)

CST	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
CONSUMABLES	6.01	7.45	7.82	8.21	8.62	9.05	9.50	56.65
EQUIP	1.66	11.25	7.01	1.83	1.92	2.02	2.12	27.82
GRANT	3.83	4.02	4.22	4.43	4.65	4.88	5.13	31.15
HR	124.33	156.64	184.43	193.65	203.34	213.50	224.18	1,300.07
LOGISTICS	1.94	4.31	6.85	8.14	9.43	10.09	10.75	51.50
MAINTENANCE	-	-	0.45	0.47	0.49	0.52	0.54	2.48
MEDICINES	730.11	1,035.99	1,138.96	1,251.87	1,374.81	1,509.82	1,659.60	8,701.16
OP.COST	17.60	21.57	22.43	24.51	25.74	27.03	28.38	167.26
TRAINING	19.35	20.22	39.92	30.35	20.29	21.31	22.37	173.81
Grand Total	**904.82**	**1,261.43**	**1,412.09**	**1,523.48**	**1,649.29**	**1,798.21**	**1,962.58**	**10,511.90**

NSP BUDGET FOR INSTITUITIONAL STRENGTHENING DIVISION

IS	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
EQUIP	0.45	0.45	-	-	-	-	-	**0.90**
HR	137.09	145.65	152.93	160.58	168.61	177.04	185.89	**1,127.79**
MONITORING	27.00	28.35	29.77	31.26	32.82	34.46	36.18	**219.83**
OP.COST	127.67	134.06	140.76	147.80	155.19	162.95	171.09	**1,039.51**
REVIEW MEET	0.10	0.17	0.18	0.19	0.20	0.21	0.22	**1.27**
TRAINING	2.26	-	2.37	-	2.49	-	2.61	**9.72**
WORKSHOP/SEMINAR	0.40	0.42	0.44	0.46	0.49	0.51	0.54	**3.26**
Grand Total	**294.98**	**309.10**	**326.45**	**340.28**	**359.78**	**375.16**	**396.53**	**2,402.28**

NSP BUDGET FOR MONITORING, EVALUATION and Surveillance division

MES	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
CONSUMABLES	0.37	0.39	0.41	0.43	0.45	0.47	0.50	**3.01**
EQUIP	0.20	2.38	0.22	0.23	0.24	0.26	0.27	**3.79**
IT/ SOFTWARE/ INFO SYSTEM	1.40	10.52	16.43	6.92	1.70	1.79	1.88	**40.64**
MAINTENANCE	0.57	0.60	0.63	0.66	0.69	0.73	0.76	**4.64**
MONITORING	0.50	0.53	0.55	0.58	0.61	0.64	0.67	**4.07**
OP.COST	1.43	1.50	1.58	1.66	1.74	1.83	1.92	**11.66**
REVIEW MEET	0.06	0.06	0.07	0.07	0.07	0.08	0.08	**0.49**
SURVEILLANCE	15.53	20.79	37.21	43.02	15.41	47.92	37.67	**217.56**
TRAINING	7.95	8.35	8.76	9.20	9.66	10.15	10.65	**64.73**
Grand Total	**28.01**	**45.12**	**65.86**	**62.77**	**30.58**	**63.85**	**54.40**	**350.60**

NSP BUDGET FOR BLOOD TRANSFUSION DIVISION

BTS	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
EQUIP	-	2.00	3.00	-	-	-	-	5.00
ESTB.COST & EQUIP	-	15.00	50.00	90.00	-	-	-	155.00
GRANT	143.80	161.09	179.82	188.59	197.80	207.47	217.62	1,296.19
KITS	76.34	91.10	101.64	106.72	112.06	117.66	123.54	729.07
MAINTENANCE	1.76	1.92	2.05	2.15	2.26	2.37	2.49	15.00
MONITORING	2.60	2.76	2.97	3.12	3.28	3.44	3.62	21.80
NEW FACILITY	-	1.00	1.50	1.50	20.00	20.00	20.00	64.00
OP.COST	-	-	72.00	-	-	60.00	63.00	195.00
TRAINING	11.82	11.82	12.51	13.65	14.33	15.05	15.80	94.98
Grand Total	**236.33**	**286.68**	**425.50**	**405.74**	**349.73**	**425.99**	**446.07**	**2,576.03**

