Pakistan AIDS Strategy IV
2021-2025

Foreword

The Pakistan AIDS Strategy 2021-2025 (PAS IV) has been developed during a period in which the world has had a vivid reminder, in the form of the COVID-19 pandemic, of the power of unchecked epidemics to disrupt our lives. Fortunately, in the case of AIDS, we have the benefit of decades of experience and expertise which can be brought to bear on the urgent task of controlling the epidemic. Put simply; we know what works.

This strategy, and the four provincial strategies on which it is based, takes a hard look at the challenges that face us as we attempt to bring the AIDS epidemic under control in Pakistan, and proposes a re-energized response, taken to scale. The overarching aim is a 63% reduction in new infections by 2025. We will achieve this through precision-targeted interventions, testing and treating strategically, investing more effectively and sustainably, and innovating.

PAS IV focuses on the unfinished agenda - drastically reducing new infections to bend the trajectory of the epidemic. Ending the AIDS epidemic will involve reaching children, women, young people, men who have sex with men, people who inject drugs, sex workers and clients, transgender people, prisoners, and migrants with critical, testing, prevention and treatment services. This document, and the implementation plan that accompanies it, provides a roadmap to ensure that no one is left behind.

The strategy was developed based on WHO recommendations, UNAIDS technical support on epidemic modelling and target setting, and a lengthy consultation process with the active involvement of all relevant stakeholders, including the UN partners, bi-laterals, people living with HIV, and affected communities. The inclusiveness embodied in the development process is also a prerequisite for effective implementation. Only by working together will we achieve our aim.

The principal objective of this strategy is to strengthen the national AIDS response so that by 2025, 90% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy; and 90% of all people receiving antiretroviral therapy will have viral suppression.

Acknowledgements

This set of AIDS strategies, PAS IV and the four provincial strategies on which it is based, were developed on the basis of a broad consultation process at provincial and national levels. The strategy writing team would like to thank all those who have participated in this process by sharing your insights, experiences and feedback on presentations and draft documents. These inputs have been a great help in tailoring the approach to the specific contexts. Ongoing dialogue has been an especially challenging process on this occasion because the COVID-19 pandemic has forced us to trial new ways of communicating with each other. The quality of participation has been exemplary nonetheless.

Special thanks to the National and Provincial AIDS Control programmes, the programme implementers and the communities (key populations and PLHIV) and CBOs whose active engagement was such a critical part of the process. Technical inputs from development partners (Joint UN Team on AIDS, UNAIDS, and bilateral) have provided much guidance, and we are particularly grateful to the UNAIDS Regional Support Team-Asia Pacific for their work on epidemic modelling, scenario planning, and target setting.

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Acronyms

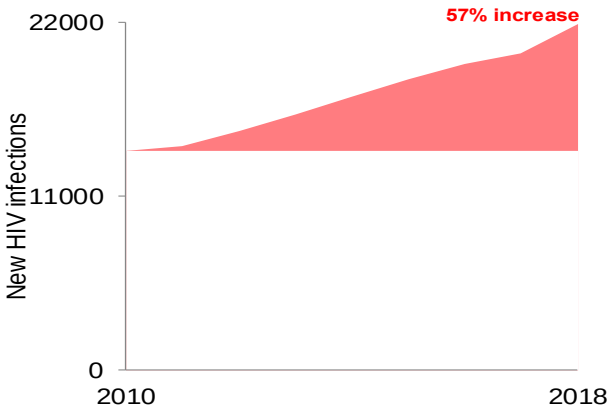
AAU	ART Adherence Unit
AIDS	Acquired Immune Deficiency Syndrome
ADR	Acquired Drug Resistance
AEM	AIDS Epidemic Model
ANC	Antenatal Care
APLHIV	Association of People Living with HIV
ART	Antiretroviral Therapy
ARV/s	Antiretroviral/s (medication)
ATT	Anti-Tubercular Treatment
BHU	Basic Health Unit
CBO	Community-Based Organization
CCM	Country Coordination Mechanism
CD4	Cluster of Differentiation 4
CNIC	Computerised National ID Cards
COVID-19	Corona Virus Disease 2019
DOTS	Directly Observed Treatment Short-course (for TB)
DSD	Differentiated Service Delivery
EID	Early Infant Diagnosis
FSW	Female Sex Worker
GARPR	Global AIDS Response Progress Report
GF/GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GSM	Greenstar Social Marketing
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HIVDR	HIV Drug Resistance
HTS	HIV Testing Service
IBBS	Integrated Biological and Behavioural Surveillance
KP	Key Population
KPK	Khyber Pakhtunkhwa
M&E	Monitoring and Evaluation
MNCH	Maternal, New-born and Child Health
MIS	Management Information System
MSM	Men who have Sex with Men
MSM (non-SW)	Men who have Sex with Men who are not sex workers
MSW	Male Sex Worker
NACP	National AIDS Control Program

NGO	Non-Governmental Organization
NIH	National Institute for Health
NSEP	Needle Syringe Exchange Program
NZT	Nai Zindagi Trust
OST	Opiate Substitution Therapy
PACP	Provincial AIDS Control Programme
PAS	Pakistan AIDS Strategy
PC-1	Planning Commission Proforma – One (Project Document)
PDR	Pre-treatment Drug Resistance
PITC	Provider Initiated Testing and Counselling
PLHIV	People Living with HIV
PPTCT	Prevention of Parent-to-Child Transmission
PR	Principal Recipient/s – GFATM
PrEP	Pre-Exposure Prophylaxis
PSE	Population Size Estimate
PWID	People who Inject Drugs
SDG	Sustainable Development Goals
SDP	Service Delivery Package
SOP	Standard Operating Procedure
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
SW	Sex Worker
TB	Tuberculosis
TG	Transgender person
TWG	Technical Working Group
UHC	Universal Health Coverage
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
WHO	World Health Organization

1. Introduction

The second decade of the current century has seen an alarming increase in new HIV infections in Pakistan. Successive iterations of strategic frameworks and national and provincial AIDS strategies have failed to bring the epidemic under control.[1] Whilst it is true that the epidemic remains concentrated[2] among key populations, a recent 'outbreak' in Sindh province[3] has demonstrated that an uncontrolled concentrated HIV epidemic can bridge into the general population in a context when there are unsafe injection, transfusion and blood control practices in healthcare settings.

New HIV infections trend



Source: UNAIDS 2019 HIV Estimates

The critical question for Pakistan at this juncture is why is it that the strategies are failing to have the desired impact on the course of the epidemic? The simple answer to this question is that the strategies are not being used to design, govern, oversee and manage the AIDS control programmes as a whole.[4] Strategy coverage targets are not being met by a long shot[5] and there is no mechanism in place to monitor and address this. It is important to be clear that this is not simply a resource constraint. A recent HIV Programme Review found that at provincial level "overall absorption capacity is low in government HIV control programmes". For a variety of reasons (including approval and release rates) "expenditure rates of PC-1 programmes have been very low".[6]

Further evidence of strategy implementation failure can be found in the fact that many barriers and challenges faced by the programme are long-standing, well-evidenced, and undisputed, yet still they persist unresolved. The non-availability of OST, despite its significant potential impact on the epidemic,[7] the fragmented HIV MIS, despite the investment that has been made in developing it over the years,[8] the treatment access barriers inherent in the ART centre model, despite these being repeatedly raised in community consultations held for each successive strategy development process,[9] - all of this is indicative of a lack of political ownership and programme leadership.[10]

In 2017 Pakistan joined a Global HIV Prevention Coalition of United Nations Member States, donors, civil society and implementers. The overall goal of the coalition is to "strengthen and sustain political

[1] National Strategic Framework I 2001-2006, National Strategic Framework II 2007-2012, Pakistan AIDS Strategy III 2015-2020, Pakistan AIDS Strategy III (2017 Revision) 2017-2021.
[2] WHO defines a concentrated HIV epidemic as one where HIV has spread rapidly in one or more defined subpopulation but is not well established in the general population. https://www.who.int/hiv/pub/guidelines/arv2013/intro/keyterms/en/
[3] This was the ninth such outbreak in the country since 2003.
[4] It is true that the strategies are being used to design the portion of the programme that is funded by the Global Fund. But this misses the point of a national or provincial strategy which is intended to guide the entire AIDS programme regardless of funding source.
[5] See, for example, data on results against targets in section 3 below
[6] p48 and p50 National HIV Programme Review 2019
[7] pp7, 51-2, PAS III 2017 Revision
[8] pp9-10, PAS III 2017 Revision
[9] pp6-8, PAS III 2017 Revision
[10] p48 National HIV Programme Review 2019

commitment for primary prevention".[11] The coalition's Prevention Roadmap singles out "gaps in political leadership"[12] as one of four main reasons for insufficient global progress on prevention, and sets out a 10-point action plan for accelerating progress. Point three is particularly pertinent to Pakistan: coalition members pledge to "make institutional changes to enhance HIV prevention leadership, oversight and management".[13] The 2019 Country Scorecards published as part of the initiative's accountability framework show Pakistan either scoring "very low" or not having sufficient data for the majority of progress indicators. [14]

The Larkana 'Outbreak'

In April 2019, the diagnosis of a number of children as HIV positive in Larkana District in Sindh province lead to an HIV screening initiative. By 15 July, 31,239 people had been screened of which 930 (3%) were found positive for HIV. Eighty-two percent (763/930) of these were below 16 years old, and 604 (79%) were aged 5 years and below. This represents a 54% increase in paediatric HIV diagnoses over the past 13 years.[15] An investigation into the outbreak identified "unsafe injection practices as the most likely reason for the large number of HIV infections among children."[16]

An analysis of the disease stage of the infected children suggested caution in the use of the word 'outbreak' in relation to the newly discovered paediatric cases. Given that 24% of the diagnosed children were in the later stages of disease, transmission may have been "ongoing for some time" and is likely a "spill-over of the well-established concentrated HIV sub-epidemic in key populations in Larkana."[17]

The 'outbreak' has rightly drawn attention to the risks of unsafe health care practices (for example the reuse of syringes, needles and drip sets by untrained health care providers.) It is these practices that, in this instance, have enabled the HIV epidemic to bridge from key populations into the broader population. This is a serious health systems issue that goes considerably beyond the control of a particular disease given the prevalence of other blood borne infections such as hepatitis B and C. It is essential that actions for addressing it are imbedded in higher level non-disease-specific health systems development strategies.[18]

However, there is an important lesson from Larkana, and previous outbreaks, about the failure to effectively control an HIV epidemic concentrated among key populations. HIV prevalence rates between 14% and 28% in PWID in Larkana have been known about since IBBS Round 1 in 2006. [19] Since IBBS Round 2, in 2008, prevalence rates for transgender sex workers in Larkana have been over 15%. Growing prevalence rates among FSW and MSW (approaching 5%) have been similarly evidenced by successive IBBS rounds since 2010.[20] Yet the current PWID prevention programme in Larkana was not established until December 2016. A prevention programme for the transgender population ran under a regional Global Fund grant from 2012 to 2017, but was downscaled under current funding arrangements in 2018.[21] There is a remarkable discrepancy between the attention and priority given to the recent paediatric 'outbreak' and the historical response to the underlying epidemic among key populations which gave rise to it. The latter is inadequate to the task of controlling the epidemic.

[11] p22 HIV Prevention 2020 Roadmap, UNAIDS
[12] P10 HIV Prevention 2020 Roadmap, UNAIDS
[13] p6 HIV Prevention 2020 Roadmap, UNAIDS
[14] https://hivpreventioncoalition.unaids.org/wp-content/uploads/2020/03/Pakistan.pdf
[15] HIV infection predominantly affecting children in Sindh, Pakistan, 2019: a cross-sectional study of an outbreak, Fatima Mir et al, Lancet Infect Dis 2020; 20: 362–70
[16] p4, Investigation of an Outbreak of HIV in Larkana District, Pakistan, June 2019
[17] HIV infection predominantly affecting children in Sindh, Pakistan, 2019: a cross-sectional study of an outbreak, Fatima Mir et al, Lancet Infect Dis 2020; 20: 362–70
[18] The Ministry of Health has produced a National Action Plan to address unsafe injection practices in Pakistan, October 2019
[19] Slide 4, Presentation: Unravelling the 2019 Ratodero HIV Outbreak, February 10 2020, SACP
[20] Slide 4, Presentation: Unravelling the 2019 Ratodero HIV Outbreak, February 10 2020, SACP
[21] According to the programme manager the coverage targets are lower for the new grant and the intervention no longer covers MSW as well as TG.

It is, therefore, important that the need for a Health Systems focus on addressing unsafe injection practices does not detract attention away from the pressing need to effectively control the HIV epidemic among key populations. It is the ignoring of evidence of a burgeoning epidemic among key populations, and the failure to urgently respond to it with targeted prevention and testing initiatives at adequate coverage levels, that is the major contributing factor to the possibility and probability of iatrogenic outbreaks. Preventing such outbreaks requires both a systems approach to healthcare safety and an effective AIDS control programme. The focus of this strategy is the latter. It is assumed that larger healthcare safety issues will be addressed from a broader systems-strengthening perspective by the Ministry of National Health Services, Regulations and Coordination, and Provincial Departments of Health.

PAS IV

PAS IV covers the period from 2021 to 2025. It cuts short the timeframe of PAS III 2017 by one year for three important reasons:

- Recent programme reviews indicate a significant under-performance against the strategy targets of PAS III 2017
- The consequences of that underperformance have been starkly illustrated by the Larkana 'outbreak'
- By re-developing the strategies now there is a significant opportunity to ensure that domestic planning and budgeting processes (PC-1s) are aligned with strategy targets[22]

(i) Inputs

PAS III was revised in 2017 on the basis of significant new information in the form of a new round (V) of IBBS data. This gave us revised population size estimates for key populations, new prevalence estimates and epidemic models that showed us how the epidemic was likely to progress given the baseline revealed by the IBBS data. There has been no further round of IBBS since 2016 so the epidemic analysis presented in PAS III (2017) still stands and has been annexed to this new strategy as a key reference point. It is worth quoting the summary of that analysis that was presented in PAS III:[23]

- The largest proportions of the estimated population of PLHIV are to be found among PWID (22.9%) and MSM (non-SW) (17.2%).[24]
- The majority of people that need to be reached with testing and treatment (91%)[25] are in Punjab and Sindh.
- Transmission is increasing among all key populations but at faster rates among sex workers; male and female sex workers in particular.
- Both treatment coverage (12.5%)[26] and prevention programme coverage (from 3% for MSM (non-SW),[27] to 29% for PWID[28]) remain too low to have a significant impact on the epidemic.
- Behavioural risk factors are still present at high levels for all key populations.
- There is evidence to suggest that programmes supporting treatment preparedness and adherence for PWID can have an impact on their treatment initiation and retention rates; these sorts of programme need to be scaled up.
- Treatment attrition rates in Pakistan are higher than regional and global averages.

[22] The fiscal year in Pakistan runs from July 1st through June 30th the following year.
[23] The following bullets are taken from PAS III (2017) pp30-31. Percentages have been updated where new data is available.
[24] Percentages updated using current coverage data. See annexed baseline data summary.
[25] This percentage is derived from 2019 Spectrum analysis of PLHIV.
[26] Based on 2019 treatment data provided by NACP
[27] Based on 2019 programmatic data provided by NACP
[28] Based on 2019 programmatic data provided by Nai Zindagi. PWID programme has increased but not to targeted levels.

- Programming for male and female sex workers needs to be tailored to meet the particular needs of young sex workers as appropriate.
- PPTCT coverage remains low (16%),[29] addressing this requires greater focus on reaching spouses of HIV positive key populations. The largest yield would likely be among spouses of PWID and MSM (non-SW). This would also help address positive women's lower treatment access rates.

In contrast to PAS III (2017), for PAS IV the critical new inputs are programmatic rather than epidemiological. A national HIV programme review and an ART outcomes study, both conducted in 2019, give important insights into how the response is performing in relation to the strategic objective of epidemic control. These insights are analysed in detail in Section 2.

(ii) Process

As with previous iterations of provincial and national strategies, PAS IV, and the provincial strategies on which it is based, have been developed through a highly consultative process. These consultations have included separate provincial level meetings with key population stakeholders as well as a broader range of meetings and consultations with provincial AIDS control programmes, health sector stakeholders, academics and clinicians and programme implementers. The consultation process has been influenced by the Covid-19 pandemic, with discussions moving online after the advent of restrictions on face to face meetings. A set of five draft strategy review meetings (one for each province and one national) were held prior to finalisation of all strategies. A full list of meetings and consultations that took place to develop the strategies is annexed.

(iv) Structure

The strategies take their structure from a standard approach to strategic planning;

- An analysis of where we are now
- A decision about where we want to be at the end of the strategy period
- A plan for how we will get there

In what follows Section 2 covers the current situation, Section 3 the decision about where we want to be in 2025 and, Section 4 the strategic approach to achieving the desired impact. The strategic approach is further supported by a monitoring and evaluation framework (Section 5), and an indicative budget (Section 6). An implementation plan has been developed for the strategy and is to be found in a separate document.

(v) Ownership

The national and provincial AIDS strategies are designed to guide the entire AIDS control programme at national and provincial levels respectively. They guide what the programmes as a whole need to do in order to gain control of the epidemic. The funding sources for the various activities will vary; part international, part domestic. It is important to understand that the budgets, targets, M&E framework and implementation plans are for the AIDS programme as a whole regardless of funding source.

The strategies, therefore, sit above both the Global Fund resourced portion of the programme, and the PC-1 resourced portion of the programme, and bind them together into a single response with overall budgets, targets and indicators. It is assumed that the strategies are owned by their respective AIDS control programmes (at provincial or national level) and used to ensure complementarity between differently funded interventions. Put simply; PC-1 budgets/targets + Global Fund budget/targets should aim to equal strategy targets. Any deficit should be identified as a resource gap and efforts be made to mobilise resources to address the shortfall.

[29] Based on 2019 treatment data provided by NACP

2. Review of Critical Issues

In 2017 PAS III underwent a major revision to take account of new IBBS data,[30] epidemic modelling based on that data,[31] and the (then) recent global guidance[32] on how to fast-track HIV/AIDS responses in order to achieve ambitious 90-90-90 treatment targets. Since Pakistan's HIV epidemic was (and still is) concentrated, with an estimated prevalence rate of less than 0.1% among adults 15-49 years of age, it was important to reconfigure and focus the response. The aim was to gain control of the epidemic among the key populations whose HIV prevalence was significant and rising.

The resulting 2017 strategies (four provincial and one national,) followed the global guidance in proposing four main strategic adjustments to Pakistan's AIDS response:

Precision targeting: New CBO-led, outreach prevention programmes for MSM (non-SW), MSW, TG and FSW, to be implemented in cities prioritised on the basis of epidemiological evidence.

Testing and treating strategically: Testing for key populations shifted from clinics into community-settings, phasing in treatment for all, expanding community-based treatment preparedness support for PWID, addressing long-standing treatment access barriers, expanding targeted testing programmes to cover spouses and family members of key populations.

Investing more effectively: Shifting resources towards key population programming, and programme delivery into community-based and community-led models.

Innovating: Piloting PrEP as a new tool to address the problem of burgeoning sexual transmission.

These strategic adjustments were framed around the need to address four critical issues which were challenging the country's ability to control the HIV epidemic. Three of these were constraining the flow of PLHIV into, and on through, the testing and treatment service cascade, and the fourth was making it impossible to track individuals as they moved through it. These issues were as follows:

1. Low prevention and testing programme coverage among key populations
2. The continued existence of barriers to treatment access and initiation
3. High treatment attrition rates
4. A weak monitoring and evaluation system

The main thrust of the 2017 set of strategies was that in order to gain control of Pakistan's AIDS epidemic these four critical issues had to be addressed.

This section of PAS IV will revisit each of the critical issues identified in PAS III (2017 revision), and show that they remain critical and unresolved. It will also highlight an additional critical issue that appears to be preventing the programme from effectively addressing the original four critical issues.

Critical Issue 1. Low prevention and testing programme coverage among key populations

PAS III Indicator	2019 Target[33]	2019 Result[34]
% PWID that received an HIV test within the last 12 months and know the results	49%	14%
% MSM (non-SW) that received an HIV test within the last 12 months & know the results	24%	2%[35]

% MSW that received an HIV test within the last 12 months and know the results	50%	12%
% TG that received an HIV test within the last 12 months and know the results	49%	15%
% FSW that received an HIV test within the last 12 months and know the results	36%	2%

Overall key population prevention and testing programme coverage remains among the lowest in the Asia Pacific region.[36] It was estimated that in 2018 no more than 14% of PLHIV in Pakistan knew their status;[37] clearly well below the 90% target for fast-tracking the response. 2019 programmatic data shows that the testing coverage targets (national level) set in PAS III have been significantly underachieved (see table above).

The UNAIDS Global AIDS Update 2019 judged key population prevention programmes in Pakistan to be "faltering"[38] on account of the fact that prevention programme coverage is at less than 10% for more than one key population.[39] The extremely low testing coverage for MSM (non-SW) is of particular concern given the estimated population size and their projected proportion of disease burden as the epidemic progresses.[40]

PAS III (2017) short-listed priority cities for each key population based on where the available evidence (IBBS mapping) suggested that most PLHIV were likely to be found. With the exception of PWID programming, which is currently present in 25 out of 28 priority cities (with another 2 cities soon to be added,) priority city coverage for other key populations has largely failed to materialise. Only 4 out of 21 priority cities for MSM (non-SW), 6 out of 21 for TG, and 3 out of 11 for FSW, currently have any prevention programmes, and where they do exist they are small in scale and limited in scope.

Such key population programme coverage as does exist appears to have been almost wholly supported by the Global Fund. Domestically funded PC-1 programmes at provincial level have been largely inactive and significantly underspent.[41] Domestic funds are not being directed towards filling the gaps between Global Fund key population programme coverage and the overall strategy targets.

The current low scale and low quality of the community-based key population programming that was initiated after the development of PAS III (2017) renders it largely ineffective.[42] HIV incidence in Pakistan rose 57% from 2010 to 2018,[43] and the country remains one of only 10 countries globally with an incidence-prevalence ratio of 10 or over – a level that is associated with increasing HIV infections and large percentages of PLHIV not having access to treatment.[44]

[30] NACP, *Pakistan IBBS Round V*, April 2017
[31] NACP, *AIDS Epidemic Modelling Exercise for Pakistan*, 2017
[32] UNAIDS, *Fast Track Commitments to End AIDS by 2030*, UNAIDS *Strategy 2016-2021, On the Fast-Track to End AIDS*, Global *Fund Strategy 2017-2022: Investing to End Epidemics*, WHO *Global Health Sector Strategy on HIV 2016-2021*
[33] Targets are non-cumulative
[34] Numerators provided by NACP and Nai Zindagi, denominators are revised KP PSEs from AEM.
[35] The programme does not currently disaggregate MSM (non-SW) coverage data between the sex workers and non-sex workers in the population. Results have been allocated 60% to MSM (non-SW) 40% to MSW based on discussions with implementers.
[36] piii, National HIV Programme Review 2019
[37] p220, UNAIDS Global AIDS Update 2019, https://www.unaids.org/en/resources/documents/2019/2019-global-AIDS-update, current data (based on a revised PLHIV PSE from AEM) suggests the figure is around 12%.
[38] p216, UNAIDS Global AIDS Update 2019, https://www.unaids.org/en/resources/documents/2019/2019-global-AIDS-update
[39] p38, UNAIDS Global AIDS Update 2019, https://www.unaids.org/en/resources/documents/2019/2019-global-AIDS-update, the data analysed for this strategy shows coverage for MSM (non-SW) and FSW to be well below 10%.
[40] p12-16 and p38, PAS III, 2017 Revision
[41] p48, National HIV Programme Review 2019
[42] piv, National HIV Programme Review 2019
[43] https://www.aidsdatahub.org/pakistan-country-snapshot-2019-unaids-regional-support-team-asia-and-pacific-and-aids-data-hub-2019
[44] P32, UNAIDS Global AIDS Update 2019, https://www.unaids.org/en/resources/documents/2019/2019-global-AIDS-update

Critical Issue 2. The continued existence of barriers to treatment access and initiation

PAS III Indicator	2016 Baseline	2019 Target	2019 Result[45]
# People living with HIV initiating treatment within the last year	2,324	18,193	12,452

PAS III (2017) identified 3 types of constraint that were affecting treatment access/initiation: the CD4 count eligibility requirement, insufficient treatment preparedness services for PWID, and treatment service model issues. The first has been effectively dealt with by the implementation of treatment for all regardless of CD4 count.

