Evaluation of the Parent to Child Transmission of HIV (PPTCT) Programme in Pakistan

Final Report

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By

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This report is the result of the Evaluation of the PPTCT programme in Pakistan that was designed, implemented and managed by the National and Provincial AIDS Control Programme from 2007 – 2015 along with support from UNICEF Pakistan. The evaluation process was designed to be inclusive and participatory involving key stakeholders in NACP/PACPs, UNICEF, PPTCT and ART centre staff, and most important HIV positive women and their families as users of PPTCT services.
The evaluation report has been prepared by the consultant Dr. Ayesha Khan with assistance from research associates for data collection.

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The opinions expressed in this document are solely the responsibility of the author unless explicitly stated otherwise and do not necessarily reflect the policies or views of UNICEF.

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ABBRIEVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency syndrome
ANC	Ante-natal care
ARV	Antiretroviral
ART	Antiretroviral therapy
BCC	Behavioural Change Communication
BF	Breastfeeding
BHU	Basic Health Unit
CCM	Country Coordinating Mechanism
CD4	Cluster Differentiation Type 4+ T Lymphocyte
CHBC	Community Home Based Care
CoC	Continuum of Care
DBS	Dry Blood Spot
DHQ	District Head Quarter Hospital
EID	Early Infant Diagnosis (of HIV)
FCC	Family Centred Care
FHD	Family Health Day
FHI	Family Health International
FSW	Female Sex worker
GFATM	Global Fund to Fight against AIDS, TB and Malaria
HAART	Highly Active Anti-Retroviral Therapy
HIV	Human Immunodeficiency Virus
HSW	Hijra Sex Worker
HTC	HIV Testing and Counselling
IATT	Inter-Agency Task Team
IBBS	Integrated Biological and Behavioural Surveillance
IDU	Injecting Drug User
IEC	Information Education Communication
IF	Infant Feeding
IMR	Infant Mortality Rate
KP	Key Populations
LHW	Lady Health Worker
MARPs	Most at Risk Populations
MNCH	Maternal Neonatal Child Health
MMR	Maternal Mortality Ratio
MSM	Men who have Sex with Men
MSW	Male Sex Worker
MWRA	Married Women of Reproductive Age
NACP	National AIDS Control Programme
NGO	Non-Governmental Organization
NLACS	New Light AIDS Control Society
NZ	Nai Zindagi
OI	Opportunistic infection
PACP	Provincial AIDS Control Programme
PCR	Polymerase Chain Reaction
PITC	Provider Initiated Testing and Counselling
PLHIV	People Living with HIV
PWID	People with Injecting Drugs
PMTCT	Prevention of Mother-to-Child Transmission of HIV

PPTCT	Prevention of Parent-to-Child Transmission of HIV
RG	Reference Group
RH	Reproductive Health
RR	Roshan Rasta
SES	Socio-Economic Status
SOP	Standard Operating Procedures
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
SW	Sex worker
TB	Tuberculosis
TWG	Technical Working Group
UNAIDS	United Nations Joint Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organization

EXECUTIVE SUMMARY

INTRODUCTION

Pakistan is the sixth most populous country in the world with many public health challenges and sub-optimal maternal-child health indicators compared to similar income regional neighbours. The HIV epidemic is low prevalence (estimated 0.1% prevalence in general population) and concentrated amongst high key populations mainly people with injecting drug use (PWIDs 27%) , Hijra sex workers (HSWs 5.2%), male sex workers (MSWs 1.6%), and female sex workers (FSWs 0.6%). The geographic trend has been generally centred around large urban cities but is now expanding to include smaller cities with several outbreaks reported in rural communities driven by unsafe injection practices, transmission from migrant workers to spouses (vulnerable populations), and unscreened blood transfusions.