NSP BUDGET FOR IEC DIVISION

IEC	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
ADVOCACY	7.00	7.10	7.46	7.83	8.22	8.63	9.06	55.29
CAMPAIGN / AWARENESS PROG	185.38	183.10	201.26	205.81	216.10	226.90	237.96	1,456.49
EQUIP	1.00	1.05	1.10	1.16	1.22	1.28	1.34	8.14
EVALUATION	1.00	1.05	1.10	1.16	1.22	1.28	1.34	8.14
INNOVATION	3.00	3.05	3.20	3.36	3.53	3.71	3.89	23.75
IT/ SOFTWARE/ INFO SYSTEM	3.00	3.15	3.31	3.47	3.65	3.83	4.02	24.43
MAINTENANCE	20.00	-	20.00	-	25.00	-	25.00	90.00
TRAINING	5.80	5.84	6.13	6.44	6.76	7.10	7.45	45.52
Grand Total	**226.18**	**204.34**	**243.56**	**229.22**	**265.68**	**252.72**	**290.06**	**1,711.76**

NSP BUDGET FOR LAB DIVISION

LAB	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
CONSUMABLES	1.48	2.29	2.40	2.52	2.65	2.78	2.92	17.03
EQUIP	127.60	12.31	12.93	13.57	14.25	14.96	15.71	211.34
HR	9.84	14.07	14.78	15.52	16.29	17.11	17.96	105.57
INNOVATION	2.50	2.63	2.76	2.89	3.04	3.19	3.35	20.36
IT /SOFTWARE / INFO SYSTEM	1.10	1.16	1.21	1.27	1.34	1.40	1.47	8.96
KITS	60.44	133.54	186.46	222.04	251.51	268.03	284.71	1,406.73
MAINTENANCE	0.39	4.04	12.78	13.42	13.49	13.55	13.62	71.29
MEETINGS	0.09	0.09	0.10	0.10	0.11	0.11	0.12	0.73
OP.COST	4.08	4.69	4.92	5.17	5.43	5.70	5.98	35.97
QUALITY ASSURANCE	4.68	5.65	5.93	6.23	6.54	6.87	7.21	43.10
Grand Total	**212.19**	**180.46**	**244.28**	**282.74**	**314.64**	**333.71**	**353.06**	**1,921.08**

NSP BUDGET FOR PROCUREMENT DIVISION

PSM	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
LOGISTICS	17.99	24.64	26.13	27.57	29.65	30.98	32.40	189.36
Grand Total	**17.99**	**24.64**	**26.13**	**27.57**	**29.65**	**30.98**	**32.40**	**189.36**

NSP BUDGET FOR STI DIVISION

STI	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Grand Total
(in Rs. Crores)								
EQUIP	4.88	4.88	0.38	0.38	-	-	-	**10.50**
GRANT	8.00	8.40	8.82	9.26	9.72	10.21	10.72	**65.14**
HR	22.75	24.39	24.90	25.40	21.34	22.40	23.52	**164.71**
IEC	5.00	5.25	5.51	5.79	6.08	6.38	6.70	**40.71**
INNOVATION	-	5.00	5.00	5.00	5.00	-	-	**20.00**
KITS	21.84	22.94	24.08	25.29	26.55	27.88	29.27	**177.85**
MONITORING	3.49	3.67	3.85	4.04	4.24	4.46	4.68	**28.43**
OP.COST	-	5.00	5.25	5.51	5.79	6.08	6.38	**34.01**
TRAINING	4.07	4.28	4.49	4.72	4.95	5.20	5.46	**33.17**
Grand Total	**70.04**	**83.80**	**82.28**	**85.38**	**83.68**	**82.61**	**86.74**	**574.52**

NSP BUDGET FOR RESEARCH DIVISION								
Research	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**Grand Total**
(in Rs. Crores)								
INNOVATION	5.00	7.00	5.00	-	-	-	-	**17.00**
MONITORING	0.05	0.05	0.05	-	-	-	-	**0.14**
RESEARCH	31.37	35.50	17.91	37.31	39.17	41.13	43.19	**245.57**
WORKSHOP/ SEMINAR	1.52	1.56	1.58	-	-	-	-	**4.67**
Grand Total	**37.94**	**44.11**	**24.54**	**37.31**	**39.17**	**41.13**	**43.19**	**267.38**