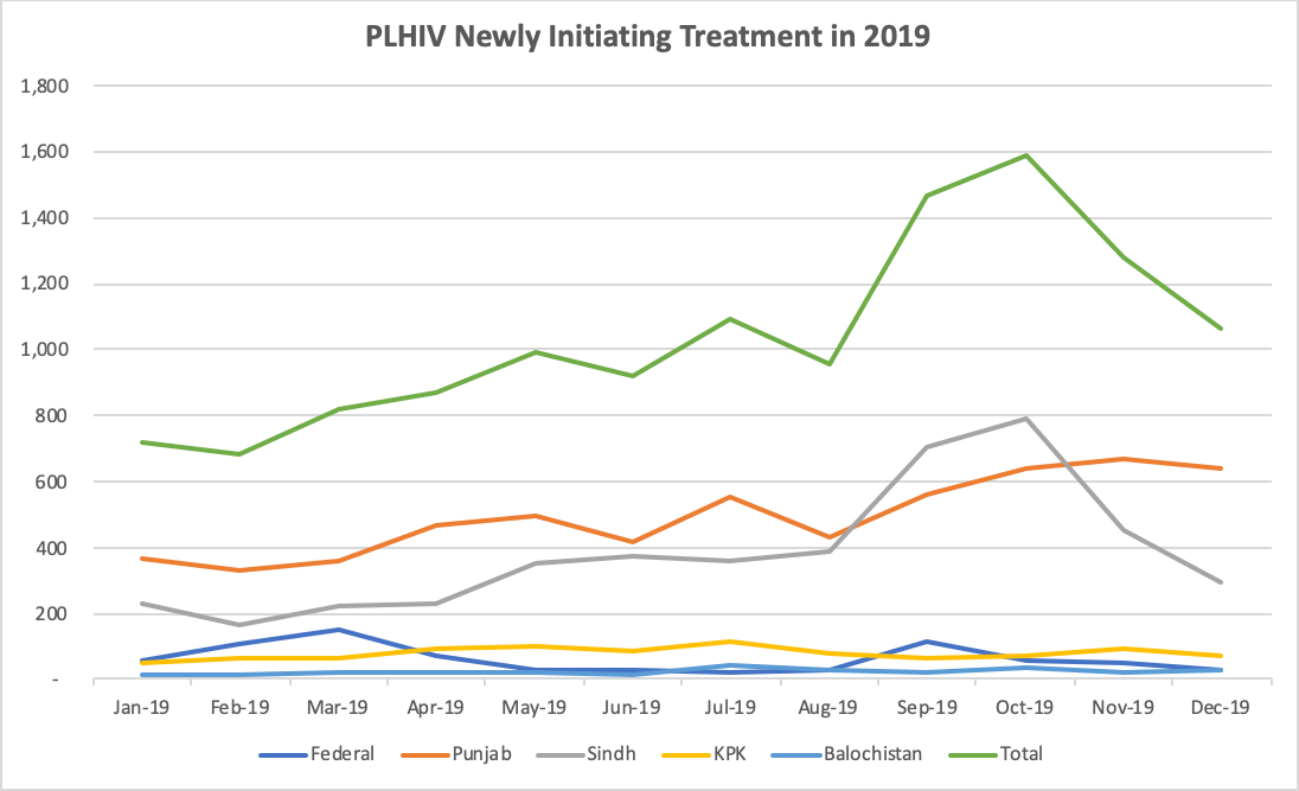
There has also been some progress in increasing the availability of treatment preparedness support services for PWID. Nai Zindagi's ART Adherence Units are now accessible in 4 districts with increased slots reaching 365 PWID per month in 2020.[46] However, it should be noted that the 2017 strategy proposed AAU expansion as a fall-back option in the absence of OST which would "clearly be a game-changer in terms of addressing this conundrum."[47] There has been no tangible progress on bringing about OST services in Pakistan since the last strategy was written.

The problem of long travel distances to ART Centres has been mitigated to some extent by the addition of 19 new centres since 2017, bringing the total to 45. However, despite this, the recent programme review notes that "only one fifth of districts have an ART centre and distance to travel is a main barrier for key populations."[48]

There is some evidence that treatment uptake is improving with cumulative ART Centre registrations increasing 97% from 2016 to 2019, and people on treatment increasing 158% in the same period.[49] Whilst it cannot be said for certain what role the above developments have played in bringing about this outcome, it seems reasonable to assume some influence.

Positive developments aside it should be noted that the programme has still fallen short of its treatment initiation targets. The number of people newly initiating ART in 2019 was 68% of the target set for this indicator in PAS III. Analysing the 2019 treatment initiation data by province shows that the national data is skewed by the numbers of people newly initiating treatment in September and October in Sindh province. This is likely due to the response to the Larkana 'Outbreak' discussed in the previous sections. The treatment initiation rate tails off significantly in November and December. In an HIV epidemic concentrated among key populations and their intimate partners, significantly and continually improving treatment uptake over the long-term will be highly dependent on addressing treatment access barriers for key populations.

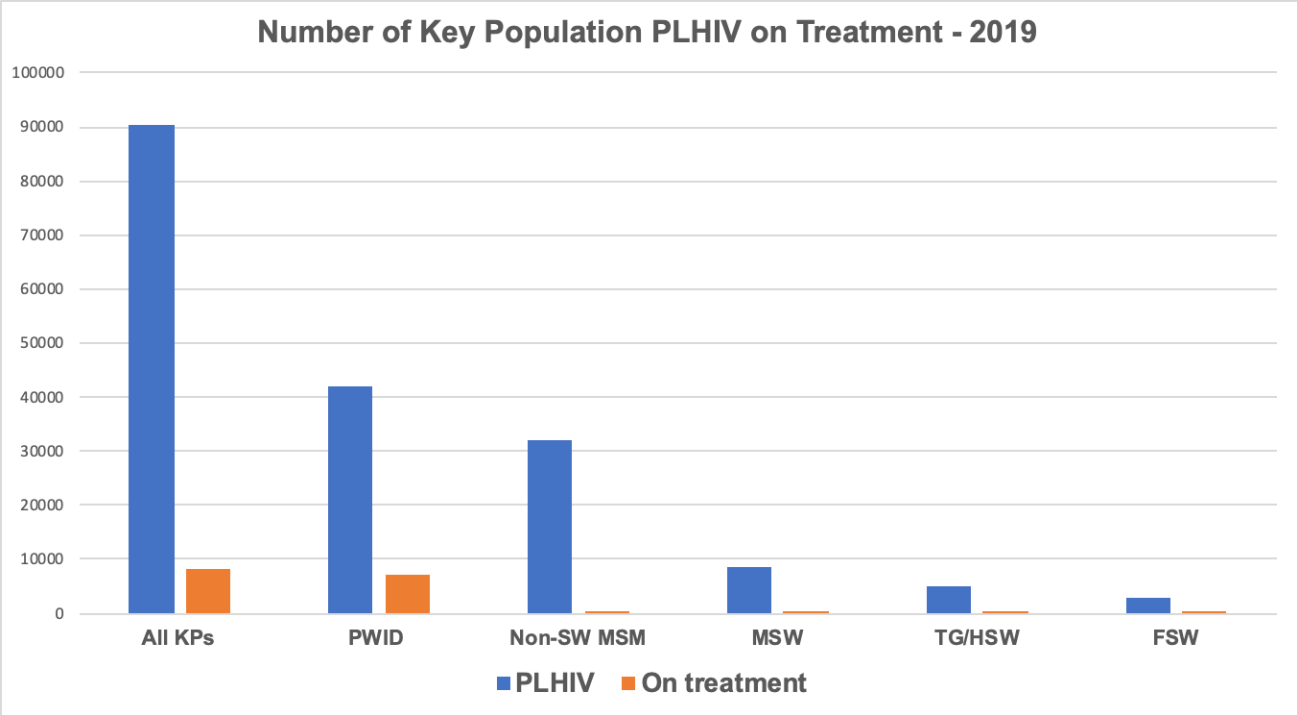
[45] Results data from NACP, March 2020
[46] From presentation given by Nai Zindagi at AEM meeting, Islamabad, March 2020
[47] A systematic review and meta-analysis of evidence of the effect of OST on ART outcomes among PWID living with HIV found strong evidence that OST increased recruitment onto ART by 87%. See "**Impact of Opioid Substitution Therapy on Antiretroviral Therapy Outcomes: A Systematic review and Meta-Analysis**", AJ Low et al., Clin Infect Dis (2016) 63 (8): 1094-1104. June 2016.
[48] piv, National HIV Programme Review 2019. It is likely that the travel distance is also an issue for non-KP PLHIV.
[49] Data provided by NACP, March 2020.



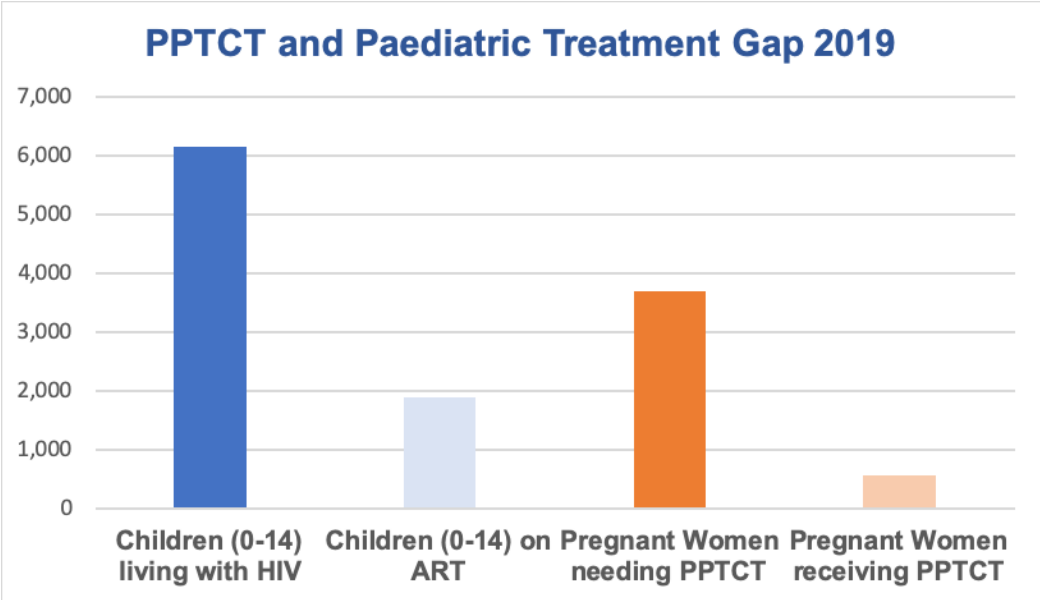
In Pakistan there is a long list of long-standing treatment access barriers that have yet to be addressed. The recent programme review notes that "barriers to access to treatment and treatment adherence have not changed much" before going on to cite examples such as long travel distance and associated costs, restricted opening hours, long-drawn registration and baseline testing procedures requiring multiple visits to different facilities, and stigma and discrimination among health care workers.[50] None of this is new; these issues have come up repeatedly in community consultations during the current and previous strategy development processes, and are also well documented in APLHIV's research on community access to treatment.[51]

The consequence of the failure to adequately address critical issues 1 and 2 is that the 22,947 people currently on treatment represent only 12.5% of the estimated number of PLHIV in Pakistan. For key population PLHIV, the treatment coverage is even lower at 9%. Of particular concern, from the point of view of epidemic control, is the extremely low treatment coverage for MSM (non-SW) (currently at 1.1% of the estimated number of MSM (non-SW) PLHIV).[52] This group is currently estimated to account for 17.4% of the total number of PLHIV in Pakistan; a proportion that is projected to rise exponentially in the absence of effective prevention programming. At this level of coverage there is unlikely to be any prevention benefit from the treatment programme.[53]

[50] ppiv-v, National HIV Programme Review 2019
[51] Country Research on Community Access to treatment, Care and Support Services (Phase II), APLHIV, January 2019
[52] Given the stigma attached to key population identities and behaviours, key population treatment coverage is likely to be under-estimated in these figures.
[53] Treatment coverage data from NACP MIS 2019, KP PLHIV PSEs derived from Spectrum.



A further consequence of the failure to address critical issues 1 and 2 is that intimate partners, spouses and family members of key populations are not being reached by the programme and linked to testing and treatment services. The result is that in 2019 only 31% of children living with HIV were on treatment, while only 16% of pregnant women living with HIV received PPTCT services.[54]



Critical Issue 3. High treatment attrition rates

In developing PAS IV, we have much better evidence on this particular critical issue. In 2019, with Global Fund support, NACP conducted a retrospective cohort study to assess patient retention. By analysing data from two patient cohorts, one 12-month cohort, and one 24-month cohort, a clear picture of just how serious the treatment programme's retention problem is, has emerged:

[54] Spectrum 2019 and NACP MIS Data. National paediatric coverage is heavily skewed by the data from Sindh where a large number of children were put on treatment after the Larkana 'outbreak'.

- In both cohorts more than one third of patients initiating treatment in month one did not return in month two.
- Only 26% of patients were retained at the end of the 12-month cohort, and only 11% at the end of the 24-month cohort. In both cohorts the number of fully retained patients declined every month that was tracked.
- PWID patients were retained at generally the same rate as other patients.

The study concludes that "while there was an improvement in retention among the patients who started treatment in 2018, the overall loss factor in both cohorts was massive."[55]

For the 2017 strategy this critical issue was worded as "High treatment attrition rates, especially among PWID". The ART Outcomes Study disputes the assumption that attrition is a particular problem for PWID: "this finding does not align with the general perception among many key informants that PWID are less likely to engage with the treatment programme than other population groups."[56] The evidence suggests that the problem is not with the patients but with the service; "most patients were not engaged with the ART centres in ways that support their ongoing retention on treatment."[57]

Output Strategy 2.2.1 in PAS III (2017 revision) specified that the programme would "implement intensified case management models, tailored to particular key populations, which provide adherence support across the clinic-community divide." Currently only 8 of the 45 ART Centres have Case Managers, a position which was created in response to the strategy, with funding support under the current Global Fund grant. From consultations conducted for the development of this strategy it appears that some of these positions have not been filled with appropriately qualified individuals. Even if they were, it is doubtful that at this scale (one Case Manager per every 2,868 patients,) they would have much impact on the programme's massive dropout rate.

Critical Issue 4. Weak monitoring and evaluation system

The need to capacitate the national monitoring and evaluation system was a key strategic action proposed in PAS III 2017 revision. As with the treatment access barriers, the strategy noted that this was not a new issue. Systems fragmentation, parallel systems, lack of interconnectivity between systems, and uncoordinated data flows are all historical issues.

The results of the 2019 Programme Review suggest that, insofar as there have been any efforts to address this critical issue, they have been largely unsuccessful. The review notes that "the MIS maintained by NACP is fragmented, of low quality, low resourced and has not much priority".[58] There is a "lack of a reliable interconnected MIS across HIV programme streams" with parallel systems run by "federal (NACP), provincial (PACP), and non- governmental (NZT, GSM, APLHIV), without interfaces connecting them."[59]

This results in discrepancies in data between the various systems and mutual suspicions about the accuracy of data from systems owned by other parties. There is little evidence that data is being used for real-time programme management. An obvious example would be the "massive" drop off of one third of patients initiating ART treatment after the first month, which only came to light through a cohort study rather than through regular programmatic data review. It is also apparent that MIS systems are not being used to track progress against national and provincial strategy targets.

Both the Programme Review and the ART Outcomes Study make key recommendations around the need to improve HIV-related data systems. The outcomes study singles out the issues of data quality in ART centres, the integration of the national MIS and the Punjab MIS, and the flow of viral load testing data from the third-party provider into the national MIS.[60] The Programme Review

[55] p12, Pakistan ART Outcome Study, NACP, February 2020
[56] p11 Pakistan ART Outcome Study, NACP, February 2020
[57] p10 Pakistan ART Outcome Study, NACP, February 2020
[58] p47 National HIV Programme Review 2019
[59] p50 National HIV Programme Review 2019
[60] p22 Pakistan ART Outcome Study, NACP, February 2020

recommends that the MIS maintained by NACP "should be guided by a clear strategy and structure that ensures that data are correctly and timely captured, validated, reported upward and horizontally, analysed and used for feedback and planning."[61]

Critical Issues for PAS IV

Given the above analysis, it is clear that the same set of critical issues that PAS III (2017 revision) was designed to resolve, will need to inform the content of PAS IV. Unless these issues are urgently addressed the AIDS programme in Pakistan will continue to have limited impact on the country's epidemic.

This leads to the question of why, despite the fact that these issues are long-standing, and well-documented, strategies to resolve them do not get effectively implemented? The 2019 Programme Review notes that one major factor is the lack of political leadership; "political commitment and programme ownership have not been supportive to the development of an efficient, effective and sustainable HIV control programme."[62]

This lack of political commitment and ownership has meant that provincial and national AIDS strategies are not being used to guide provincial and national AIDS control programmes. The only portion of the strategies that tend to get implemented are those aspects which fall within the remit of the Global Fund grants. Domestically funded AIDS control programmes struggle to absorb the funds that have been allocated to them and, in some provinces, what funds they do absorb are spent on salaries rather than programmes. The review identifies the "lack of results-based management that provides for accountability and transparency"[63] as a root cause of this.

The gap analysis conducted in 2017 for the Global Fund funding request submission estimated that, based on the then current set of PC-1 applications, domestic funding in 2019 would be accounting for 157% of prevention programme strategy targets for PWID, 26% of prevention programme strategy targets for MSM (non-SW), 180% of prevention programme strategy targets for FSW, and 189% of prevention programme strategy targets for TG.[64] Data and analysis from the National HIV Programme Review indicates that in many cases these programmes simply failed to materialise, and where they did their targets were significantly underachieved. Overall, "funding by the government in PC-1 programmes over the past three years was not even spent by one third."[65]

In view of the above, PAS IV has been designed with a view to addressing an additional critical issue as follows:

Critical Issue 5. Lack of strategic programme oversight and effective implementation management

It is imperative that the programme addresses the lack of political leadership, and, in particular, the absence of any ownership of the provincial and national AIDS strategies. The strategies should be actively used to govern and manage the combined performance of domestically and internationally funded programme components towards the achievement of strategy targets. Unless this happens, long-standing systems and implementing model problems will continue to be unaddressed, domestically funded programmes will continue to underspend and fail to reach targets, and the epidemic will remain uncontrolled.

In particular, the following are currently lacking:

- Programme oversight mechanisms at provincial level to oversee progress towards achieving strategy targets

[61] p50 National HIV Programme Review 2019
[62] p48 National HIV Programme Review 2019
[63] p48 National HIV Programme Review 2019
[64] The coverage estimates were skewed by highly ambitious targets in the Punjab PC-1, several of which (for PWID, TG and MSW) exceeded the provincial level PSEs for these populations.
[65] p48 National HIV Programme Review 2019

- Programme governance capacity at provincial level to regularly monitor progress towards achieving programme targets and do evidence informed course correction, if required
- Alignment between domestically and internationally funded programme plans to ensure optimisation of their respective coverage contributions towards achieving strategy targets
- Results-based management of domestically funded programmes to ensure proposed targets are achieved and unspent funds are used to address programmatic gaps
- Transparency and accountability-mechanisms to ensure that non-performing projects can be identified and improved in a timely manner, and for ensuring follow-through on the resolution of long-standing systems and programme model problems
- Standardisation of programme components across domestically and internationally funded programmes, and between provinces, so that complementarity can be better planned and tracked[66]
- Oversight of geographic allocation of different programme components to ensure optimal coverage of cities prioritised for each key population
- A common M&E framework and MIS for all programmes

To address these issues this current iteration of PAS has undergone significant reworking of Outcome 3[67] concerning the enabling of an environment for an effective AIDS response. Unless programme governance and management issues are properly addressed the rest of the strategy is unlikely to be adequately implemented.

Summary of Critical Issues for PAS IV

Based on the analysis presented in this section, the table below summarises the critical issues that PAS IV has been designed to address and highlights the consequences of failing to address them.

	Critical Issue	Results in
1	Low prevention and testing programme coverage among key populations	• Most PLHIV not knowing their status or accessing treatment • Failure to reduce the occurrence of risk behaviours • Rising HIV incidence
2	Unaddressed barriers to treatment access and initiation	• Significant cascade leakage between testing and treatment • Poor treatment coverage
3	High treatment attrition rates	• Failure to achieve viral suppression • Failure to achieve prevention benefit of treatment • Increasing AIDS mortality
4	Weak monitoring and evaluation system	• Inability to effectively manage programme performance • Lack of coordination • Inefficient resource allocation and utilization • Limited understanding of service cascade weak points

[66] For example, in their respective PC-1s different provinces cluster KPs or subsets of KPs in different ways. The previous round of PC-1s did not disaggregate prevention and testing targets, whereas the Global Fund programmes do.

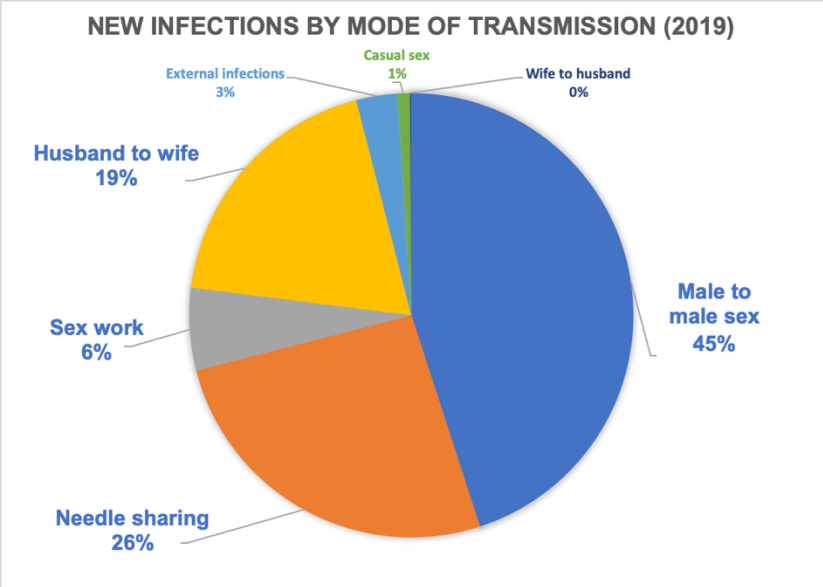
[67] Pakistan's AIDS strategies have a three-pillar structure. Put simply these are 1. prevention/testing, 2. treatment and 3. enabling environment. PAS III (2017) significantly rewrote 1. and 2. but only made minor modifications to 3. PAS IV significantly rewrites 3.

5	Lack of strategic programme oversight and effective implementation management	• Significant underperformance of domestically funded programmes • Failure to resolve long-standing systems and implementation barriers • Failure to optimise the respective contribution of internationally and domestically funded programmes towards the achievement of strategy targets

3. Gaining Control of the Epidemic

This strategy aims to reverse the trends of rising incidence of HIV infection, and mortality from AIDS in Pakistan. Previous sections have discussed our starting point; the current situation in 2020. This section looks forward to our end point; to the impact we want to have on the epidemic by the end of our strategy timeframe in 2025. Based on projections from AEM modelling, and using current programmatic data for baselines, two futures are considered; one where we continue programmes at the current level of coverage - "business as usual" - and one where we scale up our coverage to achieve targets that have been set though a consultative dialogue process with all four provinces.

The targeting rationale of this strategy, and its particular emphasis on scaling up prevention programme coverage of key populations, is based on what the AEM model tells us about how most new HIV transmissions are currently occurring. In 2019, 77% of new infections occurred through male to male sex (45%), needle sharing among PWID (26%), and sex work (6%). This is why the programmes target MSM, PWID, and male, female and transgendered sex workers to try to reduce their risk behaviours. A further 19% of new infections were likely transmitted from married MSM, PWID and clients of sex workers to their female spouses. This means in effect that, according to the model, (a) currently 90% of transmissions are coming from key populations and sex worker clients (b) the majority of these transmissions are occurring in the context of male to male sex and needle-sharing for drug use.