The PPTCT programme was established in 2007 with funding from the World Bank Enhanced Programme, UNICEF, Global Fund, and Government of Pakistan (NACP) as part of the HIV Treatment and Care initiative. Currently there are 11 PPTCT centres nationwide and 411 HIV+ women and their infants to date have successfully availed PPTCT services. The purpose of this Evaluation commissioned by UNICEF Pakistan is to review the PPTCT programme effectiveness (what results and coverage levels were achieved) and how responsive was the programme to the needs of HIV+ women and their families, HIV infections averted, cost efficiency, rights and gender friendly approaches, and propose recommendations for the next phase of programming to the Provincial AIDS Control Programmes, Health Departments, National AIDS Control Programme, and UNICEF.

In September 2015, UNICEF Pakistan commissioned an evaluation of the PPTCT programme (2007-2015) in Pakistan. The purpose of the summative evaluation was to review the results, outcomes and cost-effectiveness of the programme along with the effect of the community based HIV counselling and testing- District Health Model on improving coverage and referrals into PPTCT. Using a mixed qualitative-quantitative design and triangulation of PPTCT centre data, the evaluation covered 8 out of 11 PPTCT centres across all 4 provinces and the Federal capital. OECD criteria of relevance, effectiveness, efficiency, impact and sustainability along with the gender equity and equitable access lens was used to evaluate and report the findings. The key findings are presented below:

1. **PPTCT Centres are Functioning (process level)** – eight centres were visited as part of the evaluation and all are functioning and focus mainly on Prong 3 by providing a package of relevant PPTCT services: 1) counselling; 2) ART for mothers; 3) safe delivery; 4) Infant diagnosis and ARV prophylaxis. Centres are following WHO 2010 guidelines for Option B/Option B+ and majority of babies are delivered by elective C-sections by trained PPTCT providers (Ob-GYN doctors). PPTCT centres are located within ANC clinics in large tertiary care or district hospitals, and have on average 3-4 staff, and 1-2 rooms.

   Gaps were found in counselling in terms of ad hoc content, short duration, poor documentation of learning, lack of clarity on infant feeding practices, and weak emphasis on early infant testing and diagnosis. PPTCT centres (5/8) lacked counsellors and/or case managers (due to funding constraints or withdrawal of support from UNICEF or provincial Health Departments) , leading to deficiencies in documentation, missing patient tracking of appointments and follow up, and incomplete patient chart notes or register information (these were tasks previously done by or assigned to case managers).

2. **Programme Effectiveness and Results**

   ☐ **The programme has successfully managed to reduce mother to child transmission** of HIV from 30%-40% (no intervention) to 1.35% with no maternal deaths reported in any of the 411 HIV+ women/PPTCT beneficiaries (2007-2015) consistent with the goals of the Global Plan 2011-2015.

   ☐ **Uptake and status of infant testing** in 334 live births was approximately 90% (loss to follow up or unknown 10%) and amongst those 299 infants tested, 4 infants were HIV+. Without the PPTCT programme intervention approximately 30%-40% (i.e. 90-120 HIV-exposed infants would possibly have become HIV positive) so a total of 86-116 infections were averted over the last 8 years as a result of the PPTCT programme.

   ☐ **PPTCT programme coverage is very low** around 1.5% - 3.5% of eligible women as per NACP-UNAIDS Spectrum 2014 estimates. There are 26,000 HIV+ women with an estimated 1720 pregnant per year in need of PPTCT services (Pakistan PDHS pregnancy incidence 12%). The biggest challenge of the PPTCT programme low *coverage* is accessing women most at risk and enrolling them into care through outreach (community HIV testing and counselling through NGOs working with risk populations of PWIDs

and SWs), and through facility referrals. According to the last IBBS 2011 data Less than 20% of key populations have been tested for HIV. (New IBBS 2015 ongoing).

- **ART centres and NGOs working with PLHIV** are the main source of referrals for PPTCT centres with 80% of positive women registered in care are spouses of migrant workers, and 20% or less as wives of PWIDs or others.

- **Spousal tracing and testing in ART centres** is below the WHO recommended universal coverage of 80% (40%-60%) and has not increased significantly in the last 2 years.

- **PPTCT provider knowledge is good** (>7/10 scoring on clinical vignettes) on Prong 3 safe delivery and ART, and deficient in Prong 2 family planning counselling and rapport building (<6/10 scoring). PPTCT providers have a narrow clinical perspective on the implementation of PPTCT services versus a holistic continuum of care.