NSP BUDGET FOR TARGETED INTERVENTION DIVISION								
TI	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**Grand Total**
(in Rs. Crores)								
HEP C	-	4.48	8.96	3.73	3.73	3.73	3.73	**28.38**
PROGRAM	478.76	527.16	576.21	605.02	635.27	667.04	700.39	**4,189.84**
TEST&TREAT	35.49	39.03	42.93	45.08	47.33	49.70	52.18	**311.74**
TRAINING	9.00	10.02	10.83	11.21	11.51	12.05	12.66	**77.28**
Grand Total	**523.25**	**580.69**	**638.93**	**665.04**	**697.84**	**732.52**	**768.96**	**4,607.24**

Glossary of Terms[59]

Accountability: Accountability is the obligation of people and organizations to live up to what is expected of them and to report on the use of resources; it also is the assumption of responsibility for one's actions and the consequences of such actions.

Antiretroviral medicines/antiretroviral (ARVs)/antiretroviral therapy (ART)/ HIV treatment: These are medicines that are used for treating HIV infection. They are highly effective in suppressing HIV virus and slowing the progress of HIV disease. ART has three or more drug combination such as tenofovir + Lamivudine and Efavirenz/Nevirapine or Zidovudine +Lamivudine and Efavirenz/Nevirapine.

Behaviour Change Communication (May now be referred as Social Change Communication): Targeted and tailored messages that are provided to groups or individuals and are expected to bring about a transformational change in person's behaviour as well as society.

Bisexual: A person who is attracted to as well as have sexual relation with both men and women. This is a cultural identity and is usually self-identified.

Combination HIV prevention: The combination prevention approach seeks to achieve maximum impact on HIV prevention by combining behavioural, biomedical and structural strategies that are human rights-based and evidence-informed, in the context of a well-researched and understood local epidemic.

[59] Adopted from UNAIDS Terminology Guidelines, 2015. Available at http://www.unaids.org/en/resources/documents/2015/2015_terminology_guidelines. Accessed on 10 Dec 2016.

Comprehensive sexuality education: Sexuality education is defined as "an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic and non-judgmental information." "Sexuality education provides opportunities to explore one's own values and attitudes and to build decision-making, communication and risk reduction skills about many aspects of sexuality" (United Nations Educational, Scientific and Cultural Organization (UNESCO)).

Concurrent sexual partnerships/ concurrency: People with multiple sexual relationships where intercourse with one partner occurs between two acts of intercourse with another partner. Usual time is within past six months for any surveillance purposes.

Condom less sex: In condom less sex, the sex act is not protected by male or female condoms. Previously known as unprotected sex, this is now increasingly referred to as condom less sex; this is done to avoid confusion with the protection from pregnancy that is provided by other means of contraception.

Country Coordinating Mechanism: The coordinating body in any country set up by the Global fund to fulfil its commitment towards local ownership and participatory decision making.

Coverage rate: Coverage rate is the proportion of individuals accessing and receiving a service or commodity at a point in time. The numerator is the number of people who receive the service and the denominator is the number of individuals who are eligible to receive the service at the same point in time. This is typically measured in surveys, but it also may be measured using service data (e.g. receiving basic service package for MSM or FSW or antiretroviral therapy).

Enabling environment: There are different kinds of enabling environment in the context of HIV. For instance, an enabling legal environment would not only have laws and policies against discrimination based on sex, health status (including HIV status), age, disability, social status, sexual orientation, gender identity and other relevant grounds, but they would be enforced. In such an environment, people also would have access to justice—that is, a process and remedy if they are aggrieved. An enabling social environment is one in which social protection strategies (e.g. economic empowerment) are in place, and where social norms support knowledge, awareness and healthy behaviour choices.

Gender equality: Gender equality—or equality between men and women—is a recognized human right, and it reflects the idea that all human beings, both men and women, are free to develop their personal abilities and make choices without any limitations set by stereotypes, rigid gender roles or prejudices. Gender equality means that the different behaviours, aspirations and needs of women and men are considered, valued and favoured equally. It also signifies that there is no discrimination on the grounds of a person's gender in the allocation of resources or benefits, or in access to services. Gender equality may be measured in terms of whether there is equality of opportunity or equality of results.

Global AIDS Response Progress Reporting (GARPR): Global AIDS Response Progress Reporting (GARPR) is a process whereby countries report progress annually on an established set of GARPR indicators (previously, UNGASS indicators). The indicators are designed to assist countries assess the current state of their national HIV response and progress in achieving their national HIV targets. They will contribute to a better understanding of the global HIV response to the AIDS epidemic, including progress towards the global targets set in the 2011 United Nations Political Declaration on HIV and AIDS and the Millennium Development Goals.