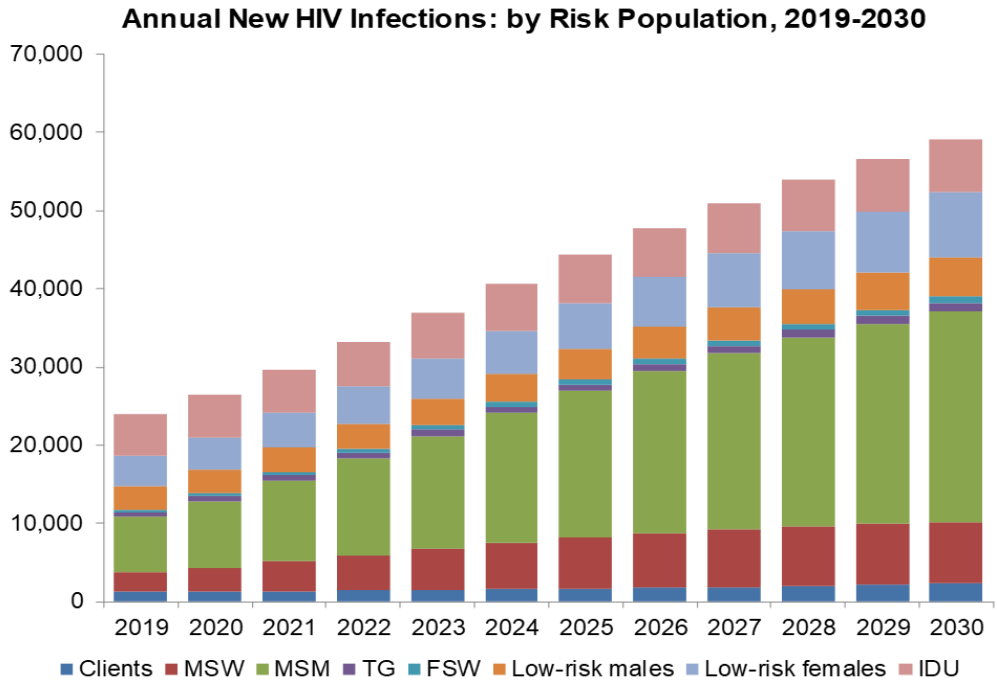
AEM modelling enables us to project how the epidemic would progress under a "business as usual" scenario (where prevention programme coverage remains at current levels). We know, based on programmatic data from 2019, that programme coverage levels for key populations are not meeting the scale up targets set in PAS III, and, in some cases – MSM (non-SW) and FSW – have actually declined.

Key PAS III Indicators	PAS III Baseline	2019	
		Target	Achieved[68]
% PWID reached with HIV prevention	18%	44%	29%

[68] PAS III baseline figures were based on data from IBBS Round IV. 2019 results are based on programmatic data and the denominators (key population size estimates) have been increased in accordance with AEM population growth estimates. A complete set of baseline data used for developing the strategies in annexed.

% MSM (non-SW) reached with HIV prevention	4%	19%	3%[69]
% MSW reached with HIV prevention	15%	43%	23%
% TG reached with HIV prevention	17%	44%	27%
% FSW reached with HIV prevention	8%	33%	4%
% People living with HIV currently receiving ART	7%	27%	12%

Given this coverage, and without any new effort to achieve key population programme scale up, the model projects the distribution of new infections to increase as follows:



It can be seen that the portion of new infections accounted for by MSM increases significantly. This is why the extremely low coverage of this population is of such concern. Getting a better understanding of this population (its sub-groups, their risk behaviour frequencies and distributions, viable ways to reach them (given the stigma and secrecy attached to this behaviour), and how to tailor intervention packages to their needs) is an intended outcome of a number of key outputs of this strategy.[70]

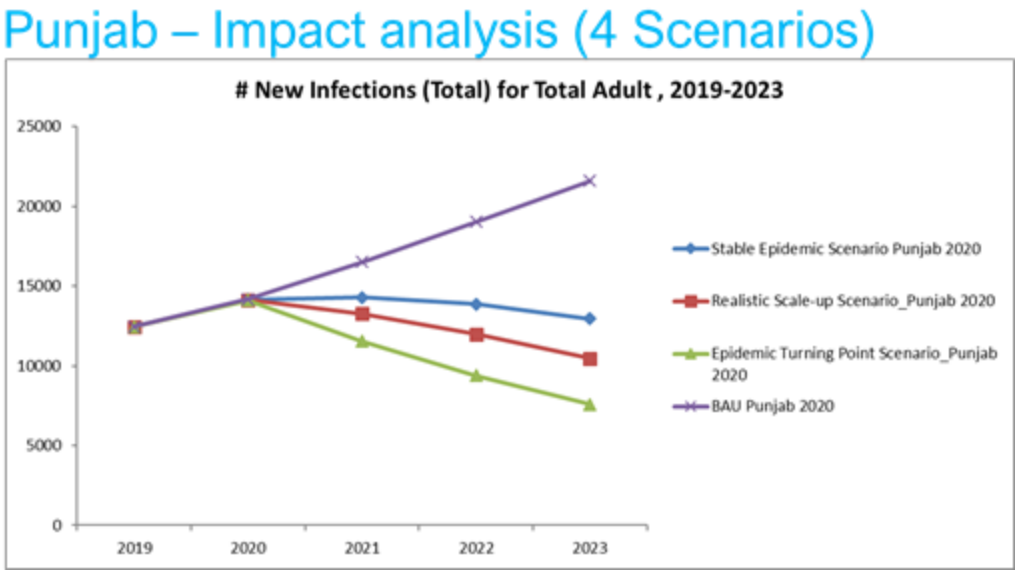
In order to facilitate a target setting process at provincial level, AEM modelling was used to project the impact of a range of different provincial-level intervention scenarios with differing levels of key population and treatment programme coverage. Three options were considered:

- A stable epidemic scenario (minimal impact)
- A realistic scale-up scenario (moderate impact)
- An epidemic turning point scenario (highest impact)

The scenarios are differentiated by the level of investment they require, and the level of coverage they achieve – the higher the investment, the greater the coverage and the bigger the impact. Each

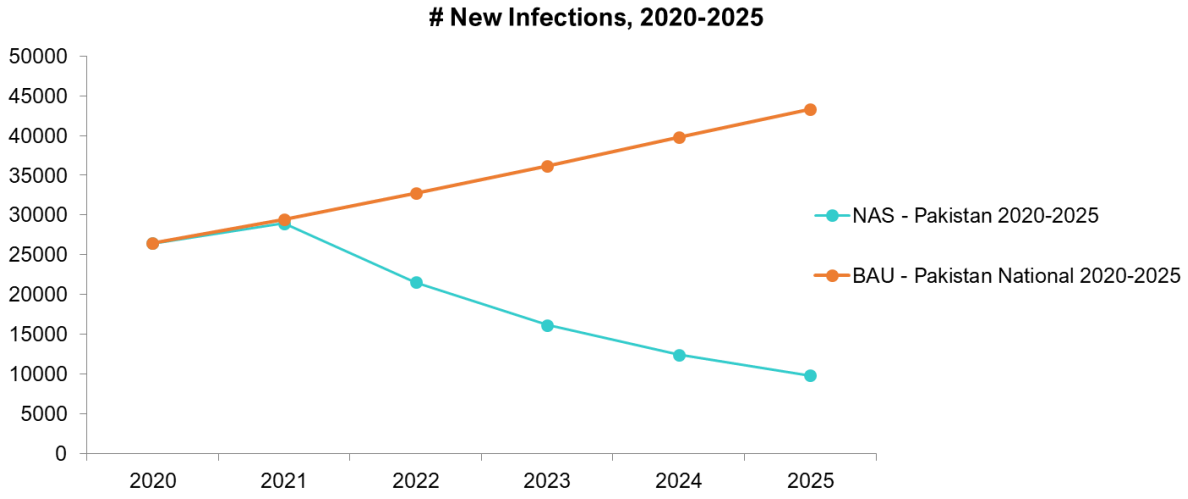
[69] Current programmes do not bifurcate data between MSM and MSW. The same CBOs conduct interventions for both populations and the data is reported in aggregate. The split in this table was calculated on a 60/40 basis for MSM/MSW after discussions with implementers about their understanding of the proportional coverage.
[70] Outputs 1.1.3, 1.2.3, 3.1.1 and 3.5.2 in the following section all aim to inform a better evidenced and differentiated approach for MSM.

scenario was compared with a business as usual approach. The following graph illustrates the approach with respect to Punjab province:



Each scenario option, and its associated set of annual coverage targets for prevention and treatment, were put through a consultation process with each province. Provinces indicated which scenario for which key population they felt would best serve their programme objectives. Based on the feedback received the scenarios were redesigned by adjusting annual prevention and treatment programme targets to levels the provinces found workable considering their respective baselines. The resulting selected scenarios were therefore hybrid versions of the original models depicted above. A key feature of the revised final scenarios was that they allow for the lead time the programmes felt were necessary to bring key population programmes for MSM, male and female sex workers and transgendered sex workers to scale.[71] A complete set of targets for the final selected scenarios is annexed.

The national level intervention scenario for PAS IV is an aggregate of the four provincial level scenarios. The model shows that achieving the targets for this scenario would result in a 63% decline in new HIV infections in the country between 2020 and 2025. This is PAS IV's impact objective.



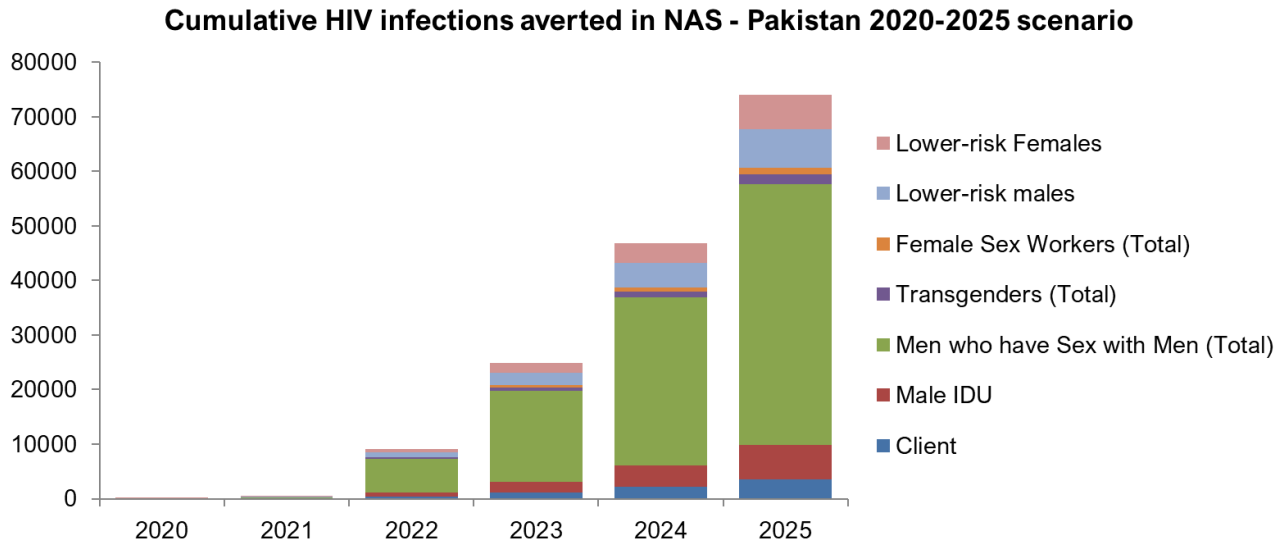
[71] This is discussed further in the next section. When programming in new cities CBOs for key populations have to be created, organised and capacitated. Key population involvement in HIV prevention and testing programming is in its nascent stages in Pakistan.

The achievement of this impact is conditional on the achievement of the coverage targets that have been set in the provincial AIDS strategies. The table below summarises a core set of the aggregated national-level coverage targets for 2025.

Key PAS IV Indicators	PAS IV Baseline	2025 Target
% PWID reached with HIV prevention	29%	73%
% MSM (higher risk non-SW) reached with HIV prevention	9%[72]	70%
% MSW reached with HIV prevention	23%	86%
% TG reached with HIV prevention	27%	86%
% FSW reached with HIV prevention	4%	76%
% People living with HIV currently receiving ART	12%	72%

An important difference between the PAS III and PAS IV indicators is that for MSM (non-SW) PAS IV is using a smaller denominator. The rationale for this assumes that risk behaviours and their frequencies are not distributed evenly across the entire population of MSM (non-SW). The denominator for the targets for MSM (higher risk non-SW) has been calculated by the AEM team as 35% of the total MSM (non-SW) in any given year. Evidence collected in the course of implementing this strategy, both through programme implementation and the proposed surveys, should provide data to inform more accurate assessments of the risk-profiles of subsets of the MSM (non-SW) population.

Based on the targets that have been adopted by the provinces, and assuming not only that these targets are met, but that the systemic issues resulting in cascade drop out between testing and treatment, and after treatment initiation, are resolved, the AEM model projects that the strategy could avert over 70,000 new HIV infections by 2025. The final graph below shows the distribution of those averted infections across key populations and their intimate partners:



[72] Since MSM (higher risk non-SW) is a new construct we do not have any data on which to assess whether the MSM (non-SW) the programmes are currently reaching have a higher risk profile than the rest of the MSM (non-SW) population. For convenience only, we have assumed that all those reached fell into this category. This is clearly a generous assumption. More evidence is required to ensure programmes track and target sub-groups with higher risk behavioural profiles. Outputs 1.1.3, 1.2.3, 3.1.1 and 3.5.2 in the following section all aim to inform a better evidenced and differentiated approach for MSM.

4. The Strategy

Previous sections have analysed the current situation and selected an intervention scenario, with programme targets, based on a decision about the impact we want to have on the epidemic by 2025. We now know where we are, and where we want to get to. This section answers the question "*How* do we get there?"

As with PAS III, the strategy is designed in a framework with three pillars each with a different target outcome. The pillars group thematically into (1) prevention and testing, (2) treatment and care, and (3) enabling environment and sustainability. The three outcomes they aim at are as follows:

Outcome 1: Increased testing coverage and reduced risk behaviours among key populations and their partners

Outcome 2: Increased ART initiation and retention, with key populations and their spouses/partners and children proportionally covered

Outcome 3: Environment is enabled for an effective and sustainable AIDS response

Each of these outcomes aims to address at least one of the critical issues identified in Section 2. Together the three outcomes aim at achieving the impact selected in Section 3.

Under each outcome is a set of outputs that detail what will be done to achieve the outcome. More specifics about the implementation of these outputs can be found in the Implementation Plan that accompanies this strategy. A summary table of the overall framework of this strategy is annexed.

Outcome 1: Increased testing coverage and reduced risk behaviours among key populations and their partners

This first outcome is designed to address the critical issue of low prevention and testing programme coverage among key populations. Prevention aims to reduce the occurrence of risk behaviours among key populations. It is here that the strategy aims to have an impact of Pakistan's increasing incidence rates. Testing aims to ensure that those with HIV are aware of their status and have access to treatment. The strategy aims to increase prevention and testing coverage to the following levels by 2025:

Key Population	2019 Coverage	2025 Coverage
PWID	29%	73%
MSM (higher risk non-SW)[73]	9%	70%
MSW	23%	86%
TG	27%	86%
FSW	4%	76%

There are three key outputs for Outcome 1. These outputs cover key population testing scale up (1.1), high-impact key population prevention roll-out (1.2), and interventions for other vulnerable populations and pregnant women (1.3) respectively. Each output breaks down into a cluster of sub-outputs which are detailed in the narrative below.

Output 1.1 Accelerated scale-up of community-based HTS for all key populations (coverage aligned with epidemic burden)

Pakistan has two main service delivery models for outreach HIV testing services for key populations, one for PWID, and one for other key populations. Both models deliver outreach testing services in community settings. The PWID model is more well-established and is therefore amenable to more

[73] The denominator here is 35% of the entire MSM (non-SW) PSE from AEM. The rationale for the change is that the programme needs to focus on a subset of the MSM population engaged in higher risk behaviours. Outputs 1.1.3, 1.2.3, 3.1.1 and 3.5.2 below would all contribute towards building a better understanding of where these higher risk MSM are to be found.

rapid scale up – the key issue is the "where" rather than the "how". For the community-based testing for MSM, MSW, TG and FSW the "how" is the more critical issue. The key challenge in this case will be the mobilising, organising, capacitating and supervision of key population CBOs, especially in cities where such groups do not currently exist. Where appropriate, the narrative below will separate out implementation issues particular to one or the other model.

1.1.1 Initiation of community-based outreach testing programmes for key populations in all priority cities not yet covered

In the absence of new IBBS data, PAS IV is using the same list of priority cities used in PAS III (2017 revision). Based on IBBS Round V and AEM analysis, each key population has its own set of priority cities (prioritisation was based on estimated PLHIV among the key populations in each city – the aim is to maximise the yield of testing services). The priority city list is annexed to this strategy.

Only 3 of 11 cities prioritised for FSW, 6 of 21 cities prioritised for TG, and 3 of 21 for MSM currently have any community-based key-population-specific testing services. Output 1.1.1 is a commitment to bringing the intervention model to the remaining cities prioritised for those populations. Cities with higher estimated numbers of key population PLHIV will be programmed in first. This will require substantial technical support around how to effectively manage intervention models which necessitate the creation, registration, capacitation and supervision of organisations among marginalised communities. The management capacity and technical support dimensions of this output are addressed under Outcome 3 below.

There are already PWID interventions in all but three of the 28 cities priorities for that population, with two more prioritised cities in the pipeline. The remaining city has security issues. Programmes are also present in a further 13 cities not on the prioritized list.[74] The current PWID programme already has the experience of establishing new interventions in cities previously not covered. A portfolio optimisation process in 2019 added 8 major urban centres in Punjab and Sindh which resulted in a 76% increase in positive cases identified from 2018 to 2019 (2,745 to 4,835.)[75] The key issues for further PWID testing scale up are:

- Whether more PWID can be reached with testing services in existing programmes sites – the 8 cities most recently added to the portfolio will be less likely to have reached saturation point and will therefore be prioritised in this regard.
- Whether there are potential new programme sites within cities with existing interventions where more PWID can be reached.
- Whether there are additional cities not on the prioritized list where significant numbers of PWID are likely to be found.

These questions will be answered through mapping activities with programming adjusted according to the results.

1.1.2 Scale up and precision targeting of existing community-based testing programmes for key populations in priority cities where such programmes already exist

This output aims to optimise the testing coverage of the interventions that have already been established. Two dimensions will be considered. One is the coverage capacity of the existing intervention set-up; ensuring it is sufficiently well-resourced (number and type of staff, and their technical capacity) to reach more people. The other is the methods deployed for expanding geographic and virtual reach.

Regarding intervention set-up the key strategic approaches are

- To ensure that CBOs delivering programmes are scaled in relation to the estimated target population in their city (no one-size fits all approach)

[74] Slide 8, Reality Check, presentation given by Nai Zindagi at AEM meeting in Islamabad, March 2020.
[75] Slide 12, Reality Check, presentation given by Nai Zindagi at AEM meeting in Islamabad, March 2020.

- To ensure frontline workers have the requisite technical capacity for their roles (knowledge and skills)
- To ensure key organisational support functions are staffed and performing (M&E, finance and administration, management and supervision)
- To ensure the intervention models (package of service and approaches) are tailored to the particular groups or sub-groups they serve[76]

Regarding intervention reach, the key strategic approach will be to optimise the use of virtual outreach to connect more key population members to testing services. This will require tailoring between different key populations depending on the social media habits of the target audience. It may also require tailoring within key populations according to age group. Technical support and capacity building will be required (see Outcome 3) on the use of particular approaches to online outreach.[77]

Geographic programme reach will be specific to particular populations in particular cities and will be highly flexible based on community intelligence about where people can be best accessed at any given point in time. Likewise, service delivery time schedules will be adapted to accommodate the social and professional lives of the targeted population (e.g. sex worker working hours). Whether physical or virtual, the use of social-network-based HIV testing approaches to expanding coverage will be a key dimension of the service strategy for key populations.[78]

Delivering this output will require a strategic approach if key population testing yield is to be optimised. There will be a managed sequence approach to the scaling up existing interventions (1.1.2) versus the establishment of new interventions in additional cities (1.1.1). The strategy for making these sequencing choices is for scale up to be guided initially by the available data from IBBS Round V (estimated population size for a given key population in a particular city, and estimated number of PLHIV among that population.) The guiding question will be "where are more cases likely to be found?" As programmes become more established, as with the PWID programme, programmatic data will be triangulated with IBBS data to make more informed choices about where to locate and expand interventions.

Particular attention will be given to programme scale in relation to the MSM population where a significant number of cases are expected to be found. The modelling conducted for this strategy (Section 3) has highlighted the need to precision target subsections of the non-SW MSM population where high-risk behaviours are occurring at a higher level of frequency. The evidence on where to find, and how to reach, these subsections will come first through programmatic experience. Online approaches may prove particularly productive here but this will first be tested. The critical next step for the MSM (non-SW) and MSW programmes will be to develop differentiated interventions for these two populations and for subsets within them. The current model treats them as a single population and does not disaggregate its coverage between them. Outputs 1.1.3, 1.2.3, 3.1.1 and 3.5.2 all aim to inform a better evidenced and differentiated approach for MSW and MSM (non-SW). This is essential to increase the efficiency and impact of the respective interventions.

Scale up in existing cities for PWID programmes will be guided by evidence of programme saturation (see Outcome 3 below). In the short-term the focus on scaling up will be on the 8 cities most recently added to the portfolio and their surrounding districts.

1.1.3 Pilot promotion of HIV self-test kits for MSM in two high burden cities

The strategic opportunity of self-testing in the Pakistan context is the possibility of demand generation for testing among hard to reach key populations. In the context of a significantly under-diagnosed

[76] A key aspect of this differentiation is tailoring with respect to the frequency and distribution of risk behaviours within each population. As the programmes develop a better understanding of this the programmes will be evolved. The basic principle is that intervention frequency and intensity is aligned with risk behaviour distribution and frequency within the population targeted.
[77] Resources such as Going Online to Accelerate the Impact of HIV Programs can be used: https://www.fhi360.org/resource/going-online-accelerate-impact-hiv-programs
[78] Policy Brief, WHO recommends social network-based HIV testing approaches for key populations as part of partner services package, November 2019

HIV epidemic among MSM an additional HTS option is welcomed and comes with a strong recommendation from the WHO.[79] Key steps will include the establishment of a technical working group to oversee the pilot, the securing of regulatory approval for the use of the kits, the development of a pilot project monitoring and evaluation framework, the selection of cities for the pilot (guided by IBBS data), implementation, and evaluation. The monitoring and evaluation framework will be designed so as to enable the pilot to distinguish between MSW and MSM (non-SW) participating in the programme. Social network-based approaches will be considered for self-test kit distribution as per recent WHO guidance.[80] Scale up plans will be developed on the basis of the pilot outcomes.

Given the urgency of the need for testing scale-up the pilot will be effectively managed and technically supported. Full use will be made of WHO guidance on self-testing. Results of the pilot and plans for scale up will be available by the strategic framework's mid-point.

1.1.4 Integration of partner notification and HTS for key population partners/spouses/family members into targeted key population programming where consent can be obtained

An evaluation of PPTCT in Pakistan conducted by UNICEF in 2016 concluded that there is an "urgent need" to integrate PPTCT skills and services in outreach and service delivery programmes for PWID, SWs and other bridging populations rather than the general population."[81] The integration of partner notification and HTS for key population partners and spouses is an important step towards achieving this. It is also important for increasing the uptake of HTS and case finding.

Pakistan already has in place a voluntary assisted partner notification model for PWID. The model has demonstrated the viability of securing consent from PWID for partner notification services. From 2012 to 2018 61.7% of 9178 identified spouses were registered, of which 72.9% were tested, with 8.8% testing positive.[82] This programme will continue to be scaled as an integral part of the PWID testing/prevention service model, and will include testing for children where risks are obvious (e.g., spouse of PWID/mother of children is found positive).

For other key populations, especially MSM, where the bulk of key population female spouses are to be found, the viability of different methods of partner notification in the Pakistan context is not yet known. There may well be challenges around people's willingness to identify partners. WHO guidance stresses that HIV partner notification is a "voluntary process" that can only take place "with the consent of the HIV-positive client." During this strategy period the various methods[83] will be trialled within established key population programmes and the results documented so that higher yield models can be taken to scale. Trials will be conducted in the first year of the strategy with successful models being scale up across the programme in the remaining strategy period.