- **District Family Health Day Model** through LHWs is a reasonable strategy for increasing HIV awareness in the general population. However, cost effectiveness (CEA) of this approach is questionable in the context of Pakistan's HIV epidemiological setting (i.e. in terms of case identification/yield per HIV case identified is low 0.8%). Therefore this model costs $ 4636 per HIV infection averted in mother-baby pairs. The CEA of this model needs to be improved through better selection of districts/Union Councils, revising the risk screening tool, local ownership and testing through involvement of NGOs working with risk populations and using IBBS 2015 data to make it value for money.

- **Participation of PLHIV** this is still very rudimentary in actual programme activities and implementation. None of the centres visited are (have) actively employing peer counsellors or PLHIV case managers, and rarely do centres have a NGO staff workers present on-site on clinic days. From the PPTCT programme perspective there are legitimate concerns of encouraging NGOs domination, violating patient confidentiality, and lack of capacity to serve in PPTCT centres.

- **Stigma and Discrimination** despite considerable progress in the last decade, there are still ongoing incidents of stigma and discrimination amongst PPTCT centre staff, hospital management, and lower staff. This affects the general programme good will and quality of care perceptions by PPTCT beneficiaries and NGOs working with PLHIV.

- **Gender equity by involving men –** the primary beneficiaries of PPTCT programme are women-infants, with fairly limited involvement of men (increasing to some extent in the last 1-2 years). Directly and indirectly the programme activities have increased women's access to information and somewhat towards decision making (limited assessment in this evaluation). While the role of men has been recognized in the context of promoting effective PPTCT uptake, there are Pakistan specific biases that remain. We found that the PPTCT programme design did not have a clear strategy for gender mainstreaming and engagement of men in its conception and/or implementation process.

- **Rights Based Approach** the PPTCT programme was established on the premise of upholding the rights of PLHIV, especially HIV positive women and their families. However, despite considerable progress over the last eight years there are significant gaps in the understanding of programme managers and PPTCT centres regarding the concept. RBA is restricted to a narrow domain of patient privacy, confidentiality and trying to minimise discrimination. The broader concepts of PLHIV empowerment, accountability, access and options to quality services, and integrated policies and programmes are still missing in practice. The PLHIV Association and NGOs working with PLHIV can play an instrumental role but that needs to be actively realised in the next phase of PPTCT programming.

- **Output Based Monitoring –** monitoring is regularly undertaken and data is compiled into provincial level information on a monthly basis. However, PTCT data or monitoring itself are not being used for strategic decision making or improvements.

- **Sustainability** a better participatory approach and planning by UNICEF, National and Provincial AIDS Control Programmes along with engagement of Health Departments, the broader Ob-GYN programme (MCH programme) and PPTCT centres/hospital management would help to streamline the existing financial uncertainty in PPTCT centres on the future of programming. Some provinces have taken on the programmatic responsibility early on (2011 onwards) while others are still planning or waiting for pending PC 1, and seeking support from other donors like GFATM, UNAIDS for bridge funding.

3. Recommendations

1. PPTCT Strategic Direction and Policy

1.1 Decentralisation and Integration of PPTCT versus New PPTCT Centres – with so many competing public health priorities and limited resources, the maximum impact for PPTCT programme to prevent a greater number of new women/mother-baby infections, would be 1) to focus on integration of PPTCT skills and services in outreach and service delivery programmes for PWIDs, SWs and other bridging populations rather than the general population, and 2) Simultaneously health providers including a wider cadre of Ob-GYN doctors and health staff including mid-level providers should be trained and made aware of PPTCT across all provinces (districts) as part of the routine MCH service package.

1.2 **Improve Efficiency of PPTCT Services**

Due to low numbers and fixed costs of setting up PPTCT centres, the cost of PPTCT service package is on average $1130 per woman served ($715-$2853). This is well above the costs of other low prevalence, concentrated epidemic countries such as Viet Nam, Nepal, Bangladesh and India. Once again targeting resources and using evidence-based tracking such as which districts/union councils cases are coming from, surveillance estimates, ensuring >80% (universal testing) in ART centres, and risk populations would ensure that scarce resources are used most efficiently.