HIV Testing Services (HTS): HIV testing is the gateway to HIV treatment and care, and it is critical in the scale-up of universal access to HIV prevention, including in the context of male circumcision, elimination of new infections among children and antiretroviral medicine based prevention approaches (including pre-exposure prophylaxis or post-exposure prophylaxis). The term HIV testing services (HTS) is used to embrace the full range of services that should be provided together with HIV testing. HIV testing should be undertaken within the framework of the 5Cs: consent, confidentiality, counselling, correct test results and connection/linkage to prevention, care and treatment.

HIV Treatment Cascade: The term HIV treatment cascade is used to refer to the chain of events that are involved in an HIV -positive person receiving treatment until his or her viral load is suppressed to undetectable levels. Each step in the cascade is marked by an assessment of the number of people who have reached that stage, making it possible to determine where gaps might exist in the treatment of people living with HIV. It emphasizes the need to focus on all the required steps to suppress the virus in the cohort of people living with HIV. The stages of the HIV treatment cascade are as follows: the number of people living with HIV; the number who are linked to medical care; the number who start HIV treatment; the number who adhere to their treatment regimen; and, finally, the number who suppress HIV to undetectable levels in their blood.

Catalytic Funding: Catalytic funding is a term introduced by the Global Fund to define a separate reserve of funding that rewards high-impact, well-performing programmes and encourages ambitious but feasible requests that make a particularly strong case for investment.

Incidence: HIV incidence is expressed as the number of new HIV infections over the number of people susceptible to infection in a specified time. Cumulative incidence may be expressed as the number of new cases arising in each period in a specified population. UNAIDS reports the estimated number of incident cases that occurred in the past year among people aged 15–49 years and 0–14 years.

Intimate partner transmission: The term intimate partner transmission (also known by its full name, HIV transmission in intimate partner relationships) describes the transmission of HIV to individuals from their regular partners who inject drugs, who have sex with other people, including with sex workers, people who inject drugs, or gay men and other men who have sex with men.

Intimate partner violence: Intimate partner violence is "behaviour within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours" (WHO and UNAIDS, 2013).

Investment approach: An investment approach maximizes the returns on investment in the HIV response. It allocates resources towards combinations of interventions that will achieve the greatest impact, and it enhances equity and impact by focusing efforts on key locations and populations with the greatest needs.

An investment approach also improves the efficiency of HIV prevention, treatment, care and support programmes. It does this by using empirical evidence and modelling to identify priorities and gaps, as well as enabling countries to secure sustainable funding for HIV programmes.

Finally, an investment approach provides the framework to align government domestic funding strategies for the medium and long term with donor-supported efforts.

Investment case: An investment case is a document that makes the case for optimized HIV investments. At its core, it is a description of returns on investment in a country's optimized HIV response over

the long term (typically more than 10 years). It summarizes the state of the epidemic and the response, describing the prioritized interventions to be implemented and the populations and geographic areas that should be focused on—in order to achieve the greatest impact, indicating the resources required. It also outlines the main access, delivery, quality and efficiency issues to be addressed in order to improve HIV services, and it describes what will be done to address these issues. Finally, it includes an analysis of (and plan for) realistic and more sustainable financing of the HIV response, incorporating increases in domestic financing where relevant.

An investment case is a means of demonstrating national leadership in the response. It has the capacity to unite diverse stakeholders, including the ministries of finance, health, development and planning, civil society, people living with HIV and international partners. It articulates a common effort to identify programmatic gaps and bottlenecks, and to create a road map for action. An investment case can be different from a national strategic plan, which often includes an extensive and aspirational articulation of needs and is constrained by set time frames.

Key population: UNAIDS considers gay men and other men who have sex with men, sex workers and their clients, transgender people, people who inject drugs and prisoners and other incarcerated people as the main key population groups. These populations often suffer from punitive laws or stigmatizing policies, and they are among the most likely to be exposed to HIV. Their engagement is critical to a successful HIV response everywhere—they are key to the epidemic and key to the response. Countries should define the specific populations that are key to their epidemic and response based on the epidemiological and social context. In India, in addition to the expressed group, the single male migrants and long distance truckers are considered as have also been considered as a high-risk population.