Output 1.2 High-Impact, age-group tailored, HIV prevention services for key populations taken to scale

Three of the five prevention pillars[84] in the Global HIV Prevention Roadmap are relevant to the Pakistan context:

- Combination prevention with key populations
- Comprehensive condom programmes
- Rapid introduction of pre-exposure prophylaxis

[79] Guidelines on HIV Self-Testing and Partner Notification, WHO December 2016
[80] Policy Brief, WHO recommends social network-based HIV testing approaches for key populations as part of partner services package, November 2019
[81] Evaluation of the Prevention of Parent to Child Transmission (PPTCT) of HIV Programme in Pakistan, March 2016, UNICEF p63. See PAS III (2017) pp22-25 for an extended analysis of PPTCT issues in the Pakistan context.
[82] Only 6% of 9,178 positive PWID with spouses declined partner notification services between 2012 and 2018. *Integrating assisted partner notification with HIV prevention service package for PWID in Pakistan*, Malik et al, Journal of the Intl AIDS Society 2019, https://onlinelibrary.wiley.com/doi/full/10.1002/jia2.25317
[83] P44, Box 3.2, Guidelines on HIV Self-Testing and Partner Notification, WHO December 2016
[84] pp14-15, HIV Prevention 2020 Roadmap, UNAIDS

Prevention services for key populations in Pakistan are delivered through the same models as the testing services in 1.1. Therefore, the strategic approach to scale-up is largely the same: for non-PWID key populations the aim is to (a) bring existing programmes to scale with a focus on cities with higher estimated numbers key population PLHIV, (b) secure a programming presence in all priority cities currently without programmes, and (c) evolve the MSM programme so that it is able to develop differentiated intervention models for MSW and MSM (higher risk non-SW). For PWID the aim is to (a) scale the newer city programmes to saturation and (b) reach out to surrounding districts to assess the potential to reach more PWID.

The key strategic issue in prevention scale up is how to precision-target subgroups of the larger key populations based on the distribution and frequency of risk behaviours within that population. This is a particularly challenging issue for the MSM population given its estimated size and the limited data available about risk behaviour distribution beyond the sex worker population. Programmatic data, and intelligence coming from within communities, will be an important supplement to IBBS data to help guide targeting. It will be essential that monitoring mechanisms are in place at CBO level to capture this information and use it for re-programming.

1.2.1 Expansion and fine-tuning of coverage of community-based combination harm reduction/HIV prevention for PWID in accordance with validated programmatic data about where unreached PWID with high prevalence can be found

As under 1.1.2 above the scale up of prevention programmes for PWID can be guided by the evidence coming up from an already well-established programme. The combination prevention package will continue to include NSEP as a critical component for this population. Issues around the low return rate of syringes will be investigated and programme adjustments made accordingly.[85] Greater emphasis will be placed on condom promotion and STI screening for PWID.

Beyond the AIDS control programme, PWID in Pakistan do not have access to "noncoercive and evidence-informed drug dependence treatment that is consistent with international human rights standards."[86] OST is one such treatment, and is the critical missing prevention programme component for this group due to its well-documented impact on reducing risk behaviours.[87] There is a significant risk to the programme that the continued absence of evidence-informed drug dependence treatment will result in continual cascade leakage between frontline prevention/testing services and treatment services. This will undermine the efficiency and effectiveness of efforts to scale up prevention and testing programmes for this population.

The urgent implementation of OST is a core component of PAS IV. It is dealt with further under 2.1.2 below because it also has a significant role to play in improving ART initiation and adherence for PWID.

1.2.2 Ambitious expansion of coverage of community-based prevention programmes for MSM (higher risk non-SW)/MSW/TG/FSW making full use of social media to optimise programme reach

This output will be a major thrust of the AIDS Control programme going forward. To date prevention programmes for these key populations have been very small in scale and of limited impact. The practicalities of taking the model to scale have been referred to under Output 1.1 and are discussed further below under Outcome 3.

With the key risk here being sexual behaviour, two critical components of the package will be condom availability/promotion and STI screening and treatment. Reducing the frequency of unprotected

[85] p26, National HIV Programme Review, 2019
[86] p6, Health, Rights and Drugs, UNAIDS 2019
[87] MacArthur GJ, Minozzi S, Martin N, Vickerman P, Deren S, Bruneau J et al. Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. BMJ. 2012;345:e5945. Platt L, Minozzi S, Reed J, Vickerman P, Hagan H, French C et al. Needle and syringe programmes and opioid substitution therapy for preventing HCV transmission among people who inject drugs: findings from a Cochrane Review and meta-analysis. Addiction. 2018;113(3):545–63. Ma J, Bao YP, Wang RJ, Su MF, Liu MX, Li JQ et al. Effects of medication-assisted treatment on mortality among opioids users: a systematic review and meta-analysis. Mol Psychiatry. 2018 Jun 22. Epub ahead of print (https:// www.nature.com/articles/s41380-018-0094-5, accessed 4 March 2019).

intercourse and the prevalence of untreated STIs are critical outcomes for the success of the prevention initiative for these populations.

The condom component of key population programmes will include behavioural change communication and demand creation, and free distribution of adequate supplies of condoms and lubricant. Commodities distribution will be tailored (volume and type) to the specific needs of particular key population groups based on their particular sexual practices.

Using the 2019 National STI Case Management Guidelines, STI screening and syndromic management services will be brought to the fore as a core prevention programme component for key populations with specific tailoring to the needs of the three genders of the target populations. Use will be made of the ample guidance available on how to design comprehensive programmes to the particular needs of each key population group.[88] Programme monitoring and evaluation frameworks will be tracking the prevalence and type of STIs found among clients so that services can be developed to address emerging needs.

Age and gender dimensions relevant to particular key populations will be an important consideration for this output. The analysis in PAS III (2017) (pp25-27) still holds; higher numbers of youth are likely to be found in the male and female sex worker populations in particular. For example, outreach workers will need to be sufficiently skilled to support younger sex workers to build skills in negotiating safer sex in the context of the power imbalances inherent in intergenerational transactional sex.

Members of key populations should be able to experience full, pleasurable sexual lives and have access to a range of sexual and reproductive options. For many women from key populations, their main concerns often are not just HIV and STIs, but also other reproductive health issues. Women from key populations should enjoy the same reproductive health rights as all other women; it is important that they have access to family planning and other reproductive health services, including STI screening and treatment.[89]

As with 1.1.2 above, social network-based approaches and the strategic use of online outreach will be critical to expanding programme coverage. Technical support (see Outcome 3) will be sourced to ensure that these approaches are developed in a methodical way and that evidence of their impact on expanding programme coverage is captured and analysed for further programme development.

1.2.3 Roll-out of PrEP for MSM, TG and for sero-discordant couples in two key high burden cities

The HIV Prevention Roadmap 2020 calls for ***rapid*** roll out of PrEP. A three-year PrEP pilot, which was to reach 1500 MSM by year 3, was included in PAS III (2017)[90] but was never formally implemented. Some of the preparatory work has been done.[91] PrEP is currently being informally provided through a couple of treatment centres to sero-discordant couples and possibly some MSM and TG referred through social networks. The failure to formalise this service prevents strategic scale up and systematic monitoring to guide its development. The absence of leadership and effective programme management appear to be key missing ingredients (see Outcome 3.)

The value of PrEP as a new component of the combination prevention approach will be assessed in relation to:

- Prevention service demand generation and an associated increase in HIV testing uptake among MSM and TG

[88] *Implementing comprehensive HIV and STI programmes with sex workers: practical guidance from collaborative interventions* (WHO, 2013) – informally known as the SWIT; *Implementing comprehensive HIV and STI programmes with men who have sex with men: practical guidance for collaborative interventions* (UNFPA, 2015) – the MSMIT; *Implementing comprehensive HIV and STI programmes with transgender people: practical guidance for collaborative interventions* (UNDP, 2016) – the TRANSIT
[89] Consolidated Guidelines HIV Prevention, Diagnosis Treatment and Care for Key Populations, WHO, July 2014
[90] p46, Output 1.1.3
[91] pp23-24, National HIV Programme Review, 2019

- Its utility in addressing the huge imbalance between the estimated size of the MSM population and the current coverage level of prevention programmes
- The potential it affords to exploit social-network based approaches for reaching sexually active TG and MSM who are not buying or selling sex
- The potential to gather behavioural data on sub-sections of the MSM population engaging in higher levels of behavioural risk

For the administering of PrEP to sero-discordant couples formal links will be established between the ART Centres and the spousal outreach component of the current PWID programme. When the planned partner-notification services for other key population programmes become established, these will be linked in too.

Accountability for formal PrEP implementation will be clearly appointed within the programme structure. A clearly defined implementation model will be put in place with operational technicalities and support systems worked out. A monitoring and evaluation framework will be established and a technical working group for oversight. The framework will enable the monitoring of the PrEP programme's coverage of sero-discordant couples, TG and MSM, with the latter being disaggregated into MSW and MSM (non-SW). Targets and deadlines will be agreed upon and tracked. A stepwise roadmap with clear roles and responsibilities of all parties will be defined for roll-out, implementation, follow-up, monitoring and evaluation, data management, reporting and sustainability. PrEP may well have utility for key populations other than MSM and TG, but, given the historic struggle to bring it to pilot, a phased roll-out will be adopted. PrEP roll-out for TG and MSM will be implemented in partnership with local CBOs with full engagement of members of the target communities.

1.2.4 Integrate prevention programme coverage of partners/spouses/family members into targeted key population programming where consent can be obtained

This output links directly to Output 1.1.4. Spousal/family-member coverage is well-established in the PWID programme but not yet initiated within the other key population programmes. These latter programmes will trial different approaches to securing referral to family members, all of which will be non-coercive and with voluntary client consent. As with testing services, social network-based approaches will be utilised for reaching non-family sexual partners of key populations.[92]

Output 1.3 Selective prevention and testing programme coverage of pregnant women and vulnerable populations

Epidemic modelling shows us that the majority of new HIV infections in Pakistan in 2019 were to be found among key populations (77%) and their intimate partners (19%). Pakistan also has a number of vulnerable populations whose vulnerability is determined largely by their being a subset either of key populations or of key population intimate partners. Chief among these are prisoners and migrant workers.[93] The strategic point of vulnerable population testing and prevention is expanding the reach of programmes within the populations where the epidemic is concentrated.

PITC for pregnant women has a different strategic value. Given the low prevalence among the general population the positive case yield rate for universal testing would be very low. The aim for the PITC initiative would be to address the low coverage rates of PPTCT services.[94]

1.3.1 Targeted HTS for at risk pregnant women and pilot PITC Institutionalise PITC (routine HIV testing) in selected cities

Provider-initiated testing and counselling (PITC)[95] denotes an HIV testing service (HTS) that is routinely offered in a health facility. It includes providing pre-test information and obtaining consent, with the option for individuals to decline testing. This is contrary to the general (yet false) perception

[92] Policy Brief, WHO recommends social network-based HIV testing approaches for key populations as part of partner services package, November 2019
[93] The need for more data on other vulnerable populations is addressed below under Outcome 3.
[94] No more than 16% of the estimated number of pregnant women with HIV in 2019 were provided with PPTCT
[95] p46 WHO Consolidated Guidelines on HTS, July 2015

that PITC is only offered based on the healthcare provider's selection criteria to selected persons. Although PITC involves the routine offering of HTS, it should not develop into mandatory testing or testing people without first informing them that they can decline.

WHO considers that in low prevalence settings routine PITC will most likely not be cost-effective. However, HIV testing should still be made available for people who request testing or who exhibit clinical signs and symptoms indicative of HIV.[96]

HTS as early as possible during pregnancy enables pregnant women with HIV to obtain and benefit most from prevention, treatment, and care and to reduce the risk of HIV transmission to their infants. According to WHO, in low prevalence settings, such as Pakistan's, PITC can be considered but the primary recommendation for such epidemic contexts is for *HIV testing for all pregnant women from key populations or who have partners with HIV or from a key population group*.[97]

Recent WHO guidelines on HIV testing recommend that all pregnant women should be tested for HIV, syphilis and hepatitis B surface antigen (HBsAg) at least once and as early as possible.[98] However, the same guidelines point out that in some resource-limited settings, particularly those with low HIV burden, programmes may need to prioritize resources by focusing HTS in pregnancy on geographical areas with higher prevalence or among women with high ongoing risk such as members of key populations.

Therefore under this strategy Pakistan will take a two pronged approach: (a) in designated ANC sites in priority cities pregnant women from key populations, or who have partners with HIV or from a key population groups or who request testing or who exhibit clinical signs and symptoms indicative of HIV will be offered HTS; (b) while in selected priority cities with a relatively high HIV burden among key populations (Rawalpindi, Lahore and Dera Ghazi Khan in Punjab; and Karachi and Larkana in Sindh), PITC, i.e., routine HIV testing, will be offered to all pregnant women, as a pilot. This will allow the two provinces to plan and roll out this approach in a few cities, review the results after one year and make an informed decision about whether to scale-up routine HIV testing for all pregnant women to the entire province.

The effectiveness and efficiency of this strategy will depend upon its ability to reach pregnant women from among key populations such as female sex workers, female spouses of male key population members, and female spouses of returning migrant workers and link them to HTS.

For the successful implementation of this output, collaboration with the maternal, neonatal and child health (MNCH) programmes at the provincial level will be ensured. SOPs and training guidelines will be developed (with the support of UNICEF and WHO) and ANC staff at all government facilities will be trained to offer routine HTS. SOPs will include, guidelines and arrangements for assisted referral to the nearest PPTCT/Treatment Centre. The Technical Support Unit (3.3.3) will assist with the required SOPs and arrangement of trainings. As per WHO guidelines all HIV testing, including PITC must be voluntary, confidential, and undertaken with the patient's consent.

1.3.2 Introduce and ensure Early Infant Diagnosis for all infants born to HIV positive mothers

The WHO recommends virological testing for HIV for all HIV-exposed infants (born to HIV positive mothers) at 4 to 6 weeks of age, or as soon as possible thereafter, so that ART can be started immediately, and morbidity and mortality prevented.[99]

In the public health sector in Pakistan, early infant diagnosis (EID) is available only at Islamabad, Lahore or Karachi that requires mothers to travel long distances with their young infants.[100] A UNICEF sponsored PPTCT evaluation found that a high proportion of HIV+ mothers do take their young children for EID, but because of the long journey involved for many, most infants are taken for the test

[96] p46 WHO Consolidated Guidelines on HTS, July 2015
[97] p68 WHO Consolidated Guidelines on HTS, July 2015
[98] p7, Policy Brief, Consolidated Guidelines on HIV Testing Services for a Changing epidemic, Nov 2019
[99] Consolidated Guidelines on HIV Testing Services, WHO, July 2017
[100] Opportunities for strengthening and expanding availability of early infant diagnosis (EID) of HIV infection in Pakistan, UNICEF 2016

much later than the recommended time of 6 weeks.[101] If the infant is infected this will delay the start of treatment and increase the risk of the infant or child dying. To address these logistical issues, testing for EID will be integrated with available mechanisms for viral load testing.

For provinces other than Punjab, NACP has outsourced the viral load testing to Agha Khan Laboratories, where patients are able to give their blood samples to collection centres that are widely distributed across the country. These tests and results are provided free of charge to the patients upon recommendation by the treating physician. Strategies for addressing issues with this model are dealt with further under Output 2.3 below. Subject to these improvements the same model will be also used to conduct virological tests for EID. Punjab will similarly integrate virological tests for EID into its current facility with the requisite capacity. Further details are given in the provincial strategy.

1.3.3 Consistent screening for HIV for all persons admitted to prisons with links to treatment for those testing positive

Given that defining key population behaviours such as sex work, men having sex with men, and drug use are criminalised, prisons represent an additional entry point where a range of key population members can be found.[102] There is also evidence of risk behaviours taking place within prisons.[103] HIV prevalence rates in prisons are higher than among the general public.[104] The prison programming in this strategy therefore aims to both to identify positive prisoners, and link them to treatment, and also to reduce onward transmission within prisons.

The first step will be to ensure consistent screening for all people entering prisons.[105] This requires adjustments in both policy and practice, and would require training to ensure prison medical staff are equipped with the skills they need. There will also be defined linkages to treatment to ensure that all prisoners testing positive have continued access to it. Coinfection is a particularly important issue which treatment services will be capacitated to address. The recent prison surveillance study found 10.3% prevalence of HCV and 1.2% were co-infected with HIV and HCV. TB coinfection is also highly likely to be an issue.

Effective prison testing and treatment services will require strong intersectoral coordination between the health and justice systems. This is especially important to ensure that (a) people already on treatment who are subsequently given prisons sentences are not lost to follow up when incarcerated, and (b) prisoners put on treatment whilst in prison are not lost to follow up upon discharge. The strengthened management and governance systems under 3.2.3 of this strategy have an important role to play in making this coordination and service linking work.[106]

1.3.4 Pre-departure prevention education for intending migrant workers, and a referral system to HTS, ART and PPTCT for returning migrants and their families

PAS III (2017) analysed the evidence available on HIV risk vulnerability for migrants.[107] Given that most migrants are young unskilled males, the largely assumed link to key populations was “the potential vulnerability of increased engagement in risk taking behaviours such as purchasing commercial sex.”[108] The issue is of particular concern for “the migrant-dense province Khyber Pakhtunkhwa.” [109] Strategically, prevention will focus on intended migrants and testing on those returning.

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[101] Evaluation of the PPTCT Programme in Pakistan, UNICEF 2016

[102] 28% of prisoners surveyed in Sindh and KPK prisons had been arrested at least once for a drug related offence, Integrated Biological & Behavioural Surveillance among Prisoners in Prisons of Sindh and Khyber Pakhtunkhwa Provinces, February 2020.

[103] *ibid*.

[104] The same survey among prisoners in Sindh and KPK found an overall prevalence rate of 2%, with some prisons having rates as high as 6%.

[105] The aforementioned IBBS in prisons found that only 25% of prisoners interviewed had been tested for HIV.

[106] Strengthened coordination between health and prisons services is a key recommendation of the recent prison IBBS report.

[107] pp27-28, PAS III (2017)

[108] p22 **Health Vulnerabilities of Migrants from Pakistan, Baseline Assessment**, IOM, August 2015.

[109] Ibid, p15

Coverage efficiency will be achieved by integrating services into systems, services and venues through which the outflowing and inflowing migrants would already be obliged to pass. This will require strengthening the partnership with the immigration and other authorities (see 3.2.3). For returning migrants testing positive, assisted partner notification services will be established to facilitate spousal testing. Where needed (i.e. when pregnant spouses also test positive) PPTCT services will be linked in. For Sero-discordant couples PrEP will be offered in accordance with the roll-out of Output 1.2.3 above. The PLHIV community and/or the Association of People Living with HIV can play an important role here as peer educators and supporters, especially for returning migrants who have been diagnosed as living with HIV. Collaborative interventions, such as help desks/referral points promoting HIV awareness, education and information sharing for returning migrants, will be trialled with the support of ILO/IOM, relevant government offices and airport management.

Outcome 2: Increased ART initiation and retention, with key populations and their spouses/partners and children proportionally covered

This second outcome is designed to address the critical issues of long-standing barriers to treatment access and initiation, and high treatment attrition rates, both of which result in poor treatment coverage. Broadly speaking there are three key strategic approaches to boosting treatment coverage rates:

- Identifying new positive cases
- Ensuring that all those who have tested positive are started on treatment
- Ensuring that those who initiate treatment are retained in the treatment programme

The first approach has already been addressed under Outcome 1. The remaining two are the concern of Outcome 2.

The strategy aims to increase treatment coverage to the following levels by 2025:

PLHIV	2019 Coverage	2025 Coverage
Adults	12%	73%
Children	31%	81%
Pregnant Women	16%	79%

There are three key outputs for Outcome 2. These outputs cover the removal of barriers to treatment initiation (2.1), the intensification of treatment adherence support to improve retention (2.2), and the reconfiguration of viral load testing (2.3) respectively. Each output breaks down into a cluster of sub-outputs which are detailed in the narrative below.

Output 2.1 Removal of key treatment initiation barriers for key populations and their partners/spouses and children

There is still significant cascade leakage between testing and treatment. The UNAIDS country scorecard for Pakistan 2019 shows almost a third of those testing positive not being put on treatment.[110] Effectively addressing treatment initiation barriers therefore offers a strategic "quick-win" in terms of increasing numbers on treatment by up to a third.

2.1.1 Reconfiguration of ART Centre model to one-stop-shop model, inclusive of PPTCT and paediatric services, to address long-standing barriers to treatment access.

Pakistan's HIV programme review concluded that fragmented and non-integrated health care infrastructure hampers effective HIV control measures, and recommended a one-stop-shop approach at ART centres.[111] The WHO also recommends three overarching strategies that can improve service delivery: 1) integration, 2) decentralization and 3) task-shifting. These strategies, separately or in combination, can improve the accessibility of care.[112]

Barriers to accessing treatment due to the fragmentation of services were a recurring theme in provincial consultations held for this strategy with communities and civil society. An integrated, one-stop-shop model has been tried successfully at the Family Care Centre, Hayatabad Medical Complex Peshawar, where adult, PPTCT, paediatric and diagnostic services are provided at the same set up. This model has already been replicated at Ratodero, in Sindh. This integrated, one-stop-shop approach will be replicated, to the extent possible, in existing ART centre locations and at new locations. Roll-out of the new model will begin at centres serving cities with larger numbers of estimated PLHIV as per the priority cities list.

[110] Snapshot 2019, Pakistan, UNAIDS
[111] National HIV Programme Pakistan, Review 2019
[112] WHO Consolidated guidelines on HIV prevention, treatment and care for key populations, July 2014.

A key aspect to the reconfiguration of the ART Centre model will be the simplification of the patient pathway and related processes for testing and ART initiation. This will include simplifying testing algorithms to allow for same-day diagnosis and ART initiation, multi-month dispensing of ART (especially for those with long distance to travel,) and patient literacy support with active involvement of PLHIV. Issues with the limited physical space of the treatment centres will be addressed to guarantee privacy and confidentiality. Registration procedures will be simplified. The community-facility interface will be enhanced to ensure full accountability for patients across the community and facility divide – with clear specifications of the respective roles of clinic staff, key population CBOs, NGOs and PLHIV-led adherence support groups.

Current guidelines and practice require that all HIV patients are verbally screened for TB risk and if found at risk are sent to TB services (within the same hospital) for TB testing. Where needed treatment (ATT) is initiated as per guidelines. The patient pathway simplification that the ART Centre reconfiguration involves will incorporate this much-needed integration to ensure optimal linkages (from the patient perspective) between the two services.

Another critical step to ensure patient satisfaction and retention is to configure human resources at the ART centres according to patient load. Centres serving larger numbers of PLHIV should have additional staff (both for treatment and for follow-up support.) Currently resources are not configured in relation to patient load with the result that some doctors get ample time with patients, and are able to establish good doctor-patient rapport, while other doctors do not get this opportunity which leads to patient attrition.[113]

2.1.2 Implementation of an OST programme specifically designed to generate evidence of its impact on ART initiation and adherence for PWID

In 2019 the PWID programme found 4,835 new HIV cases by initiating services in 8 additional urban centres in Punjab and Sindh. In the same year 3,094 PWID who had tested positive were linked to care. That leaves at least 1,741 PWID who know their status but are not linked to treatment. Cumulatively since 2016, the number of PWID linked to care (8,387) is 62% of the number of PWID testing positive (13,482).[114] Addressing this cascade leakage point therefore presents a significant opportunity to boost treatment coverage.

The challenges of getting PWID who have tested positive into treatment have been well documented.[115] A key factor is the motivation of the positive PWID to pursue treatment in the absence of any effective treatment for his opioid dependency. There is strong scientific evidence that OST would be a game-changer for addressing the problems of PWID recruitment into treatment.[116] There is also strong scientific evidence that OST significantly increases treatment adherence and viral suppression, and significantly decreases ART discontinuation among PWID.[117] A third, and equally important scientifically evidenced benefit of OST is its impact on reducing risk for HIV and HCV infection, and mortality from overdose.[118]

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[113] One doctor at Clinic at Civil Hospital, Larkana is responsible for 2,500 patients, while 3 physicians at Agha Khan University Hospital, have only 300 patients.

[114] Slide 12, Reality Check, presentation given by Nai Zindagi at AEM meeting in Islamabad, March 2020. Those being linked to care were not necessarily all tested positive in 2019, so it is possible that more that 1,741 of the 4,835 new cases in 2019 were not put on treatment in that year.