1.3 **Revision of Risk Assessment Tool** – currently this is too broad and a participatory revision with inputs from PLHIV, NGOs and research HIV experts would be a useful exercise.

2. PPTCT Centre Performance and Functions

2.1 **Improve Quality of Counselling Tools and Guide**

Counselling protocols should be developed consistent with standard guidelines by each PPTCT centre according to their specific population needs and language of convenience. IEC materials also should be updated according to new information.

2.2 **Compliance with Chart Documentation**

Fortunately the numbers of PPTCT clients are still fairly low and PPTCT programme in collaboration with individual centres can easily develop simpler, user friendly patient information forms (maximum 2 pages with check boxes) with all relevant PPTCT information listed.

2.3 **Patient Appointment and Follow Up Mechanisms**

In efforts to improve quality of care and coverage, it is important to consider retention along the whole continuum of care. PPTCT centre case managers and counsellors need to be more actively involved in NGOs working with key populations, PLHIV and ART centres to increase access and linkage to PPTCT services.

2.4 **Enable Easy Access to Infant Testing**

It is critical that diagnosis of HIV infection in HIV exposed infants be conducted at the earliest possible <6 weeks of age so that if needed ART regimen can be initiated without delay.

3. Clinical Competence and Quality of Care

3.1 Trainings/refreshers should be routinely conducted. Inclusion of PPTCT and non-PPTCT staff is important as turnover rates are high, and trainings should be evaluated for learning in key areas of interest on regular yearly intervals to motivate self-learning. Staff should be encouraged (non-monetary incentives) to increase their learning and knowledge of HIV care delivery.

4. Case Identification and HTC

4.1 **Strategies and Funding to Increase Outreach and Targeted HTC of Risk Populations**

The on-going IBBS Round 2015 will provide good mapping and estimates of risk populations, HIV prevalence and incidence extrapolations, and HTC trends comparison from 2011. This will help guide targeted testing through SDPs, NGO initiatives and other prisoners, bridging population efforts to

strategically place services where most needed. Provincial AIDS Control programmes will need to hold NGOs accountable and put in place performance based systems to increase HTC.

4.2 **Strategies for Health Facility Based Testing and Referrals**

Referrals from TB, STI, dermatology and other non-ART centre clinics have increased. However, their numbers account for less than1% of the PPTCT users. A broader awareness of HIV recognition and referrals through either trainings or inclusion in medical curriculum would be useful.

5. Role of PLHIV and Civil Society

5.1 Government and NACP/PACPs cannot provide all the critical services along the continuum of care. Engaging NGOs and greater involvement of PLHIV, and the PLHIV Association is extremely important so that all partners feel engaged and empowered in the process- from design, implementation and to feedback and improvement to make the activities and services more responsive and accountable to real needs.

6. Monitoring and Data Use for Decision Making

6.1 **Monitoring of PPTCT programme** in terms of results (outputs and outcomes) is one of the weakest areas throughout the provinces. Several key issues need to be addressed from the key data being collected to how and who will be reviewing it, and strategies for using this information into decision making. Additionally better coordination of strategic information between and within provinces (data aggregation, monitoring plans, research focus, and piloting of innovative strategies) would help streamline the efficacy and outcomes of the PPTCT programme.

6.2 **Operational Research** there should be annual operational research plans to look at the gaps in knowledge for example, effects and outcomes of interventions, behavioural research to see changes and needs of different populations, and the research findings need to disseminated and incorporated for programme adjustments.

CHAPTER 1 Background of Prevention of Parent to Child Transmission of HIV Programme (PPTCT)

BACKGROUND

Prevention of HIV transmission from an infected mother to her unborn child (MTCT) has been at the forefront of global HIV prevention activities with the successful results of the short-course Zidovudine and single-dose Nevirapine clinical trials. These relatively simple low cost drugs substantially reduced the transmission risk from 30%-40% to under 5%.