Parent (Mother) to child transmission: MTCT is the abbreviation for mother-to-child transmission. PPTCT, the abbreviation for prevention of mother-to-child transmission, refers to a four-prong strategy for stopping new HIV infections among children and keeping their mothers alive and families healthy. The four prongs are: helping reproductive-age women avoid HIV (prong 1); reducing unmet need for family planning (prong 2); providing antiretroviral medicine prophylaxis to prevent HIV transmission during pregnancy, labour and delivery, and breastfeeding (prong 3); and providing care, treatment and support for mothers and their families (prong 4). India is classified as 'Concentrated Epidemic' for HIV/AIDS. PPTCT often is mistakenly used to refer to only prong 3— the provision of antiretroviral medicine prophylaxis. India prefers to use the terms parent-to-child transmission or vertical transmission as more inclusive terms to avoid stigmatizing pregnant women, to acknowledge the role of the father/male sexual partner in transmitting HIV to the woman and to encourage male involvement in HIV prevention. Still other countries and organizations use the term elimination of mother-to-child transmission (eMTCT). The UNAIDS preferred terminology for the four programmatic prongs is eliminating (or stopping/ending) new HIV infections among children and keeping their mothers alive. It has no abbreviation.

Multipurpose technologies: Multipurpose technologies are devices or approaches that protect against both HIV and other sexual-related consequences (such as other sexually transmitted infection or pregnancy). Male and female condoms are two examples, but others are in development, including intravaginal rings containing both contraceptives and antiretroviral medicines to prevent HIV infection. In India, male and female condoms are available for use.

National AIDS spending assessment (NASA): NASA describes the flow of resources spent in the HIV response from their origin to the beneficiary populations. It provides decision-makers with strategic information that allow countries to mobilize resources, and have a stronger accountability and a

more efficient and effective programme implementation. NASA is a tool within the national monitoring and evaluation framework and is a recommended measurement tool to track HIV spending at the country level.

Post exposure prophylaxis (PEP): Post-exposure prophylaxis refers to antiretroviral medicines that are taken after exposure (or possible exposure) to HIV. The exposure may be occupational (e.g. a needle stick injury) or non-occupational (e.g. condom less sex with a seropositive partner). The latter is sometimes referred to as non-occupational post-exposure prophylaxis (N-PEP).

Pre-exposure prophylaxis (PrEP): Pre-exposure prophylaxis (PrEP) refers to antiretroviral medicines prescribed before exposure (or possible exposure) to HIV. Several studies have demonstrated that a daily oral dose of appropriate antiretroviral medicines is effective in both men and women for reducing the risk of acquiring HIV infection through sexual or injection transmission.

Prison and other closed settings: Prisons and other closed settings refers to places of detention that hold people who are awaiting trial, who have been convicted or who are subject to other conditions of security. These settings may differ in some jurisdictions, and they can include jails, prisons, police detention, juvenile detention, remand/pretrial detention, forced labor camps and penitentiaries. There is a need to be inclusive in the language used to describe prisoners and other incarcerated people. Universal access to HIV prevention, treatment, care and support ideally should extend to these settings.

Second generation surveillance: Second generation surveillance for HIV is the regular and systematic collection, analysis, interpretation, reporting and use of information to track and describe changes in the HIV epidemic over time. In addition to HIV surveillance and AIDS case reporting, second generation surveillance includes behavioural surveillance to track trends in risk behaviours over time to identify or explain changes in levels of infection and the monitoring of sexually transmissible infections in populations at risk of acquiring HIV. These different components achieve greater or lesser significance depending on the surveillance needs of a country, as determined by the nature of the epidemic it is facing.

Sex: The term sex refers to biologically determined differences that are used to label individuals as males or females. The bases for this classification are reproductive organs and functions.

Sexual and reproductive health package: This term refers to programmes, supplies and multi-integrated services to ensure that people can have not only a responsible, satisfying and safer sex life, but also the capability to reproduce and the freedom to decide if, when and how often to do so. It is particularly important that this decision be free of any inequality based on socioeconomic status, education level, age, ethnicity, religion or resources available in their environment.

A sexual and reproductive health package aims to guarantee that men and women are informed of (and to have access to) the following resources: safe, effective, affordable and voluntary acceptable methods of birth control; access to appropriate health-care services for sexual and reproductive care, treatment and support; and access to comprehensive sexuality education. A package also includes (but is not limited to): pregnancy related services (and skilled attendance and delivery), as well as emergency obstetric and post-abortion care; STI and HIV prevention, diagnosis and treatment; prevention and early diagnosis of breast and cervical cancers; and prevention of gender-based violence and care for survivors of gender-based violence.