[115] pp51-52 PAS III (2017)

[116] A systematic review and meta-analysis of evidence of the effect of OST on ART outcomes among PWID living with HIV found strong evidence that OST increased recruitment onto ART by 87%. See "**Impact of Opioid Substitution Therapy on Antiretroviral Therapy Outcomes: A Systematic review and Meta-Analysis**", AJ Low et al., Clin Infect Dis (2016) 63 (8): 1094-1104. June 2016.

[117] There is strong evidence that OST increases "ART adherence 2-fold, viral suppression by 45%, and reduces ART discontinuation by 23%." See "**Impact of Opioid Substitution Therapy on Antiretroviral Therapy Outcomes: A Systematic review and Meta-Analysis**", AJ Low et al., Clin Infect Dis (2016) 63 (8): 1094-1104. June 2016.

[118] MacArthur GJ, Minozzi S, Martin N, Vickerman P, Deren S, Bruneau J et al. Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. BMJ. 2012;345:e5945. Platt L, Minozzi S, Reed J, Vickerman P, Hagan H, French C et al. Needle and syringe programmes and opioid substitution therapy for preventing HCV transmission among people who inject drugs: findings from a Cochrane Review and meta-analysis. Addiction. 2018;113(3):545–63. Ma J, Bao YP, Wang RJ, Su MF, Liu MX, Li JQ et al. Effects of medication-assisted treatment on mortality among opioids users: a systematic review and meta-analysis. Mol Psychiatry. 2018 Jun 22. Epub ahead of print (https:// www.nature.com/articles/s41380-018-0094-5, accessed 4 March 2019).

Actions to be taken to implement an OST programme under this strategy include securing regulatory approval for the requisite doses of opioid substitute drugs, securing policy commitment to the approach, establishment of a technical/advisory committee to oversee implementation, selection for sites for initial implementation, development of a monitoring and evaluation framework, identification and capacitation of the implementor(s), and sourcing of technical support to design systems and train programme managers/clinic staff. Extensive support can be sourced within the region; neighbouring China has the world's largest OST programme which has been in operation for more than a decade. A sustained advocacy campaign with the relevant authorities will be conducted to ensure adequate political support.

2.1.3 Continue to scale up comprehensive treatment preparedness services for PWID

In the absence of OST detoxification and rehabilitation support services are clearly needed to address the treatment initiation problem for PWID. For the purposes of this strategy 'treatment preparedness support' for PWID is defined as opioid dependent treatment services that stabilise an HIV positive PWID's lifestyle to the extent that (a) that individual is motivated to pursue treatment for HIV and (b) clinicians at treatment centres feel confident of the possibility of successful treatment outcomes with respect to that patient.

Currently the only tailored service model available is the ART Adherence Units run with support from the Global Fund.[119] The service model integrates drug detoxification support with ART initiation and adherence support. In order to prevent a treatment access bottleneck for PWID these services will be scaled up in relation to the scale up of the testing programme. Scale up includes the expansion of bed capacity of the existing service units and the expansion of the model into new sites where large numbers of new positive PWID are being found. The role of the service in the programme will be reassessed once OST services come online.

2.1.4 Proactive case finding to enable equitable access to and uptake of PPTCT services by vulnerable and marginalized women.

The success of this output is directly related to Output 1.1.4 (Integration of partner notification and HTS for key population partners/spouses/family members into targeted key population programming where consent can be obtained) discussed earlier.

All the prevention programmes for key populations will integrate partner notification and HTS for key population partners and spouses. This step will increase the uptake of HTS among pregnant women who are most vulnerable and marginalized, and lead to increased case finding. The cases will then be linked to the PPTCT programme.

Community-based or home-based HTS services will be trialled for spouses of HIV+ key populations, with their consent. This proactive case finding approach has already been successfully demonstrated among PWID.[120]

Output 2.2 Intensified treatment adherence support differentiated by key population

Cascade leakage after treatment initiation is having a major impact on the overall effectiveness of the treatment programme. It also represents a significant strategic opportunity to boost treatment coverage by better retaining those that initiate. This output is designed to bring about the systematic and more professionalized treatment centre service model that is required to resolve this long-standing problem.

[119] PAS III (2017) notes that for other drug rehabilitation services in Pakistan "service quality is highly variable and can, at the worse extreme, involve involuntary incarceration and other inhumane approaches. Private services predominate and are beyond the means of most drug users. A small number of government facilities are available without charge for enrolment though they do require payment for drugs and other incidentals. The demand (among PWID and their family members) for affordable quality drug rehabilitation significantly outstrips the supply. Clinicians in HIV treatment centres have also cited the lack of availability of such services as a problem." p51.

[120] Expanding access to HIV testing and counselling and exploring vulnerabilities among spouses of HIV-positive men who inject drugs in Pakistan. https://journals.lww.com/co-hivandaids/FullText/2016/03001/Expanding_access_to_HIV_testing_and_counseling_and.2.aspx

2.2.1 Immediate initiation of proactive case management for people newly initiating treatment

The evidence shows us that the largest drop off of patients after treatment initiation occurs within the first month.[121] To address this, proactive case management will commence immediately upon patient registration. A designated staff member/group of staff members within the ART Centre will be responsible for proactively maintaining the communication link to the patient in the first months.[122] ART Centres will be resourced to do this in relation to their patient load.

Service protocols for this support will be drawn up inclusive of guidance on frequency of follow-up, communications with family members and/or members of CBOs/NGOs bringing the patient in, involvement of PLHIV, logging of interactions, on-going updating of records of contact numbers and addresses for each patient and their key support persons, and reasonable actions to be taken if the patient becomes uncontactable for any reason.

There will be a regular case review process at clinic level whereby documented decisions are made about which cases are no longer to be considered active and in need of continued proactive follow up.

2.2.2 Rethinking/consolidation and capacitation of existing case management/adherence counselling model.

The introduction of the Case Manager position to a small number of ART Centres does not appear to have been a success. Going forward three things will be changed:

1. **Scale:** each treatment centre with a significant number of patients will have at least one designated staff member responsible for proactive patient follow up between appointments.
2. **Case load distribution:** centres with a very high number of cases and/or a higher proportion of cases coming from populations with lifestyles and circumstances that make it more challenging for them to stay in the treatment programme, will have more resources for patient follow up.
3. **Recruitment:** Persons responsible for case follow up will be appointed based on having an appropriate skill set inclusive of the counselling skills needed to interact with marginalised populations from diverse backgrounds.

Proactive case management will be developed as an integral part of the ART Centre service model. It will be managed by the head of the centre and accountable to them for performance. It will be professionalised with adequate training, supervision and support provided to the individuals appointed. A standard SOP for the function will be developed as per 2.2.1. The role is not only the main link between the clinic and the patient but also with the patient's support network in the communities they come from whether that be their families or the CBOs/NGOs that have linked them to the treatment centres.

2.2.3 Decentralization of ART supply for stable HIV patients down to district level

"Decentralization aims to deliver all HIV services closer to the individual. In many settings transport costs and long waiting times in central hospitals are significant barriers to access to services and retention in care. Particularly in rural areas, decentralization can reduce the difficulty and cost of travel and shorten waiting times. For key populations decentralizing HIV care and treatment can further strengthen community engagement, can link community-based interventions with health facilities, and may improve access to services, care-seeking behaviour and retention in care." [123]

The WHO recommended option for the decentralization for ART that best suits the Pakistan context is the initiation of ART in hospitals, with maintenance of ART in peripheral health facilities. The establishment of a differentiated service delivery (DSD) model for ART came out as a strong

[121] Pakistan ART Outcome Study, NACP, February 2020
[122] Frequency of contact can be tailored according to the patients' circumstances and their evolving compliance. It should be born in mind that current evidence shows that PLHIV on treatment in Pakistan are not reaching a stabilization point within the first 24 months.
[123] Consolidated Guidelines on HIV prevention, diagnosis, treatment and care for key populations, WHO 2014

recommendation during consultations held for this strategy with healthcare professionals and communities. DSD is a client-centred approach, simplifying and adapting services to better meet the needs of people living with HIV and reducing unnecessary burdens on the health care system.[124]

Features of the DSD model will include: (a) initiation of ART at the main/established ART centre; (b) shifting of stable patients to a satellite clinic near his/her home, where the patient will receive refills of ARVs; (c) the patient will check-in at the main clinic every 6 months. The satellite clinic can be either a private clinic/hospital, or a Basic Health Unit (BHU) (rural areas). The provincial AIDS Control Programmes will have to undertake an extensive mapping exercise to identify the most suitable clinics and BHUs and enter into public-private partnerships as required for the implementation of this model.

Private practitioners or hospitals already engaged in the provision of TB services can be engaged to provide ART refills to PLHIV facilitating better management and increasing access to treatment at the decentralised level. DOTS Centres can be used to dispense ARV drugs to stable cases of HIV while also providing TB treatment. There will be efficiency gains from the utilization of staff who are trained in counselling and treatment of TB to manage PLHIV on ART as well as provide counselling services.

Decentralization can also be implemented through the Nai Zindagi Trust (NZT) model for PWID, which is well established. A clear SOP (with specified operational scope and scale, and commensurate increase in numbers of PWID served) will be developed and agreed between the provincial AIDS Control Programmes, the treating physicians and the NZT for this to proceed efficiently.

2.2.4 Re-design of care and support package, its allocation and delivery mechanism, to ensure adequate patient access and equitable distribution

The recent National HIV Programme Review found the existing mechanism for distribution of support packages to PLHIV to be “few and not cost effective” with “systems failures” leading to inadequate distribution.[125]

This output takes place in conjunction with 2.1.1 (one-stop-shop reconfiguration) above and is largely based on recommendations in the National Programme Review. The physician in charge of the ART Centre will have the nutritional support, emergency medicines support and travel charges funds readily available for disbursement to clients through a committee as per an agreed set of eligibility criteria. Disbursement will take place when ARTs are collected from the centre. The CBOs working in the jurisdiction of the ART Centre will be members of the committee that approves the list of PLHIV for living support. The Centre’s Case Managers (or equivalent) will act as secretary for the committee under the supervision of the physician in charge. The aim is to ensure that more PLHIV benefit and the support packages are distributed more frequently.

2.2.5 Scale-up of paediatric AIDS treatment coverage in proportion to growing case numbers

The success of this output depends upon how well prevention programme coverage of partners/spouses/family members is integrated into targeted key population programming (1.2.4) and the effectiveness of EID (1.3.2). It will also be ensured that children of adult patients enrolled in ART are not missed; patients will be actively counselled to bring their children for HIV testing and counselling, and children testing positive will be linked to treatment.

All key populations, including PWID, MSM (non-SW), MSW, TG and FSW are part of families and have vulnerable spouses and children at homes. Stigma and discrimination towards key populations further negatively impact their children’s access to health. The scale-up of paediatric AIDS treatment coverage has so far been challenging because of the small scale of prevention programmes for key populations other than PWID. Where such programmes do exist, they have yet to develop a viable and systematic approach to assisted partner notification services.

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[124] Children Surviving Working Group – Policy Brief: Providing differentiated delivery to children and adolescents. http://childrenandaids.org/node/565

[125] p50, National HIV Programme Pakistan, Review 2019

A family-centred approach is vital, and all key population prevention programmes must build models that are inclusive of their children and partners/spouses.[126] Where a child is identified to be living with HIV, the child must be put on treatment immediately. Outbreaks such as those in Larkana, Chiniot and Kot Momin, should be treated as exceptions. As HIV prevention programmes for key populations with family centred approach are scaled up, such outbreaks should become limited, if not non-existent. However, as outlined in 2.1.1 the one-stop-shop treatment model will be implemented to cater to the needs of increasing adult and children PLHIV identified through the routine scaled-up of HTS.

2.2.6 Develop a national action plan for HIV Drug Resistance (HIVDR)

As the country scales up its treatment programmes for adults and children there is risk of development of resistance to commonly used antiretroviral (ARV) drugs that could jeopardize the success of the scale-up of antiretroviral therapy (ART), and the broader HIV response. To minimize and monitor the emergence and transmission of resistance to older and newer ARV drugs, WHO recommends HIV treatment scale-up be accompanied by measures to monitor the emergence and transmission of HIVDR through surveys.[127]

To address this issue that could become critical in the coming years, a National Action Plan on HIVDR aligned with the WHO's Global Action Plan on HIVDR will be developed. This action plan will address issues like, which HIV treatment centres can be used as sentinel sites for periodic surveillance of: (a) acquired HIV drug resistance (ADR) in adults and children receiving treatment; and (b) pre-treatment HIV drug resistance (PDR) in adults initiating ART[128]. The action plan will also address matters like the populations to cover, periodicity of the surveys and identification of labs that have the capacity to conduct HIVDR surveillance in country. Data produced by the surveillance activities conducted under the action plan will be fed into NIH disease surveillance system in accordance with Output 3.5.3.

Output 2.3 Reconfiguration of viral load testing mechanism to remove barriers

Viral load testing is critical for assessing progress towards the 3rd 90: the percentage of people receiving ART who have achieved viral suppression. Current guidelines in Pakistan require an initial viral load test three months after initiating treatment with follow up tests every 6 months. Roughly three quarters of viral load testing in Pakistan is done by a third-party provider as discussed above under 2.1.5. The system as it currently operates "erects multiple barriers for patients".[129] There are also data flow issues which prevent test results getting reported into the ART centre. The outcome of these issues is that "the number and percentage of patients ...with a viral load test record at the ART Centre is very low."[130] With no more than between 4-7% of patients having a baseline viral load test result Pakistan is unable to properly assess progress towards the 3rd 90.

2.3.1 Removal of patient perspective barriers from viral load testing process

The current set up in provinces other than Punjab requires patients to:

(a) Go to a separate facility for the viral load test

(b) Go back to that facility to get the result

(c) Take the test results to the ART Centre and report the result

[126] Children Surviving Working Group – Policy Brief: Addressing service delivery needs of children of key populations http://childrenandaids.org/node/562
[127] Global Action Plan on HIV Drug Resistance (HIVDR) 2017-2021, WHO, July 2017
[128] WHO Briefing Notes on HIV Drug Resistance Monitoring and Surveillance, January 2020
[129] p16, Pakistan ART Outcome Study, February 2020
[130] p16, Pakistan ART Outcome Study, February 2019. The study found that only 1 in 23 patients in the 24-month cohort and 1 in 15 patients in the 12-month cohort had a viral load test result in their record. There were improvements in the percentage among patients starting treatment in the later 2018 cohort.

As is well-known in the context of Pakistan's treatment programme, travel requirements place a particular burden on patients, especially PWID,[131] and are a significant cause of the service's coverage and retention problems. A testing mechanism which adds to this burden by complicating the patient pathway, causes more problems than it resolves.

These barriers will be addressed in the context of 2.1.1 above (reconfiguration of ART Centre model to one-stop-shop.) The viral load testing process will be specifically reconfigured to eliminate the additional travel requirement on patients. However, given that Punjab does not have a travel/distance barrier for viral load testing (blood samples are drawn at treatment centres) and yet still only 4.4% of patients in the province have had a viral load test done, there will be a thorough review and adjustment of viral load testing procedures in all provinces in conjunction with the reconfigurations of the ART Centre model covered in 2.1.1, 2.2.1, 2.2.2 and 2.3.2 above.

2.3.2 Removal of data-flow obstacles from viral load test result reporting process

The viral load test result data-flow issue will be addressed in conjunction with 2.3.1. There will be direct transfer of results from the third-party provider to the ART Centres. ART Centres will carry the responsibly of entering the result into the patient record. The data will be entered as soon as the results are received, and made available to the provincial and national AIDS Control programmes through regular reporting processes.

[131] p16, Pakistan ART Outcome Study, February 2019. In contrast to other patient groups, the study found a small decline in the percentage of PWID who had a viral load test result in their record in the later (2018) cohort, suggesting that viral load access issues were particularly problematic for this group.

Outcome 3: Environment is enabled for an effective and sustainable AIDS response

This third outcome is designed to address the critical issues of lack of strategic programme oversight, weak implementation management, and fragmented monitoring and evaluation systems. Effective delivery of the outputs for Outcomes 1 and 2 in this strategy will be to a large extent dependent on successful implementation of the activities in this section. They are critical programme performance enablers.

There are seven key outputs for Outcome 3. These outputs cover the capacitation of critical service delivery models, which to date have struggled to perform effectively (3.1), the enhancement of programme governance (3.2), strengthening programme management (3.3), addressing stigma and discrimination (3.4), institutionalising surveillance and filling critical data gaps on key and vulnerable populations (3.5), integrating monitoring and evaluation systems (3.6), and building a sustainable response (3.7).

Each output breaks down into a cluster of sub-outputs, which are detailed in the narrative below.

Output 3.1 Capacitation of critical service delivery models to ensure adequate coverage, quality and effectiveness

Both the treatment programme and the community-based prevention programme for non-PWID key populations are struggling to perform effectively.[132] For the former the capacity issues are particularly acute around effective case management. For the latter there was a steep learning curve when these programmes were initiated under the current Global Fund grant. Achieving the prevention and treatment coverage targets agreed for this strategy will require a significant investment in capacity building for these two critical service delivery models.

3.1.1 Capacitation of community-based key population prevention/testing model

The key capacities required to achieve effective implementation of these programmes at scale include:

- Expertise on establishing CBOs within marginalised communities, where such organisations do not exist – this includes both community mobilisation and organisational development
- Expertise on specific key populations and their issues: male and female sex workers, transgendered people, men who have sex with men, clients of sex workers, and young people within these populations
- Service-specific skills and knowledge; testing, counselling, outreach, safer sex and condom/lube promotion, STI screening and management, online intervention techniques
- Expertise on results-based programme management and the organisational systems and capacities required (management, finance, monitoring and evaluation) to make it work

The approach assumed by this strategy is that of optimal and empowered involvement of members of the community whom the programmes are intended to reach. This is to ensure, among other things, the acceptability and appropriateness of the interventions to their target audience. In addition to community know-how the strategy will deliver additional capacity building technical support by the following means:

- Through full capitalisation and sharing of knowledge and lessons learned in establishing the programmes thus far
- Through sharing of intervention protocols, systems and experience between the newer programme models and the more established intervention model for PWID
- Through adequate and consistent supervision arrangements

[132] National HIV Programme Review, 2019, Pakistan ART Outcome Study, NACP, February 2020

- Through on-going dialogue with the targeted communities including community-based monitoring mechanisms
- Through programme coordination meetings
- Through the technical support unit established under 3.3.3 below

Specific outputs of the capacitation process will include

- A standard CBO-start-up support package inclusive of guidance on how to address registration issues, and how to establish interim operational arrangements whilst registration is pending
- Adequate frontline staffing, training, and supervision support (both service-delivery and organisational development)
- Standardised mechanisms for ensuring cooperation of law enforcement
- The development of differentiated service delivery models tailored to target populations
- Programme monitoring and evaluation frameworks that enable coverage to be disaggregated between MSM (non-SW) and MSW.
- Training to integrate sexual and reproductive health services into HIV prevention services
- Youth-specific prevention service protocols for key populations with higher numbers of youth at risk, inclusive of sexual and reproductive health
- Defined referral processes and linkages between community-based testing and ART centres
- Cross-programme training sessions covering critical technical and management areas

The AIDS Control Programmes, implementing organisations, and technical support unit (3.3.3) will collaborate to design and implement the capacity building agenda, and related training materials, for this service model.

3.1.2 Capacitation of treatment model

The evolving of the treatment centres into a one-stop shop model will require a significant programme of capacity building to ensure that the existing weaknesses in the service are properly address. Capacity-building for the treatment programme will focus on ensuring;

- The development of expertise on treating people with opioid dependency
- The provision of training and support on working with key populations[133]
- The re-conceptualisation of the case-management role to make it work (adequate patient counselling skills, proactive and aggressive[134] follow-up, strong collaboration with CBOs bringing clients in). This will be inclusive of a revision of the technical specification of the case-management role to ensure appropriately qualified individuals are appointed
- Regular and adequate supervisory and training support to ensure the patient follow up system is being adhered to and efforts to reach patients are properly logged
- The effective implementation of a reconfigured mechanism for implementing viral load testing
- Proper adherence to confidentiality protocols and adequate physical space to achieve this
- Training to integrate paediatric care into new one-stop-shop model
- The availability and functionality of skills and systems for adequate data capture and reporting
- The effective delivery and equitable distribution of patient support packages

[133] The recent ART Outcomes study, p21, makes this recommendation for all ART Centre frontline staff.
[134] "Aggressive patient-tracing" is a key recommendation of the recent ART Outcomes Study, p 21.

- The strengthening of community-based monitoring of patient treatment and support services

As with 3.1.1 the AIDS Control Programmes, implementing organisations and technical support unit (3.3.3) will collaborate to design and implement the capacity building agenda, and related training materials, for this service model.

3.1.3 Protocols and standards for screening and treatment in prisons and provision of training to prison doctors

In consultation with the provinces the National AIDS Control Programme will develop service guidelines/protocols/standards for prisons to ensure consistent screening and linkages to treatment for infected prisoners. Based on these standard guidelines, the provincial AIDS control programmes will either themselves provide or arrange trainings for the prison healthcare staff, so that regular screenings of prisoners are conducted, infected prisoners are linked to treatment, and continuous follow-up is ensured. Particular attention will be paid to treatment continuity as the patient moves in and out of the justice system.

Output 3.2 Enhanced strategic governance of programmes

Two key governance issues addressed in PAS IV are the need for strategic programme oversight and the need to develop strong linkages between AIDS programmes, the broader health portfolio and beyond. Effective oversight is critical to ensure that the national and provincial strategies are actively used in real-time to guide programmes toward the achievement of targets. In this way risks and bottlenecks can be identified and addressed in a timely manner. Linkages are critical to address the more complex and broader systemic issues that inhibit effective AIDS programmes; the need for coordination between public health and law-enforcement, between different disease programmes to address co-infections, and between HIV and sexual and reproductive health, the blood safety programme, and the infection prevention and control programme, for example.

3.2.1 Use of provincial AIDS strategies to develop targets and budgets for domestically funded AIDS control programmes

The provincial AIDS Control strategies will be used to ensure that PC-1 programme targets are set with reference to strategy targets to ensure optimal coverage of key population prevention programmes and the implementation of the “treatment for all” policy. The strategies will serve as a reference point to ensure complementarity between the parts of the overall programme funded from different sources. AIDS Control Programme Managers will be aware of the portion of the strategy targets and budgets being covered by both domestically funded and internationally funded programmes. Strategies will be proactively used by the AIDS Control programmes to track and address programmatic gaps (i.e. where the combines totals of internationally and domestically funded programme targets fall short of strategy targets.)

3.2.2 Expertise-based oversight committees established in 2 key provinces to monitor progress towards achieving provincial strategy targets

AIDS programme oversight committees will be established in Punjab and Sindh to conduct quarterly reviews of progress towards achieving strategy targets. The committees will be lean and composed of an appropriate spread of technical expertise (programme management, financial management, monitoring and evaluation, key population programming, harm reduction programming, procurement and supply management.) Conflict of interest will be avoided by not having programme implementers as members of the committee. The key role of the committees will be to review progress against targets, identify programme bottlenecks and make recommendations about how the programmes can effectively address those bottlenecks. Implementers (of both internationally and domestically funded programmes) will be required to present quarterly progress reports to these committees against their allocated targets.

In support of this output a results-focused culture will be introduced whereby real-time data collection mechanisms are used to track progress. Regular stock-takes will be conducted to identify bottlenecks

and take corrective measures.[135] Ideally the Health Minister will chair the oversight committee or programme review meetings that will be held quarterly to take stock of progress against agreed priority areas of the HIV response/strategy, e.g., HIV testing coverage of prevention programmes for key populations, and PLHIV put on treatment every quarter. Where the Health Minister is unavailable, a designated focal person or the Secretary Primary and Secondary Healthcare Department will chair this meeting.

This Output will ensure regular review of programme result data to steer programmes towards achieving strategy targets.