Pakistan initiated the PPTCT programme in 2007 with the policy decision to call it parent to child transmission in order to reduce gender-discriminatory practices and stigma against women and include men as responsible partners/husbands in the transmission chain. UNICEF Pakistan in collaboration with the National and Provincial AIDS Control Programmes set up a Task Force[1] and 5 PPTCT centres within close proximity to already established HIV Treatment and Care Centres (ART centres). The Task Force helped in adaptation of PPTCT guidelines, development of a risk assessment tool[2] to enable an initial "risk" screening process to identify women who may be at higher risk of HIV, and trainings of the PPTCT service providers.

The PPTCT programme followed the global 4 prong approach namely:

☐ **Prong 1 -Primary Prevention of HIV Infection**: preventing HIV infection in girls and women, including those who are pregnant or breastfeeding. This is done through early identification of risk factors, extensive outreach programmes on counselling and testing, and provision of condoms to prevent transmission.

☐ **Prong 2 Preventing Unintended Pregnancies in Women with HIV:** providing voluntary and informed family planning methods and services to couples with HIV and giving them the options to plan out family size and minimize risks. Linkages were established with FP clinics and services and PPTCT centres.

☐ **Prong 3 Preventing Vertical Transmission of HIV from Mothers to Their Infants:** reducing HIV risks through informed counselling on ART regimens, ARV prophylaxis, and optimal modalities for delivery, breast feeding and infant care practices.

☐ **Prong 4 Providing Care, Treatment and Support for HIV positive Mothers and Children:** understanding that beyond pregnancy and delivery women with HIV have evolving needs and linkages with HIV and Paediatric care centres is part of the overall continuum of care.

The main focus of the PPTCT programme was prong 3 with some components of prong 2 and 4 included in the package of services.

EVALUATION PURPOSE

The evaluation reviewed eight years of PPTCT programme (2007-2015 period) – from design phase, implementation to outcomes at PPTCT centres at the Federal and Provincial levels. The focus of the evaluation was to see the extent to which PPTCT programme was successful in reaching HIV positive women and their families with the package of PPTCT services such as counselling, testing, referrals (as needed), ART treatment, safe delivery and breast feeding practices, and early infant diagnosis (EID).