Sexual health: Sexual health is "not merely the absence of disease, dysfunction or infirmity—it is a state of physical, emotional, mental and social well-being in relation to sexuality. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of

having pleasurable and safe sexual experiences that are free of coercion, discrimination, and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled" (WHO Geneva, 2002)

Sexual orientation: The term sexual orientation refers to each person's capacity for profound emotional, affectional and sexual attraction to (and intimate and sexual relations with) individuals of any sex. SOGI, an often-used abbreviation, stands for sexual orientation, gender identity.

Sexual rights: Sexual rights embrace a "human right that already are recognized in many national laws, international human rights documents and other consensus statements: the right of all persons to the highest attainable standard of sexual health, free of coercion, discrimination and violence. This includes the following: accessing sexual and reproductive health-care services; seeking, receiving and imparting information related to sexuality; obtaining sexuality education; enjoying respect for bodily integrity; choosing a partner; deciding to be sexually active or not; participating in consensual sexual relations; engaging in consensual marriage; determining whether (and when) to have children; and pursuing a satisfying, safe and pleasurable sexual life" (WHO Geneva, 2002).

Social change communication: Social change communication is the strategic use of advocacy, communication and social mobilization to systematically facilitate and accelerate change in the underlying determinants of HIV risk, vulnerability and impact. It enables communities and national AIDS programmes to tackle structural barriers to effective AIDS responses, such as gender inequality, violation of human rights and HIV-related stigma. Social change communication programmes act as catalysts for action at the individual, community and policy levels.

Stigma and discrimination: Stigma is derived from a Greek word meaning a mark or stain, and it refers to beliefs and/or attitudes. Stigma can be described as a dynamic process of devaluation that significantly discredits an individual in the eyes of others, such as when certain attributes are seized upon within cultures or settings and defined as discreditable or unworthy. When stigma is acted upon, the result is discrimination. Discrimination refers to any form of arbitrary distinction, exclusion or restriction affecting a person, usually (but not only) because of an inherent personal characteristic or perceived membership of a group. It is a human rights violation. In the case of HIV, this can be a person's confirmed or suspected HIV-positive status, irrespective of whether there is any justification for these measures. The terms stigmatization and discrimination have been accepted in everyday speech and writing, and they may be treated as plural.

Structural interventions: Structural interventions are those that seek to alter the physical, legal and social environment in which individual behaviour takes place. They also can aim to remove barriers to protective action or to create constraints to risk-taking.

Sustainable Development Goals: The agreement of Member States to launch a process to develop a set of sustainable development goals (SDGs) was one of the main outcomes of the Rio+20 Conference. The SDGs will build upon the MDGs and provide a framework for the post-2015 development agenda. The outcome document of the Open Working Group (OWG) on the SDGs proposes 17 goals, of which the third is: "Ensure healthy lives and promote well-being at all ages". Specifically, target 3.3 states: "by 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases".

Test and treat: Test and treat is sometimes used as a way of referring to voluntary HIV testing and the offer of antiretroviral therapy after diagnosis, irrespective of WHO clinical stage or CD4 cell count. The voluntary nature of both testing and treatment should be emphasized to ensure that individual autonomy is respected. Where test and treat is offered, it is necessary to establish strong support for

adherence to keep people on lifelong treatment. In addition, test and treat strategies always should be supplemented by strong combination HIV prevention, including risk reduction counselling, condom provision and/or PrEP. In settings where it is recommended, test and treat also can include referral to male circumcision services for men who test negative for HIV.

Three 'I's for HIV/TB: The three 'I's for HIV/TB—isoniazid preventive treatment, intensified case finding for active tuberculosis and tuberculosis infection control and early antiretroviral therapy (per national guidelines) and for active TB (irrespective of CD4 count)—are key public health strategies to decrease the impact of tuberculosis on people living with HIV, their partners and family, and the community.

Unfunded quality demand: Unfunded quality demand is a term introduced by the Global Fund to define funding requested through a concept note that is considered by the Technical Review Panel to be technically sound but beyond the funding amount available (indicative funding and any additional incentive funding awarded). An unfunded quality demand is registered for up to three years for possible funding by the Global Fund or other donors when (and if) new resources become available.