3.2.3 Establishment of intersectoral/interdepartmental coordination mechanisms to advocate for adequate programme support

The WHO recommends the setting up and strengthening of a coordinating body for collaborative TB/HIV activities that is functional at regional, district, local and facility levels (sensitive to country-specific factors).[136] Like the country coordinating mechanism (CCM) at the federal/national level, a coordinating mechanism will be introduced at the provincial level, led by the Department of Health (or Planning & Development department) with involvement of AIDS, TB and Malaria programmes, and membership from key stakeholders, including civil society, PLHIV, key population representatives, SRH, MNCH, nutrition, blood safety, hepatitis programmes, law enforcement and prison departments. The coordinating body will have clear and consensus-based terms of reference. The important areas of responsibility will include:

- Governance and coordination at provincial – inter-sectoral, inter-departmental and district levels
- Resource mobilization
- Provision of general policy and programme direction for the management of activities
- Capacity-building needs identification
- Ensuring coherence of communications about HIV, TB, SRH, MNCH, blood safety and hepatitis
- Ensuring the involvement of civil society non-governmental and community-based organizations, and individuals

This is not the same entity as the oversight committee in 3.2.2; which has a much leaner expertise-based membership and a very specific programme performance oversight function. The oversight committee could, however, report into the coordinating body if that makes structural sense in a particular provincial context.[137]

Output 3.3 Strengthened programme management

PAS IV addresses the need for programme management strengthening in three key ways; identifying and addressing management capacity building needs, ensuring that the data flows essential for effective programme management are in place, and establishing a technical support unit to manage

[135] Project Completion Review, Provincial Health & Nutrition Programme, DFID, April 2019. Health roadmap stock-takings were high level meetings chaired by the Chief Minster in Punjab and the Health Minister in KPK to take stock of progress against agreed priority areas of reforms. These meetings took place every quarter and were attended by senior government officials. Focusing on specific targets using a system of traffic lights. As a result of these stock-takings there was evidence of strengthened information systems and strengthened government systems and capacity– ranging from changes in HR and supply chain policies needed to support functional 24/7 BHUs and RHCs, referral systems and ambulance services, to increased reporting into MIS databases, and more rational deployment of human resource.

[136] WHO policy on collaborative TB/HIV activities guidelines for national programmes and other stakeholders, 2012. https://www.who.int/tb/publications/2012/tb_hiv_policy_9789241503006/en/

[137] The distinction is similar to that between the CCM and its oversight committee at national level. It is important that the Oversight Committee membership does not become bloated, remains technically focused and devoid of conflict of interest. The Global Fund defines oversight in relation to grants: https://www.theglobalfund.org/media/5412/ccm_ccmoversightguidance_paper_en.pdf?u=637233411520000000. In this context it is being defined in relation to the whole AIDS programme at provincial level. The principles would be broadly the same.

the provision of technical assistance across the various systems development activities that will take place under the strategy.

3.3.1 Management audit of provincial AIDS programmes to identify capacity building needs around results-based management and procurement management

One of the findings of the National HIV Programme Review was that AIDS control programmes have low capacity to absorb and spend resources, and that the structure, capacity, operational efficiency and effectiveness of the provincial AIDS programmes are also weak.[138]

Improving institutional capacity and efficiency is critical to scale-up the HIV response in the province. To address this a management audit of the provincial AIDS control programmes will be conducted. The audit will map the critical gaps in capacities and recommend contextualized capacity building measures. Based on the findings and needs identified, tailored capacity building of the AIDS control programme staff will be conducted, which will include trainings on results-based management and procurement. The technical support unit (3.3.3) will help with sourcing and fielding expertise to address specific capacity building needs.

3.3.2 Reconfiguration of reporting processes to ensure that data essential for effective provincial AIDS programme management is systematically available

The integration of HIV MIS systems is covered more extensively under Output 3.6 below. Here the point is to ensure that the provincial AIDS control programmes have access to the data they need to be able to manage programmes towards the achievement of the provincial strategy targets.

All programmatic data (treatment and prevention,) from both internationally and domestically funded programmes, will report into the provincial AIDS control programmes so that there can be effective oversight of progress towards achieving provincial strategy targets. National and provincial level reporting mechanisms will be configured to ensure complementarity (see also 3.7.1). Quarterly programme reports into the provinces will be reviewed by the oversight committees established under 3.2.2. This will enable the adjustment of programmes to address shortfalls, and the identification of risks and bottlenecks so that solutions can be devised to address them.

3.3.3 Establishment of an agile technical support unit at national level to provide strategic guidance and management strengthening support to the HIV programmes

The implementation of PAS IV entails significant systemic changes to the way the AIDS programmes are governed and managed. Moreover, the strategy requires a re-design and decentralisation of the treatment model, a rapid scale up of a struggling community-based key population intervention model, and the introduction of the critical new interventions of OST and PrEP. All of this will require a coordinated capacity building initiative.

A technical support unit will be established to work with the national and provincial AIDS control programmes to ensure that the technical support needs arising from the proposed changes are identified and addressed. The unit will be responsible for developing a technical support plan for the strategy through consultative processes, sourcing expertise to provide the technical support, overseeing the provision of the support, and assessing its outcome.

Key technical/expertise areas that will need to be sourced and deployed by the unit include:

- Programme governance and management systems and related skills development
- OST programme design, development and implementation
- Mobilising key population communities and CBO development and capacitation
- Decentralisation of ART treatment and the development of one-stop-shop treatment models
- Designing and implementing PrEP programmes for MSM, TG and sero-discordant couples

[138] National HIV Programme Pakistan Review, 2019

- Designing and implementing or outsourcing trainings for healthcare providers on ART including PPTCT, paediatric care, and wider ANC service providers for roll-out of PITC
- Developing target-specific communication and advocacy materials using various channels including social and electronic media
- Operations research on new interventions such as OST, PrEP, and HIV Self-Testing
- Developing capacity around the use of IT to improve intervention effectiveness, e.g. the use of apps, dedicated web portals for demand creation and information, and the potential of a private service network to access PrEP

Output 3.4 Critical stigma and discrimination issues addressed

Stigma and discrimination are a recurring theme in all of the key documents reviewed for this strategy. There is clear evidence of stigma and discrimination affecting PLHIV access to healthcare.[139] Several of the documents reviewed make recommendations for more comprehensive stigma reduction programmes. This strategy takes a two-pronged approach due to the complex and widespread nature of the problem. The first prong (3.4.1) is designed to be targeted at two specific points where stigma and discrimination are known to directly impact programme performance. The second prong (3.4.2) has a much broader purview of the social context and addresses stigma across the whole spectrum.

3.4.1 Targeted sensitivity trainings where service access and programme effectiveness are being directly impacted

This output addresses two specific points where stigma and discrimination have a very direct impact on the prevention and treatment programming this strategy is designed to deliver. These are the attitudes and behaviours of healthcare workers in the healthcare facilities most frequently used by PLHIV (ART and PPTCT Centres,) and the attitudes and behaviours within law enforcement departments that interact with/come into contact with key population outreach prevention and testing programmes. There will be a more intense effort to address stigma and discrimination within these setups inclusive of:

- Regular trainings/refreshers for ART/PPTCT centre staff (including those involved paediatric HIV care) and other healthcare workers as appropriate
- Sensitivity trainings for law enforcement officials and judiciary
- The development of outreach worker protection protocols to ensure key population CBO staff can deliver programmes without interruption from police

Governance mechanisms such as the coordination mechanism in 3.2.3 above will be used to strengthen the coordination between the AIDS programme and the law enforcement system. The technical support unit (3.3.3) will be used as needed to assist with the design and delivery of the stigma and discrimination/key population sensitivity training programmes.

3.4.2 Nationally-led communication and advocacy programme

In Pakistan only 32% of women and 67% of men have heard of HIV/AIDS. Comprehensive knowledge about HIV is not widespread among either women (4%) or men (10%), and 60% of women and 61% of men have discriminatory attitudes towards people living with HIV.[140] This high level of stigma and discrimination hampers prevention efforts for key populations and also acts as a barrier for PLHIV accessing treatment. The recent national AIDS programme review recommended stigma reduction in “society, in families, at workplaces, in schools, in hospitals, in police and justice departments and in the social media.”[141]

To address these stigma related challenges a targeted communication and advocacy programme will be developed, that will include, anti-stigma and discrimination/myth-busting campaigns for various

[139] Country Research on Community Access to treatment, Care and Support Services (Phase II), APLHIV, January 2019.
[140] Pakistan Demographic & Heath Survey (PDHS) 2017-18
[141] p50, National HIV Programme Review, 2019, Pakistan ART Outcome Study, NACP, February 2020

audiences such as religious scholars/leaders, media practitioners, parliamentarians, healthcare professionals (hospital staff particularly those providing surgical and obstetrics services,) and the general public. Campaigns will include, but will not be limited to, special seminars with parliamentarians and religious leaders, women's groups, youth leaders, and social media campaigns targeted at healthcare professionals and the general public.

Given the ubiquity of the stigma and discrimination issues across the country, the communication and advocacy programme will be designed and led at national level, with full collaboration from, and consultation with, the provinces.

Output 3.5 Institutionalised surveillance with more accurate key and vulnerable population data to facilitate precision targeting

The possession of quality data about the populations, and subsets of populations, engaging in high-risk behaviour is essential for a precision-targeted approach in a concentrated epidemic scenario. This is especially so where a key population is large and diverse. Resources will be used more effectively if prevention and testing programmes are targeted to where they are most likely to identify new cases and/or reduce the prevalence of high-risk behaviours. This output aims at strengthening surveillance systems and approaches to enable precision-targeting.

3.5.1 A new round of nationally -led IBBS with quality issues of previous round properly addressed

The most recent round of IBBS was conducted in 2016. PAS IV aims to institutionalise surveillance so that it takes place according to a fixed schedule and evolves its methodology on the basis of lessons learned from previous rounds. The next round will take place before the mid-point of this current strategy. The following issues will be addressed:

- All key data points (such as prevalence levels for specific populations) weighted at provincial as well as national level
- IBBS will be implemented from the national level with meaningful involvement of provinces in design and data collection. This is to ensure standardization and comparability of methodology and results across the country
- Consistency in mapping sites to allow comparability between rounds
- Improved methodologies for arriving at city-level PSEs
- Inclusion of KPK's newly merged districts, Gilgit-Baltistan, Azad Jammu & Kashmir and Islamabad capital territory into the survey
- Adequate sampling of MSM (non-SW) to better understand behavioural risk and prevalence, and inform revision of PSE

Consensus building around methodologies and results will be an integral part of the process. AEM projections will be revised based on the results.

3.5.2 Qualitative (pre-IBBS) field-assessments conducted of migrants, refugees, truckers, mine-workers and MSM (non-SW)

This output is designed to address two persistent data gaps. One pertains to the MSM key population, the other pertains to populations that have an assumed but poorly evidenced vulnerability to HIV.

The MSM data gap is highly significant because the epidemic models we have, project this group becoming a key driver of the epidemic. Current data on this population from Round V IBBS is extrapolated from samples of MSM that were predominantly engaged in sex work. There is an urgent need for more concrete data on the population of MSM who are engaging in non-commercial sex with other men. This includes better evidenced population size estimates, behavioural data (inclusive of data on use of social media for sexual networking,) and HIV prevalence data.

MSM are a large and diverse population and we do not currently have an accurate picture of the distribution of risk behaviours that would facilitate precision targeting. Nor do we understand how various subsets of the MSM population overlap or interact with each other. MSM programmes need to evolve so that they are using different service models and approaches for different for MSW and MSM (non-SW). The field assessments will be designed to provide data that would inform this differentiation.

A number of vulnerable populations (migrants, truckers, mine-workers) were frequently referred to in consultations held to develop the strategies. It has also been proposed that refugees be taken into consideration. There is no concrete data about the nature and extent of their behavioural vulnerability, their HIV prevalence rates, or their links and/or overlaps with the established set of key populations.

For both of these data gaps (MSM (non-SW) and other vulnerable populations) qualitative field assessments will be conducted to confirm whether the selected subpopulations are engaging in high-risk behaviour, and whether they exist in sufficient numbers to merit inclusion in the next round of IBBS. The assessments will explore the feasibility of collecting data among these populations by determining how and where they can be accessed and sampled systematically and their general willingness to participate in surveillance surveys.[142]

For MSM (non-SW) the data collected will be used to inform their inclusion in IBBS Round VI. It will also be used to develop a much-needed differentiated prevention and testing service approach for this population.[143] For the various vulnerable populations, the data will be used to decide whether or not to include them in IBBS VI, or to conduct more specific follow on research. The technical support unit (3.3.3) will be involved in sourcing expert support for these assessments.

3.5.3 Inclusion of routine HIV surveillance into existing disease surveillance system of NIH.

The National Institute for Health (NIH), through its Surveillance and Response Section, is mandated to gather and analyse disease surveillance data from relevant available sources and periodically disseminate epidemiological information to stakeholders. The NIH conducts surveillance activities on priority diseases in the country but this does not currently include HIV. Subsequent to the HIV outbreak in Larkana in 2019, a decision was made to include HIV as one of the seven priority programmes. This means that HIV will become a notifiable disease. Given this development, it is envisaged that the NIH will take a more active role in gathering and analysing HIV data, and that this will include the integration of routine HIV surveillance into its current system.

3.5.4 Independent PWID programme saturation surveys in select cities

The PWID programme is reporting programme saturation in some cities (Karachi, for example) where the last round of IBBS estimated that a significant number of PWID still remain to be reached. Investing in scale up in these cities would not be cost effective if indeed saturation point has been reached. A new round of mapping for IBBS Round VI can address this issue, but decisions about where to scale up PWID programmes need to be taken in the short term. Programme saturation surveys in select cities (where the discrepancies between estimated numbers of PWID and numbers reached by programmes reporting saturation are particularly large) will be conducted by independent academic institutions not involved in programme implementation. These will take place in the first year of the strategy to inform scale up decisions.

Output 3.6 Integration of HIV M&E systems

UNAIDS recommends one national HIV monitoring and evaluation system as part of the 'Three Ones' principle.[144] The National HIV Programme Review noted the absence of a reliable interconnected MIS across the HIV programme streams. Parallel monitoring systems exist – federal (NACP),

[142] The approach can be guided by ***The Pre-Surveillance Assessment***, UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance, WHO 2005, https://www.who.int/hiv/pub/surveillance/sti/en/

[143] Approach methods, service delivery mechanisms and intervention packages need to be tailored to each key population in order to ensure optimal coverage and impact. At present, the lack of concrete data on the MSM (non-SW) population (behavioural, prevalence, and social network profiling) makes it impossible to recommend specific strategies for this tailoring.

[144] Organizing Framework for a Functional National HIV Monitoring and Evaluation System, UNAIDS 2006

provincial (PACP), non-governmental (NZT, GSM, APLHIV), without interfaces that connect them, with the result that required information is not being generated in a timely manner for efficient decisions and programme management. The review recommended the creation of an accountability and reporting system that is transparent, up to date and reliable. [145]

The enhancement of HIV programme governance and management systems in this strategy is dependent on the resolution of long-standing monitoring and evaluation systems fragmentation. More effective governance and management decisions can only be made if the data to inform them is available (at the point in the system where the decision is to be taken), current, and accurate.

3.6.1 National and Provincial MIS reorganized to capture and report critical information for timely decision making

Here the objective is to reorganize the existing provincial and national MIS so that they are guided by a common and clear strategy that ensures timely collection, validation, analysis and reporting (upward, downward and horizontally), of data for planning and management (see also Outputs 3.2.2 and 3.3.2). To address this critical, longstanding issue, following steps will be taken:

a) National and Provincial AIDS Control Programmes, along with partners, will be convened to agree on a core set of indicators with agreed definitions that all parts of the integrated system will track

b) An integrated system data-flow map (with directionality and lag times) will be developed and endorsed at all levels

c) Common interfaces will be developed to enable two-way data flow between provincial and national MIS, and also between implementing partners (PRs) and PACP/NACP;

d) The resulting integrated MIS will allow patient tracking from outreach testing into treatment and between treatment centres across provinces. This will include tracking and reporting of HIV positive pregnant women receiving PPTCT services and reporting of people on PrEP.

This is a significant systems development initiative that will need a resource commitment, and an accompanying consultative consensus-building process. It is important that integrated platforms allow data to be visualized at the provincial level to facilitate the results-based management aimed at in 3.3 above. Technical support for this output will be sourced through the technical support unit (3.3.3), inclusive of capacity building around effective data use.

Output 3.7 Increased sustainability of the response

Sustainability has many dimensions and is not just a question of the financial sustainability of HIV programmes as countries transition from international to domestic funding. [146] This strategy addresses sustainability at multiple points in the above framework. For example, moving towards epidemiological sustainability is addressed in the strategy's goal to turn an increasing incidence into a declining incidence, and many of the Outputs under Outcome 3 (Enabling Environment) have been designed to have an impact on structural, political and programmatic sustainability (3.1.1, 3.1.2, and all outputs for 3.2, 3.3, and 3.5. In addition to the sustainability-promoting outputs above the following two outputs are critical.

3.7.1 Strengthened coordination systems between national and provincial levels

The Outputs under Outcome 3 entail a strengthening of programme governance and management responsibility at provincial level. This is to ensure better ownership of the strategies and accountability towards delivering on the outputs. It is also better adapted to the devolved structure of Pakistan's heath system. It is important, however, that the country still retains a national level overview of the epidemic and its response. This will be achieved by producing clear definitions of the roles and

[145] National HIV Programme Pakistan Review, 2019

[146] Oberth and Whiteside, What does sustainability mean in the HIV and AIDS response, AJAR 2016, 15: 1-9 https://www.globalfundadvocatesnetwork.org/wp-content/uploads/2016/04/Oberth-Whiteside-2016-What-Does-Sustainability-Mean-in-the-HIV-and-AIDS-Response.pdf

responsibilities of the national and provincial levels (especially with respect to programme supervision), the establishment of better coordination mechanisms and systems between national and provincial levels, and the integration of MIS systems under Output 3.6.

3.7.2 Improved mobilisation and absorption of the domestic resource allocation

Outputs 3.2. and 3.3 above, are intended to have an impact on the absorption issues with domestic funding. Strengthened management and governance should result in more efficient use of resources and effective implementation. The strategy also sets a framework and targets that will be used in the design of PC-1 programmes for the current funding application round.

The outstanding issue is the efficiency of the PC-1 approval process, which has historically led to significant programme implementation delays. There is a risk that the current COVID-19 pandemic could divert attention and resources and lead to further delays. The short-term approach to addressing this will be sustained advocacy efforts from national and provincial stakeholders to keep the PC-1 application process on track. Longer-term solutions, such as shifting the HIV programme onto the permanent health budget, are also being considered by some provinces though, again, the current COVID-19 pandemic could stall the processes that are already underway.

One potential hinderance for the alignment of PC-1 budgets with strategy budgets is the historical underspend of the domestically funded programmes. Domestic funding allocation is typically based on historical spend-rate. Inactive programmes lead to underfunded programmes. To facilitate better evidenced funding allocation an allocative efficiency analysis will be conducted to inform programme prioritization and scale up. It is particularly important that where programmes are moved onto permanent budgets that these permanent budgets are fixed in relation to what the programme needs to be designed to (efficiently) achieve rather than in relation to what the programme was able to spend when it was largely inactive.

3.7.3 Integrating HIV services into the national UHC and social welfare programmes

The WHO defines Universal Health Coverage (UHC)[147] as ensuring that all people in need have access to needed health services (including prevention, promotion, treatment, rehabilitation and palliation) of sufficient quality to be effective while also ensuring that use of these services does not expose the user to financial hardship. The federal and provincial governments are advancing UHC as part of their commitment to achieving the SDGs by 2030. An essential package of services has been identified and is now being costed. HIV treatment and prevention services are part of it. Once this has been approved and implemented, continued, and sustained HIV services for all, will be ensured. There is a need to closely monitor progress on this the provincial intersectoral coordination mechanisms in this strategy (3.2.3) and CCM will have a key advocacy role in this regard. and key activities to implement this will be part of the Implementation Plan.

On the social welfare front the federal government has established a Division of Poverty Alleviation and Social Safety. Its purpose is to implement the umbrella initiative, Ehsaas (meaning empathy), launched in early 2019. The objective of Ehsaas is to reduce inequality and invest in people. It is meant to leverage the latest tools and approaches, such as the use of data and technology to create precision safety nets; promoting financial inclusion and access to digital services; supporting the economic empowerment of women; focusing on human capital formation; overcoming financial barriers to accessing health and education; and tackling malnutrition in all its forms.

It is critical that members of key populations, particularly FSW and TG (who are most marginalized), benefit from various programmes being offered by Ehsaas. The national and provincial AIDS Control programmes, with the involvement of APLHIV and the CBOs implementing the AIDSD programme, will support key populations to get computerized national ID cards (CNIC). This is a requirement for registration with Ehsaas programmes and will facilitate key populations with the registration process so that these marginalized communities can benefit from government initiatives to address inequality.

[147] https://www.who.int/health-topics/universal-health-coverage#tab=tab_1

5. Monitoring and Evaluation Framework

The monitoring and evaluation framework for PAS IV is designed to be simpler than that for PAS III.[148] It consists of three tiers:

1. A set of core indicators that use programme data to measure annual progress towards achieving prevention, testing and treatment targets.
2. A set of key population risk behaviour indicators that are measured using IBBS data
3. A set of programme milestones that track key strategy outputs

The denominators for the tier 1 targets change annually in accordance with population growth estimates from the AEM and spectrum models. A complete set of denominators and numerators for the targets is annexed.

	Indicator	2025
Impact	# New HIV infections among adults	63% reduction from 2020

Tier 1: Core indicators with annual targets measured by programmatic data

	Indicator	Baseline (2019)	2021	2022	2023	2024	2025
Outcome 1	% PWID reached with HIV prevention programmes in the last 12 months	29%	40%	48%	56%	65%	73%
	% PWID that received an HIV test within the last 12 months and who know the results	14%	23%	32%	43%	55%	66%
	% MSM (higher risk non-SW) reached with HIV prevention programmes in the last 12 months	9%	16%	25%	39%	54%	70%
	% MSM (higher risk non-SW) MSM that received an HIV test within the last 12 months and who know the results	5%	10%	18%	31%	45%	63%
	% MSW reached with HIV prevention programmes in the last 12 months	23%	35%	47%	61%	74%	86%
	% MSW that received an HIV test within the last 12 months and who know the results	13%	23%	34%	48%	63%	78%
	% TG reached with HIV prevention programmes in the last 12 months	27%	35%	43%	56%	71%	86%
	% TG that received an HIV test within the last 12 months and who know the results	15%	21%	30%	45%	60%	77%
	% FSW reached with HIV prevention programmes in the last 12 months	4%	17%	30%	44%	60%	76%
	% FSW that received an HIV test within the last 12 months and who know the results	2%	10%	21%	35%	51%	68%

[148] The PAS III M&E framework had at least one indicator per output and was never used to track the progress of strategy implementation.

Outcome 2	% Adults living with HIV currently receiving ARV therapy	12%	24%	37%	50%	62%	73%
	% Children living with HIV currently receiving ARV therapy	31%	41%	51%	62%	72%	81%
	% HIV-positive pregnant women who received ARVs to reduce the risk of mother-to-child transmission	16%	31%	49%	64%	78%	79%

Tier 2: Behavioural indicators to be measured by IBBS data[149]

	Indicator	Baseline (2016)	2023
Outcome 1	% PWID reporting the use of sterile injecting equipment the last time they injected drugs	73%	
	% MSM (Non-SW) reporting the use of a condom with their most recent partner	13%	
	% MSW reporting the use of a condom with their most recent partner	26%	
	% TG reporting the use of a condom with their most recent partner	28%	
	% FSW reporting the use of a condom with their most recent partner	50%	

Tier 3: Critical strategy milestones to be tracked in accordance with implementation plans

	Milestone	Deadline
Outcome 1	Key population programme presence in all priority cities	2022
	HIV self-test Kit pilot launch	2021
	PrEP programme launch	2021
	OST programme launch	2021
Outcome 2	ART centre one-stop-shop model launch	2021
	Commencement of decentralized treatment	2021
	Deployment of case managers across treatment centres	2021
Outcome 3	Establishment of provincial oversight committees	2021
	Establishment of provincial intersectoral coordination mechanism	2021
	Establishment of technical support unit	2021
	Commencement of communication and advocacy programme	2021
	Qualitative pre-IBBS field assessments & PWID programme saturation surveys	2021

[149] Targets have not been set for tier 2 indicators as these are behavioural outcomes; progress (improvement on baseline) will be assessed using IBBS Round VI data.

	IBBS Round VI	2022
All Outcomes	Mid-term review of strategy	2023

6. Budget

Below is an indicative budget for the implementation of PAS IV. National level costs are an aggregate of the provincial level budgets with additional line items for activities which are assumed to be nationally led. Costs for specific activities, such as capacity building, have been built into the unit costs of the intervention packages. Unit costs for intervention packages for key populations are based on the existing service packages.

National Costs						
	2021	**2022**	**2023**	**2024**	**2025**	**TOTAL**
FSW	5,219,865	9,406,236	14,390,113	19,767,916	25,652,600	**74,436,731**
PWID	10,050,825	12,398,045	14,834,282	17,360,643	19,977,697	**74,621,492**
MSM (higher risk non-SW)	3,563,696	5,755,016	9,012,185	12,614,252	16,684,451	**47,629,599**
MSW	1,963,057	2,692,733	3,531,598	4,399,390	5,197,659	**17,784,438**
TG	1,601,900	1,998,217	2,669,601	3,446,320	4,236,141	**13,952,179**
Treatment Adults	11,658,822	20,403,446	30,616,766	42,691,510	56,744,969	**162,115,514**
Treatment Children	615,300	841,469	1,082,262	1,346,067	1,623,776	**5,508,873**
PrEP	250,000	150,000	100,000	100,000	100,000	**700,000**
OST	300,000	200,000	200,000	150,000	150,000	**1,000,000**
Programme Cost	475,000	650,000	825,000	1,000,000	1,175,000	**4,125,000**
Research & Evaluation	0	0	100000	0	0	**100,000**
TOTAL	**35,698,465**	**54,495,162**	**77,361,807**	**102,876,098**	**131,542,293**	**401,973,826**

National **(%) C**osts						
	2021	**2022**	**2023**	**2024**	**2025**	**TOTAL**
FSW	14.62	17.26	18.60	19.22	19.50	18.52
PWID	28.15	22.75	19.18	16.88	15.19	18.56
MSM (higher risk non-SW)	9.98	10.56	11.65	12.26	12.68	11.85
MSW	5.50	4.94	4.57	4.28	3.95	4.42
TG	4.49	3.67	3.45	3.35	3.22	3.47
Treatment Adults	32.66	37.44	39.58	41.50	43.14	40.33
Treatment Children	1.72	1.54	1.40	1.31	1.23	1.37
PrEP	0.70	0.28	0.13	0.10	0.08	0.17
OST	0.84	0.37	0.26	0.15	0.11	0.25
Programme Cost	1	1	1	1	1	1
Research & Evaluation			0.13			0.02

Annexes

Framework for PAS IV

Outcome 1: Increased testing coverage and reduced risk behaviours among key populations and their partners	
Output 1.1 Accelerated scale-up of community-based HTS for all key populations (coverage aligned with epidemic burden)	**1.1.1** Initiation of community-based outreach testing programmes for key populations in all priority cities not yet covered
	1.1.2 Scale up and precision targeting of existing community-based testing programmes for key populations in priority cities where such programmes already exist
	1.1.3 Pilot promotion of HIV self-test kits for MSM in two high burden cities
	1.1.4 Integration of partner notification and HTS for key population partners/spouses/family members into targeted key population programming where consent can be obtained
Output 1.2 High-impact, age-group tailored, HIV prevention services for key populations taken to scale	**1.2.1** Expansion and fine-tuning of coverage of community-based combination harm reduction/HIV prevention for PWID in accordance with validated programmatic data about where unreached PWID with high prevalence can be found
	1.2.2 Ambitious expansion of coverage of community-based prevention programmes for MSM/MSW/TG/FSW making full use of social media to optimise programme reach
	1.2.3 Roll-out of PrEP for MSM, TG and sero-discordant couples in two high burden cities
	1.2.4 Integrate prevention programme coverage of partners/spouses/family members into targeted key population programming where consent can be obtained
Output 1.3 Selective prevention and testing programme coverage of pregnant women and vulnerable populations	**1.3.1** Targeted HTS for at risk pregnant women and pilot PITC (routine HIV testing) in selected cities
	1.3.2 Introduce and ensure Early Infant Diagnosis for all infants born to HIV positive mothers
	1.3.3 Consistent screening for HIV for all persons admitted to prisons with links to treatment for those testing positive
	1.3.4 Pre-departure prevention education for intending migrant workers, and a referral system to HTC, ART and PPTCT for returning migrants and their families

Outcome 2: Increased ART initiation and retention, with key populations and their spouses/partners and children proportionally covered	
Output 2.1 Removal of key treatment initiation barriers for key populations and their partners/spouses and children	**2.1.1** Reconfiguration of ART Centre model to one-stop-shop model, inclusive of PPTCT and paediatric services, to address long-standing barriers to treatment access.
	2.1.2 Implementation of an OST programme specifically designed to generate evidence of its impact on ART initiation and adherence for PWID
	2.1.3 Continue to scale up comprehensive treatment preparedness services for PWID
	2.1.4 Proactive case finding to enable equitable access to and uptake of PPTCT services by vulnerable and marginalized women.
Output 2.2 Intensified treatment adherence support differentiated by key population	**2.2.1** Immediate initiation of proactive case management for people newly initiating treatment
	2.2.2 Rethinking/consolidation and capacitation of existing case management/adherence counselling model

	2.2.3 Decentralization of ART supply for stable HIV patients down to district level
	2.2.4 Re-design of care and support package, its allocation and delivery mechanism, to ensure adequate patient access and equitable distribution
	2.2.5 Scale-up of paediatric AIDS treatment coverage in proportion to growing case numbers
	2.2.6 Develop a national action plan for HIV Drug Resistance (HIVDR)
Output 2.3 Reconfiguration of viral load testing mechanism to remove barriers	**2.3.1** Removal of patient perspective barriers from viral load testing process
	2.3.2 Removal of data-flow obstacles from viral load test result reporting process

Outcome 3: Environment is enabled for an effective and sustainable AIDS response	
Output 3.1 Capacitation of critical service delivery models to ensure adequate coverage, quality and effectiveness	**3.1.1** Capacitation of community-based key population prevention/testing model
	3.1.2 Capacitation of treatment model
	3.1.3 Protocols and standards for screening and treatment in prisons and provision of training to prison doctors
Output 3.2 Enhanced strategic governance of programmes	**3.2.1** Use of provincial AIDS strategies to develop targets and budgets for domestically funded AIDS control programmes
	3.2.2 Expertise-based oversight committees established in 2 key provinces to monitor progress towards achieving provincial strategy targets
	3.2.3 Establishment of intersectoral/interdepartmental coordination mechanisms to advocate for adequate programme support
Output 3.3 Strengthened programme management	**3.3.1** Management audit of provincial AIDS programmes to identify capacity building needs around results-based management and procurement management
	3.3.2 Reconfiguration of reporting processes to ensure that data essential for effective provincial AIDS programme management is systematically available
	3.3.3 Establishment of an agile technical support unit to provide strategic guidance and management strengthening support to the HIV programme
Output 3.4 Critical stigma and discrimination issues addressed	**3.4.1** Targeted sensitivity trainings where service access and programme effectiveness are being directly impacted
	3.4.2 Nationally-led communication and advocacy programme
Output 3.5 Institutionalised surveillance with more accurate key and vulnerable population data to facilitate precision targeting	**3.5.1** A new round of IBBS with quality issues of previous round properly addressed
	3.5.2 Qualitative (pre-IBBS) field-assessments conducted of migrants, refugees, truckers, mine-workers and Non-SW MSM
	3.5.3 Inclusion of routine HIV surveillance into existing disease surveillance system of NIH.
	3.5.4 Independent PWID programme saturation surveys in select cities
Output 3.6 Integration of HIV M&E systems	**3.6.1** National and Provincial MIS reorganized to capture and report critical information for timely decision making

Output 3.7 Increased sustainability of the response.	**3.7.1** Strengthened coordination systems between national and provincial levels
	3.7.2 Improved mobilisation and absorption of the domestic resource allocation
	3.7.3 HIV services integrated into the national UHC and social welfare programmes

Strategy Targets

Punjab	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	4%	22%	39%	56%	73%	90%
Testing FSW	2%	13%	27%	45%	62%	81%
Prevention PWID	41%	51%	61%	70%	80%	90%
Testing PWID	19%	28%	39%	53%	68%	81%
Prevention MSM (higher risk non-SW)	9%	22%	39%	56%	73%	90%
Testing MSM (higher risk non-SW)	6%	15%	29%	45%	62%	81%
Prevention MSW	16%	29%	44%	60%	75%	90%
Testing MSW	10%	20%	33%	48%	64%	81%
Prevention TG	30%	39%	46%	61%	75%	90%
Testing TG	16%	23%	32%	49%	64%	81%
Treatment (Adults)	12%	27%	40%	54%	67%	81%
Treatment (Children)	15%	28%	41%	55%	68%	81%
Treatment (PPTCT)	14%	30%	47%	63%	79%	81%

Punjab	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	4,758	26,775	48,484	71,090	94,601	119,021
Testing FSW	2,354	16,065	33,939	56,872	80,411	107,119
Prevention PWID	21,903	28,140	34,307	40,718	47,377	54,285
Testing PWID	9,877	15,477	22,300	30,539	40,271	48,857
Prevention MSM (higher risk non-SW)	9,404	24,738	44,819	65,749	87,539	110,197
Testing MSM (higher risk non-SW)	6,214	17,316	33,614	52,599	74,408	99,178
Prevention MSW	6,269	12,139	18,863	25,868	33,156	40,731
Testing MSW	4,143	8,497	14,147	20,694	28,183	36,658
Prevention TG	9,578	13,215	15,999	21,511	27,246	33,206
Testing TG	5,056	7,929	11,199	17,209	23,159	29,885
Treatment (Adults)	10,524	30,726	53,461	82,379	118,522	162,749
Treatment (Children)	466	981	1,556	2,237	2,955	3,751
Treatment (PPTCT)	265	833	1,468	2,169	2,994	3,366

Sindh	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	5%	11%	19%	29%	41%	56%
Testing FSW	3%	7%	13%	23%	35%	50%
Prevention PWID	19%	31%	38%	44%	51%	57%
Testing PWID	10%	19%	26%	35%	43%	51%
Prevention MSM (higher risk non-SW)	12%	15%	20%	30%	42%	57%
Testing MSM (higher risk non-SW)	6%	9%	14%	24%	36%	51%
Prevention MSW	42%	55%	65%	75%	85%	90%
Testing MSW	21%	33%	46%	60%	72%	81%
Prevention TG	34%	41%	51%	61%	76%	90%
Testing TG	19%	25%	36%	49%	65%	81%
Treatment (Adults)	8%	14%	24%	34%	44%	54%
Treatment (Children)	49%	55%	62%	68%	75%	81%
Treatment (PPTCT)	6%	11%	20%	31%	44%	54%

Sindh	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	3,150	7,092	12,468	19,366	27,859	38,708
Testing FSW	1,983	4,610	8,727	15,493	23,680	34,837
Prevention PWID	9,190	15,584	19,196	22,932	26,793	30,778
Testing PWID	4,751	9,350	13,437	18,346	22,774	27,700
Prevention MSM (higher risk non-SW)	16,181	21,552	29,262	44,689	63,688	87,969
Testing MSM (higher risk non-SW)	8,003	12,931	20,483	35,751	54,135	79,172
Prevention MSW	10,787	14,603	17,573	20,645	23,817	25,666
Testing MSW	5,335	8,762	12,301	16,516	20,245	23,099
Prevention TG	6,773	8,588	10,878	13,247	16,800	20,248
Testing TG	3,915	5,153	7,614	10,597	14,280	18,224
Treatment (Adults)	5,733	12,022	22,466	34,543	48,315	63,880
Treatment (Children)	1,226	1,561	1,908	2,243	2,643	3,042
Treatment (PPTCT)	90	228	442	712	1,049	1,333

KPK	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	0%	7%	12%	28%	44%	60%
Testing FSW	0%	4%	7%	19%	35%	54%
Prevention PWID	11%	23%	31%	40%	49%	60%
Testing PWID	7%	15%	22%	32%	42%	54%
Prevention MSM (higher risk non-SW)	0%	7%	12%	28%	44%	60%
Testing MSM (higher risk non-SW)	0%	4%	7%	19%	35%	54%
Prevention MSW	0%	7%	12%	28%	44%	60%
Testing MSW	0%	4%	7%	20%	35%	54%
Prevention TG	0%	7%	12%	28%	44%	60%
Testing TG	0%	4%	7%	19%	35%	54%
Treatment (Adults)	20%	33%	45%	57%	69%	81%
Treatment (Children)	29%	39%	50%	60%	71%	81%
Treatment (PPTCT)	21%	31%	47%	63%	79%	81%

KPK	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	-	1,200	2,168	5,311	8,582	11,984
Testing FSW	-	660	1,301	3,718	6,866	10,786
Prevention PWID	800	1,701	2,406	3,141	3,904	4,888
Testing PWID	475	1,106	1,684	2,512	3,319	4,399
Prevention MSM (higher risk non-SW)	-	2,487	4,498	11,022	17,821	24,898
Testing MSM (higher risk non-SW)	-	1,368	2,699	7,715	14,257	22,408
Prevention MSW	-	512	837	2,008	3,193	4,426
Testing MSW	-	281	502	1,406	2,554	3,983
Prevention TG	-	407	737	1,805	2,919	4,078
Testing TG	-	224	442	1,264	2,335	3,670
Treatment (Adults)	2,388	5,236	8,272	12,067	16,743	22,448
Treatment (Children)	114	176	245	315	398	484
Treatment (PPTCT)	52	118	203	299	412	464

Balochistan	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	0%	6%	12%	28%	44%	60%
Testing FSW	0%	3%	7%	19%	35%	54%
Prevention PWID	16%	23%	31%	40%	49%	60%
Testing PWID	13%	19%	28%	36%	44%	54%
Prevention MSM (higher risk non-SW)	0%	6%	12%	28%	44%	60%
Testing MSM (higher risk non-SW)	0%	4%	7%	19%	35%	54%
Prevention MSW	0%	6%	12%	28%	44%	60%
Testing MSW	0%	3%	7%	20%	35%	54%
Prevention TG	0%	6%	12%	28%	44%	60%
Testing TG	0%	4%	7%	19%	35%	54%
Treatment (Adults)	17%	28%	40%	51%	63%	74%
Treatment (Children)	16%	28%	40%	51%	63%	74%
Treatment (PPTCT)	26%	28%	40%	51%	63%	74%

Balochistan	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	-	443	867	2,124	3,433	4,794
Testing FSW	-	244	520	1,487	2,746	4,314
Prevention PWID	469	680	962	1,256	1,562	1,955
Testing PWID	375	578	866	1,131	1,406	1,760
Prevention MSM (higher risk non-SW)	-	995	1,799	4,409	7,128	9,959
Testing MSM (higher risk non-SW)	-	547	1,079	3,086	5,703	8,963
Prevention MSW	-	164	335	803	1,277	1,770
Testing MSW	-	90	201	562	1,022	1,593
Prevention TG	-	163	295	722	1,168	1,631
Testing TG	-	90	177	505	934	1,468
Treatment (Adults)	783	1,802	2,928	4,340	6,085	8,218
Treatment (Children)	28	54	84	115	151	189
Treatment (PPTCT)	25	43	69	97	132	169

National	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	4%	17%	30%	44%	60%	76%
Testing FSW	2%	10%	21%	35%	51%	68%
Prevention PWID	29%	40%	48%	56%	65%	73%
Testing PWID	14%	23%	32%	43%	55%	66%
Prevention MSM (higher risk non-SW)	9%	16%	25%	39%	54%	70%
Testing MSM (higher risk non-SW)	5%	10%	18%	31%	45%	63%
Prevention MSW	23%	35%	47%	61%	74%	86%
Testing MSW	13%	23%	34%	48%	63%	78%
Prevention TG	27%	35%	43%	56%	71%	86%
Testing TG	15%	21%	30%	45%	60%	77%
Treatment (Adults)	12%	24%	37%	50%	62%	73%
Treatment (Children)	31%	41%	51%	62%	72%	81%
Treatment (PPTCT)	16%	31%	49%	64%	78%	79%

National	2019 baseline	2021	2022	2023	2024	2025
Prevention FSW	7,908	35,509	63,988	97,892	134,476	174,507
Testing FSW	4,337	21,578	44,488	77,570	113,704	157,057
Prevention PWID	32,362	46,105	56,872	68,047	79,636	91,907
Testing PWID	15,478	26,511	38,287	52,527	67,769	82,716
Prevention MSM (higher risk non-SW)	25,585	49,772	80,377	125,869	176,177	233,023
Testing MSM (higher risk non-SW)	14,217	32,163	57,875	99,152	148,503	209,721
Prevention MSW	17,056	27,417	37,608	49,324	61,444	72,593
Testing MSW	9,478	17,630	27,152	39,178	52,004	65,334
Prevention TG	16,351	22,373	27,908	37,285	48,133	59,164
Testing TG	8,971	13,395	19,432	29,575	40,709	53,248
Treatment (Adults)	21,063	53,976	94,460	141,744	197,646	262,708
Treatment (Children)	1,884	2,849	3,896	5,010	6,232	7,517
Treatment (PPTCT)	575	1,642	2,931	4,123	5,375	5,860

Notes

- Prevention and treatment targets were developed using AEM modelling with support from the UNAIDS Regional Support Team for Asia and the Pacific
- Targets (and the intervention scenarios on which they are based) were agreed at provincial level and then aggregated to national level
- National treatment targets have been adjusted to allow for treatment numbers at Federal level, so the national numbers are more than the sum of the provinces
- Testing targets for each KP have been set in relation to the programmatic baseline % of those who receive prevention who get tested. The proportions are then progressed to 90% (of those reached with prevention) by 2025

Denominators for Strategy Targets

Punjab						
Population	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**
FSW	116,420	121,703	124,319	126,947	129,591	132,246
PWID	52,924	55,393	56,612	57,838	59,074	60,317
MSM (non-SW)	306,944	321,267	328,343	335,455	342,620	349,833
MSM (higher risk non-SW)	107,430	112,444	114,920	117,409	119,917	122,441
MSW	39,721	41,571	42,484	43,402	44,327	45,257
TG	32,373	33,884	34,630	35,380	36,135	36,896
Adult PLHIV	89,025	115,513	132,988	153,121	175,849	200,925
Children PLHIV	3,085	3,502	3,795	4,068	4,346	4,631
Mothers needing PPTCT	1,855	2,778	3,124	3,444	3,790	4,156

Sindh						
Population	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**
FSW	62,137	64,472	65,620	66,781	67,949	69,122
PWID	48,398	50,270	51,189	52,118	53,054	53,997
MSM (non-SW)	395,229	410,520	418,022	425,608	433,252	440,945
MSM (higher risk non-SW)	138,330	143,682	146,308	148,963	151,638	154,331
MSW	25,563	26,551	27,036	27,526	28,020	28,517
TG	20,166	20,946	21,329	21,716	22,106	22,498
Adult PLHIV	72,184	85,870	93,610	101,597	109,806	118,297
Children PLHIV	2,501	2,839	3,077	3,299	3,524	3,755
Mothers needing PPTCT	1,504	2,070	2,208	2,298	2,383	2,468

KPK						
Population	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**
FSW	17,657	18,458	18,855	19,254	19,655	20,057
PWID	7,149	7,482	7,647	7,812	7,979	8,147
MSM (non-SW)	104,464	109,338	111,746	114,166	116,604	119,058
MSM (higher risk non-SW)	36,563	38,268	39,111	39,958	40,811	41,670
MSW	6,518	6,822	6,972	7,123	7,275	7,428
TG	5,989	6,268	6,406	6,545	6,685	6,825
Adult PLHIV	11,729	15,867	18,383	21,170	24,265	27,713
Children PLHIV	398	452	490	525	561	598
Mothers needing PPTCT	244	381	431	475	522	572

Baluchistan						
Population	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**
FSW	7,063	7,383	7,542	7,701	7,862	8,023
PWID	2,859	2,993	3,059	3,125	3,192	3,259
MSM (non-SW)	41,786	43,735	44,698	45,666	46,642	47,623
MSM (higher risk non-SW)	14,625	15,307	15,644	15,983	16,325	16,668
MSW	2,607	2,729	2,789	2,849	2,910	2,971
TG	2,396	2,507	2,563	2,618	2,674	2,730
Adult PLHIV	4,612	6,333	7,340	8,453	9,690	11,069
Children PLHIV	171	194	209	225	240	256
Mothers needing PPTCT	98	152	172	190	209	229

National						
Population	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**
FSW	203,277	212,017	216,336	220,683	225,056	229,448
PWID	111,330	116,138	118,507	120,894	123,299	125,720
MSM (non-SW)	848,423	884,861	902,810	920,895	939,117	957,459
MSM (higher risk non-SW)	296,948	309,701	315,984	322,313	328,691	335,111
MSW	74,409	77,673	79,281	80,900	82,532	84,173
TG	60,924	63,605	64,927	66,258	67,600	68,949
Adult PLHIV	177,550	223,583	252,321	284,341	319,611	358,004
Children PLHIV	6,155	6,987	7,571	8,117	8,671	9,240
Mothers needing PPTCT	3,701	5,381	5,935	6,407	6,904	7,425

Notes

- PLHIV PSEs are based on Spectrum modelling
- KP PSEs are based on AEM modelling; the original source data is from IBBS Round V, 2017.
- MSM (non-SW) is not used as a denominator in the strategies; it is the PSE from which MSM (higher risk non-SW) is derived. The modellers have calculated MSM (higher risk non-SW) as 35% of MSM (non-SW)

Baseline Data for Strategies

National	KP	PSE	Prevention Coverage		Testing Coverage		PLHIV PSE	Prevalence	ART Coverage	
	PWID	111,330	32,362	29%	15,478	14%	42,138	38%	7,047	17%
	MSM (non-SW)	848,423	25,585	3%	14,217	2%	31,990	4%	366	1%
	MSM (higher risk non-SW)	296,948	25,585	9%	14,217	5%				
	MSW	74,409	17,056	23%	9,478	13%	8,457	11%	244	3%
	FSW	203,277	7,908	4%	4,337	2%	2,779	1%	55	2%
	TG	60,924	16,351	27%	8,971	15%	5,166	8%	402	8%
	Total KP PSE	**1,298,363**	**98,793**	**8%**	**52,481**	**4%**	**90,530**	**7%**	**8,114**	**9%**
	Total Adult PLHIV						177,550		21,063	12%
	Children PLHIV						6,155		1,884	31%
	Total PLHIV						**183,705**		**22,947**	**12%**
	Mothers Needing PPTCT						3,701		575	16%
Federal Treatment										
	PWID								391	
	MSM (non-SW)								7	
	MSW								5	
	FSW								-	
	TG								12	
	Non-KP PLHIV								1,220	
	Children PLHIV								50	
	Total on Treatment								**1,685**	
	Mothers Receiving PPTCT								143	
Punjab	**KP**	**PSE**	**Prevention Coverage**		**Testing Coverage**		**PLHIV PSE**	**Prevalence**	**ART Coverage**	
	PWID	52,924	21,903	41%	9,877	19%	19,133	36%	4,760	25%
	MSM (non-SW)	306,944	9,404	3%	6,214	2%	15,185	5%	160	1%
	MSM (higher risk non-SW)	107,430	9,404	9%	6,214	6%				
	MSW	39,721	6,269	16%	4,143	10%	5,486	14%	106	2%
	FSW	116,420	4,758	4%	2,354	2%	749	1%	45	6%
	TG	32,373	9,578	30%	5,056	16%	2,101	6%	174	8%
	Total Adult PLHIV						89,025		10,524	12%
	Children PLHIV						3,085		466	15%
	Total PLHIV						**92,110**		10,990	12%
	Mothers Needing PPTCT						1,855		265	14%
Sindh	**KP**	**PSE**	**Prevention Coverage**		**Testing Coverage**		**PLHIV PSE**	**Prevalence**	**ART Coverage**	
	PWID	48,398	9,190	19%	4,751	10%	20,170	42%	1,578	8%
	MSM (non-SW)	395,229	16,181	4%	8,003	2%	14,039	4%	165	1%
	MSM (higher risk non-SW)	138,330	16,181	12%	8,003	6%				
	MSW	25,563	10,787	42%	5,335	21%	2,532	10%	110	4%
	FSW	62,137	3,150	5%	1,983	3%	1,869	3%	8	0%
	TG	20,166	6,773	34%	3,915	19%	2,686	13%	191	7%
	Total Adult PLHIV						72,184		5,733	8%
	Children PLHIV						2,501		1,226	49%
	Total PLHIV						**74,685**		6,959	9%
	Mothers Needing PPTCT						1,504		90	6%
KPK	**KP**	**PSE**	**Prevention Coverage**		**Testing Coverage**		**PLHIV PSE**	**Prevalence**	**ART Coverage**	
	PWID	7,149	800	11%	475	7%	2,039	29%	230	11%
	MSM (non-SW)	104,464	-	0%	-	0%	1,993	2%	8	0%
	MSM (higher risk non-SW)	36,562	-	0%	-	0%				
	MSW	6,518	-	0%	-	0%	318	5%	5	2%
	FSW	17,657	-	0%	-	0%	115	1%	1	1%
	TG	5,989	-	0%	-	0%	272	5%	19	7%
	Total Adult PLHIV						11,729		2,388	20%
	Children PLHIV						398		114	29%
	Total PLHIV						**12,127**		**2,502**	21%
	Mothers Needing PPTCT						244		52	21%
Balochistan	**KP**	**PSE**	**Prevention Coverage**		**Testing Coverage**		**PLHIV PSE**	**Prevalence**	**ART Coverage**	
	PWID	2,859	469	16%	375	13%	796	28%	88	11%
	MSM (non-SW)	41,786	-	0%	-	0%	773	2%	26	3%
	MSM (higher risk non-SW)	14,625	-	0%	-	0%				
	MSW	2,607	-	0%	-	0%	121	5%	18	15%
	FSW	7,063	-	0%	-	0%	46	1%	1	0%
	TG	2,396	-	0%	-	0%	107	4%	6	6%
	Total Adult PLHIV						4,612		783	17%
	Children PLHIV						171		28	16%
	Total PLHIV						**4,783**		**811**	17%
	Mothers Needing PPTCT						98		25	26%

Notes

- All PLHIV PSEs based on Spectrum data
- All KP PSEs based on AEM data
- ART coverage data from NACP
- Prevention programme coverage data from NACP and Nai Zindagi
- Current treatment and prevention programmes do not bifurcate MSM data between non-SW MSM and MSW. Bifurcation has been done on a 60/40 allocation based on rough estimates from programme implementers. Given the programme's historical challenge with reaching non-SW MSM there may be an overestimate of the numbers of non-SW MSM reached with a proportionate underestimate of the numbers of MSW reached
- KP PLHIV treatment coverage data is dependent on PLHIV revealing their KP status. Given stigma and discrimination there is likely to be an underestimate of coverage of KPs whose identity is not apparent from appearance
- The AEM and Spectrum models have different methods for modelling disease progression and mortality rates. They therefore produce different PLHIV PSEs. The Spectrum estimates were used because their scientific methods represent the global standard. This has necessitated some proportional adjustment to the KP PLHIV PSE figures to ensure that the totals are aligned
- “MSM (higher risk non-SW)” is a new construct being introduced for PAS IV. It is based on the assumption that risk behaviours (type and frequency) are not evenly distributed across the entire population of non-SW MSM. Programmes need to target sub-groups engaged in higher risk behaviours. Non-SW MSM prevention targets for PAS IV have been set with these Higher Risk MSM as the denominator. It has been assumed by the modellers that 35% of non-SW MSM are higher risk MSM. To derive a baseline for this sub-group of non-SW MSM it has been assumed that all non-SW MSM reached in 2019 were higher-risk. The baseline highlighted in dark blue in the table is therefore the same coverage referenced in the line above it and is not included in the total KP coverage sum.
- Mothers needing PPTCT are not an additional group of PLHIV; they are subsets of KP PLHIV and non-KP PLHIV
- PAS IV has separate treatment targets for Adults and children so a baseline has been included for adult PLHIV treatment. Adults = Total PLHIV - Children PLHIV

Priority Cities

2017 strategy revision proposed priority cities for rapid scale up of interventions based on IBBS/AEM analysis. Each KP had its own set of priority cities (prioritisation was based on estimated PLHA among the KP in each city – the aim was to maximise yield of testing services. Below is an update on how programme presence is aligned with prioritised cities.

PWID – 28 Priority Cities

25 priority cities now have PWID interventions

10 priority cities are newly covered in the current grant period

Another 2 priority cities have planned coverage in the pipeline

Sindh*	**Karachi**	Has programme
	Jaccobabad	Has programme
	Hyderabad	Has programme
	Larkana	Has programme
Punjab	**Faisalabad**	Has programme
	Lahore	Has programme
	Gujranwala	Has programme
	Sialkot	Has programme
	Bahawalpur	Has programme
	Sargodha	Has programme
	Muzafarghar	Has programme
	Mandi Bahauddin	Has programme
	Mianwali	Could not be initiated despite efforts due to security reasons
	Kasur	Has programme
	Sheikhupura	Has programme
	Multan	Has programme
	Jhang	Has programme
	Dera Ghazi Khan	Has programme
	Rawalpindi	Has programme
	Lodhran	Has programme
	Okara	Has programme
	Toba Tek Singh	Has programme
	Khanewal	Has programme
KPK	**Peshawar**	Has programme
	Mardan	Programme in development
	Swat	Programme in development
Balochistan	**Kech/Turbat**	Has programme
	Quetta	Has programme

* For PAS IV Sindh AIDS Strategy adds Mirpurkhas to the list of priority cities for PWID. The city currently has PWID programming.

MSM – 21 Priority Cities

4 Priority Cities now have MSM interventions

2 of these cities (Multan and Sargodha) are newly covered in current grant period (the others were inherited from regional grant)

Sindh	**Karachi**	Has programme
	Hyderabad	No programme
	Larkana	No programme
	Nawabshah	No programme
Punjab	**Lahore**	Has programme
	Sargodha	Has programme
	Rahim Yar Khan	No programme
	Rawalpindi	No programme
	Kasur	No programme
	Multan	Has programme
	Muzafarghar	No programme
	Sheikhupura	No programme
	Mandi Bahauddin	No programme
	Okara	No programme
	Faisalabad	No programme
	Bahawalpur	No programme
KPK	**Haripur**	No programme
	Mardan	No programme
	Bannu	No programme
	Peshawar	No programme
Balochistan	**Quetta**	No programme

TG – 21 Priority Cities

6 Priority Cities now have TG interventions

3 of these cities (Faisalabad, Karachi and Multan) are newly covered in current grant period (the others were inherited from regional grant)

Sindh*	**Karachi**	Has programme
	Larkana	Has programme
	Jaccobabad	No programme
	Dadu	No programme
	Badin	No programme
Punjab	**Multan**	Has programme
	Faisalabad	Has programme
	Rahim Yar Khan	No programme
	Lahore	Has programme
	Rawalpindi	Has programme
	Sargodha	No programme
	Muzafarghar	No programme
	Bahawalpur	No programme
	Mandi Bahauddin	No programme
	Okara	No programme
	Mianwali	No programme
	Gujranwala	No programme
	Sheikhupura	No programme
KPK	**Haripur**	No programme

	Peshawar	No programme
Balochistan	**Quetta**	No programme

* For PAS IV Sindh AIDS Strategy adds Mirpurkhas to the list of priority cities for TG. The city currently has no TG programming.

FSW – 11 Priority Cities

3 Priority Cities now have FSW interventions

All were new for the current grant period

Sindh	**Karachi**	Has programme
	Sukkur	No programme
	Larkana	Has programme
	Hyderabad	No programme
	Nawabshah	No programme
Punjab	**Lahore**	Has programme
	Sheikhupura	No programme
	Faisalabad	No programme
	Multan	No programme
KPK	**Peshawar**	No programme
Balochistan	**Quetta**	No programme

PAS III IBBS V Analysis

What follows is an abridged version of the analysis of IBBS Round V data presented in PAS III 2017 revision. The complete version can be found on pages 11-30 of the original document.

Analysis of New Strategic Information

Introduction

The primary source of new strategic information for this strategy revision is the 5th round of HIV surveillance that was conducted in 2015-2017. This round comprised of a mapping of key populations followed by an integrated behavioural and biological survey (IBBS) based on a sampling of those same populations. Key outputs from Round V IBBS were new HIV prevalence estimates for each key population, city-level key population size estimates, and summary demographic, behavioural, and programme exposure data.

Data sourced from IBBS Round V was used in a new round of AIDS Epidemic Modelling (AEM) conducted in early 2017. The outputs of this modelling exercise included new population size estimates for each key population, scenarios of how the HIV epidemic in Pakistan might be expected to progress given different levels of resourcing, and costs and targets for each scenario. The IBBS data was also inputted into the Spectrum software tool to produce population size estimates for people living with HIV.

Population Size Estimates and HIV Prevalence among Key Populations

A comparison of the population size estimates and prevalence rates given in the original version of PAS III and the new estimates based on IBBS Round V and AEM is as follows:

	2015 Estimate			2017 Estimate		
	PSE	**HIV Prevalence**	**PLHA**	**PSE**	**HIV Prevalence**	**PLHA**
PWID	104,804	37.8%	39,616	113,422	38.4%	43,554
TG	66,161 [150] - 150,000[151]			52,424	7.1%	3,722
MSM	150,000 [152] - 2,285,500 [153]			832,213	3.5%[154]	29,127
FSW	149,111	0.6%	895	173,447	2.2%	3,816

For the MSM and TG populations there are further PSEs and prevalence rates for sub-populations as follows:

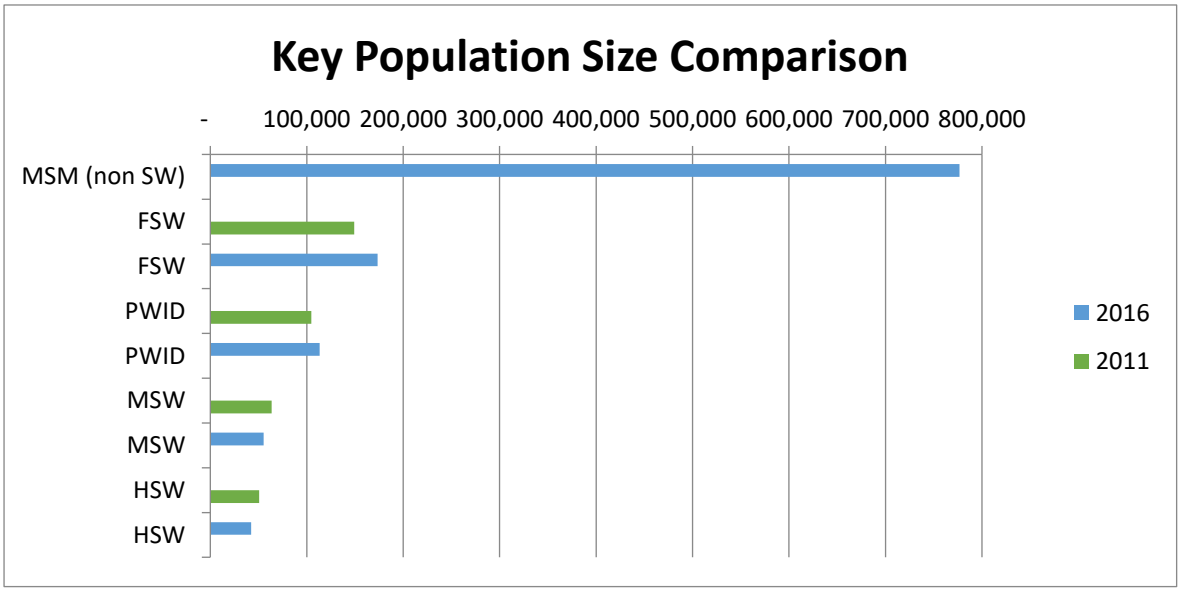
	2015 Estimate			2017 Estimate		
	PSE	**HIV Prevalence**	**PLHA**	**PSE**	**HIV Prevalence**	**PLHA**

[150] Based on 2014 Spectrum estimates.
[151] Based on AEM assumption of 0.3% of 2015 estimate of adult males 15-49
[152] Also based on AEM assumption of 0.3% of 2015 estimate of adult males 15-49
[153] Estimate from **Pakistan Country Snapshot – HIV and Men who have sex with Men**, December 2010, APCOM/UNAIDS/UNDP, which is based on Cáceres C, et al. **Estimating the number of men who have sex with men in low and middle income countries**. *Sex Transm Infect* 2006;**82**:iii3-iii9.
[154] The version of the IBBS Round V Report used to draw up this strategy (Final Draft May 6th) gives the overall MSM prevalence rate as 5.4%. (see page 148.) However, this figure clearly takes no account of the fact that MSW made up 85% of the survey sample even though they are estimated to be only 7% of the overall MSM population. The 3.5% figure has been derived by summing the number of MSW and non-SW MSM PLHA derived from their respective prevalence estimates and expressing this number as a percentage of the overall MSM population size estimate.

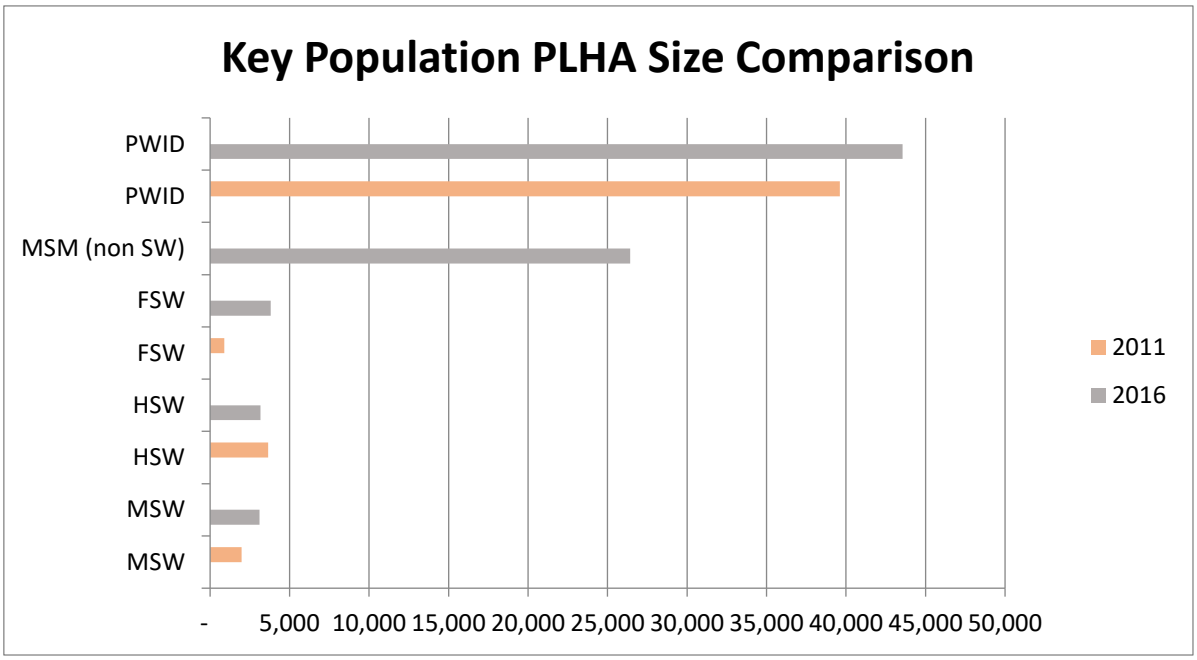
HSW	50,598	7.2%	3,643	42,190	7.5%[155]	3,164
Non SW MSM				776,873	3.4%[156]	26,414
MSW	63,732	3.1%	1,976	55,340	5.6%[157]	3,099

The most notable points of difference between the successive rounds of population size and prevalence estimates with strategic implications are as follows:

- Originally PAS III gave two very different estimates for the size of the larger MSM population; one based on an estimate from the former round of AEM, the other based on a reference from APCOM. Neither was linked to IBBS Round IV. The new AEM estimate is based on a different rationale, which is explained in PAS III pp15-17. The key point to note is that according to the new estimates MSM are the single largest key population group.
- The implications of this for the strategy are significant because it means that overall MSM (both sex worker and non-sex worker) account for 22% of people currently living with HIV in Pakistan. This makes MSM the second largest group of PLHA after PWID, with more than seven times the number of PLHA than either FSW or HSW.



[155] p95, IBBS 2016-17, Pakistan, draft 6th May 2017.
[156] p149, IBBS 2016-17, Pakistan, draft 6th May 2017.
[157] p149, IBBS 2016-17, Pakistan, draft 6th May 2017.



- The 2017 estimates suggest a smaller number of MSWs and HSWs than originally estimated; this may be due to the fact that the more recent round opened up to include non-sex worker MSM and non-sex worker TG158. The MSW PSE has dropped by 17%, the HSW PSE by 13%. This has meant that for HSW, even though the HIV prevalence has slightly increased the estimated number of HSW PLHA has dropped from 3,643 to 3,164.
- Because the FSW PSE has increased by 16% and HSW PSE decreased by 17% FSWs now account for slightly more estimated PLHA than HSW. This is a consequence both of the increase in FSW population size estimate and the relatively faster rate of increase in prevalence (267% prevalence growth versus 4%.)

So, what does this imply as far as ambitious fast-track coverage objectives are concerned? Firstly, the most appropriate way to prioritise the key population groups with respect to optimal treatment coverage objectives will be in terms of the estimated numbers of PLHA in each group. This would mean (a) that PWID should remain the priority key population and (b) that MSM programming needs to be urgently scaled up with concerted ambition to increase its scope beyond the more limited focus on MSW.

On the first point, PWID still account for the majority of people living with HIV in Pakistan. Their HIV prevalence rate is by far the largest of any group in Pakistan and is still growing even if now at a lower rate (2%) than other key population groups. In terms of actual numbers of PLHA, the PWID epidemic is still contributing the largest amount of new cases.[159] The epidemic will not be properly controlled unless the testing and treatment coverage rates for this group are significantly improved.

The second point is particularly important given that the HIV prevalence among MSW between the two rounds has increased by 81%. This suggests a rapidly growing epidemic. The men purchasing the services of MSW will, by definition, belong to the larger population of MSM who are therefore exposed to this higher prevalence rate. The MSM population will also include men who purchase the services of Hijra sex workers (HSW) whose HIV prevalence has grown 4% since Round IV IBBS. HSW have the second highest HIV prevalence after PWID at 7.5%. Given that MSM are estimated

[158] i.e. either non-sex worker MSM/TG being wrongly classified as MSW/HSW in the original round or MSW/HSW being wrongly classified as non sex worker MSM/TG in the most recent round.
[159] The number of PWID PLHA has increased by 3,938 between the two rounds, compared to 2,921 for FSW and 1,123 for MSW. Note though that there is no comparable figure for MSM because this population was not included in previous rounds.

to be by far the largest of the key population groups, increases in their prevalence rate will translate into much larger numbers of PLHA.

Thirdly, it would suggest that now is the time to increase the investment in programming for FSW.[160] Although the prevalence rate among this group is the lowest of all key populations, its large rate of growth (up by 267%,) and the relative size of this population group (the second largest key population after MSM), could result in significant numbers of FSW living with HIV.

Behavioural Risk Factors and Prevention Programme Coverage

For risk behaviours the IBBS Round V results show 72.5%[161] of PWID reporting the use of sterile injecting equipment the last time they injected. The highest rates of condom use were among female sex workers with 50.5%[162] reporting use of a condom with their last paid client. The lowest rates of condom use were among non-SW MSM with 13.2%[163] reporting use of a condom with their last sex partner. The rates for MSW and HSW were 26.4%[164] and 27.7%[165] respectively. This may reflect the fact that prevention programming for PWID has been stronger in Pakistan than prevention programmes targeting sexual transmission. The low rates of condom use among the key populations where sexual transmission predominates are of particular concern.

For exposure to prevention programmes the AEM model derived baselines from the IBBS data based on exposure to a minimum of 2 programme components. For PWID these components were needle exchange and HIV testing. For the other key populations these components were condom distribution and HIV testing. Exposure rates to these minimum packages for each key population were as follows:

KP	Reached with Minimum Prevention Package in Last 12 Months
PWID	17.6%
HSW	16.6%
MSW	14.9%
FSW	7.9%
Non-SW MSM	3.5%

These rates do reflect to some extent what we know about existing programme implementation; that programmes for PWID are, relatively, stronger, and that programmes for FSW and non-SW MSM in particular lack any meaningful scale in relation to the target population size and relative epidemic burden.[166] Coverage rates are predictably smaller among the larger key population groups. Clearly these coverage rates fall far short of the ambitious targets proposed in the global guidance discussed in the previous chapter.

As far as trend is concerned the most we can do is make selected comparisons at city level given the different sampling approaches of different rounds of IBBS. For example, if we look at selected cities included in both rounds IV and V with a significant portion of a particular key population the data appears to show positive trends for the following:

- Needle sharing among PWID during last injection dropped from 25% to 5% in Karachi.

[160] Strictly speaking there has been no investment in FSW programming recently. Although there are budgets for programming for this population in the provincial PC 1s implementation of these programmes have been on hold for at least a year (Punjab) and in other provinces longer. This may be one reason for the significant increase in prevalence.
[161] This figure does not appear in the IBBS Round V report, it was provided by the team from University of Manitoba who are leading the IBBS process. It is an extrapolation based on responses to a couple of variables covered in the survey.
[162] P109, IBBS Round V, 6th May Final Draft
[163] p134, IBBS Round V, 6th May Final Draft
[164] p133, IBBS Round V, 6th May Final Draft
[165] p79, IBBS Round V, 6th May Final Draft
[166] Non-SW MSM have been reached to some extent by the regional Global Fund MSM grant. Programming for FSW has had a hiatus for a significant period of time due to interruptions in domestic funding flows.

- 71% of HSW tested for HIV in the last 12 months in Karachi (2016), compared to 20% testing in the last 6 months in 2011.
- Consistent condom use with paid clients among MSW in Lahore increased from 18% in 2011 to 32% in 2016.
- HIV testing rates for MSW improved in Karachi (from 24% in last 6 months in 2011 to 65% in the last 12 months in 2016), Lahore (from 0% in the last 6 months in 2011 to 17% in the last 12 months in 2016), and Multan (from 0% in the last 6 months in 2011 to 14% in the last 12 months in 2016.)

On the other hand, negative trends are illustrated by the following:

- Testing rates for FSW in Karachi was 46% (last 6 months) in 2011 but only 5% in 2016 (last 12 months.)
- Consistent condom use with paid clients among HSW was 24% in 2011 but only 13% in Karachi. The respective figures for HSW in Faisalabad were 23% and 0%.
- Consistent condom use with non-paid clients among HSW was 17% in 2011 but only 1% in 2016 in Karachi. The respective figures for Lahore were 22% and 7% and for Faisalabad 18% and 0%.

This is a mixed bag of results, which is suggestive of patchy key population programme coverage. They are indicative of a generally poor level of coverage for programmes targeting sexual transmission among key populations. They may also reflect the fact that programming has been suspended for domestically funded key population programmes due to delays in the funding application process.

Meetings and Consultations

The following meetings were held in support of the strategy development process.

Date (2020)	Type	Location	Participants
3rd March	National community consultation	Islamabad	APCASO, UNAIDS, Key Populations
4th - 6th March	AEM workshop	Islamabad	UNAIDS, Implementers, KP CBOs, NACP, PACP
5th March	TWG meeting	Islamabad	TWG members
8th March	KP community consultation	Baluchistan	KPs, UNAIDS, BACP
9th - 13th March	Meetings and consultations	Karachi	Multiple stakeholders (Sindh and Balochistan)
11th March	KP consultation	Karachi	KPs (Sindh and Balochistan), UNAIDS, SACP
12th March	Provincial stakeholders' consultation	Karachi	Multiple stakeholders (Sindh and Balochistan)
16th - 20th March	Meetings and consultations	Lahore	Multiple stakeholders
18th March	Provincial stakeholders' consultation	Lahore	Multiple stakeholders
19th March	KP community consultation	Lahore	KPs (Punjab and KPK), UNAIDS, PACP
30th March	Provincial stakeholders' consultation	KPK (virtual)	Multiple stakeholders
13th April	Target setting consultation	Sindh and Punjab (virtual)	SACP, PACP, NACP, UNAIDS
17th April	Target setting consultation	KPK (virtual)	KACP, NACP, UNAIDS
21st April	Small working group meeting on targets and scenarios	Virtual	UNAIDS, NACP
22nd April	Target setting consultation	Balochistan (virtual)	BACP, NACP, UNAIDS
7th May	TWG meeting; progress update	Virtual	Multiple stakeholders
16th June	Draft Strategy Review Meeting	Virtual (Punjab)	Provincial and National AIDS Control Programmes, UNAIDS
17th June	Draft Strategy Review Meetings	Virtual (KPK, Sindh, Balochistan)	Provincial and National AIDS Control Programmes, UNAIDS
18th June	Draft Strategy Review Meeting	Virtual (National)	Provincial and National AIDS Control Programmes, UNAIDS