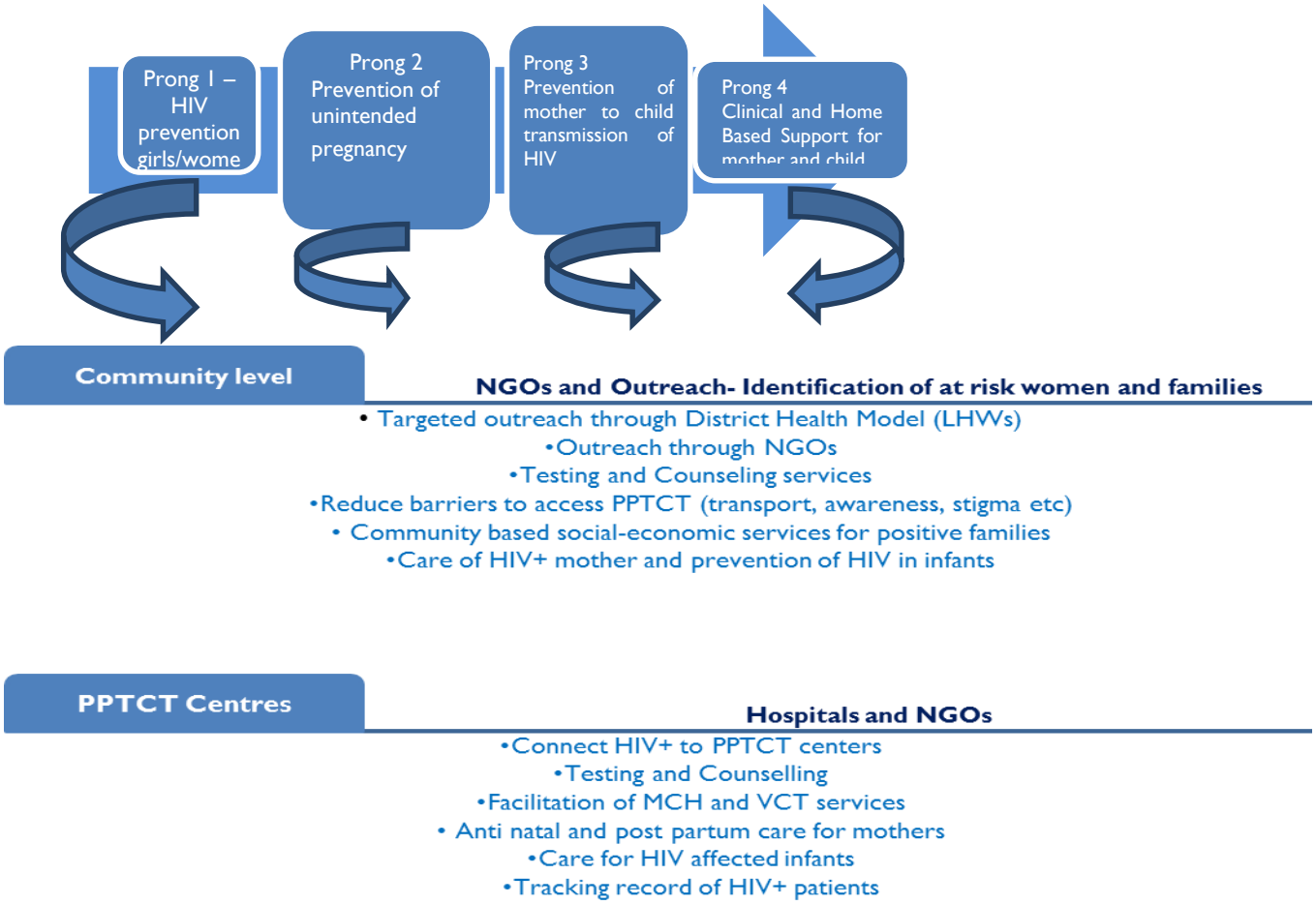
The evaluation also reviewed how the District Family Health Model[3] helped in increasing identification and referrals into PPTCT services, capacity and competencies of PPTCT providers, provider biases, stigma and attitudes, factors that hindered or helped in accessing PPTCT services, gender and rights based design and implementation of PPTCT services, and linkages with relevant MCH programme and HIV Treatment and Care centres for long term sustainability.

The findings of the evaluation will assist HIV programme managers and national/provincial health departments to address placement of centres, practice and capacity gaps in PPTCT programmes according to province specific needs.

[1] Experts in Obstetrics-Gynecology, Pediatrics, HIV and public health, and UN technical partners from WHO, UNAIDS, and GFATM.
[2] Risk Screening tool consisted of 5 questions and a five point scoring system. A score of 1 or higher was referred for HIV testing. This tool was used for screening of pregnant women seeking care in MCH hospitals, and is a risk stratification approach in low prevalence HIV epidemics.
[3] District Family Health Model (2010) was implemented as a pilot in Sindh and Punjab to increase outreach and referrals to the PPTCT centres.

Most importantly the evaluation seeks to help UNICEF and government stakeholders in increasing programme coverage to reach at least 60%[4] of eligible HIV positive women and their families with responsive services.

Figure 1: PPTCT 4 Prong Based Approach in Pakistan



OBJECTIVES

The evaluation objectives as per the terms of reference (Annex 1) are:

- ☐ Assess the effectiveness, efficiency and sustainability of the PPTCT programme
- ☐ Evaluate the efficacy of the HIV risk screening criteria and tool used in the District Family Health Day (FHD) Model
- ☐ Assess the referral chain (of at risk women) and linkages with PPTCT services (for HIV positive women), retention rates, and compliance with PPTCT protocols.
- ☐ Determine the efficacy and reduction in transmission rates from HIV positive mother to infants born, during labour/delivery, breast feeding, and linkages with Paediatrics care services (for eligible children).
- ☐ Estimate the costs of averting HIV infections in infants in Pakistan as a result of PPTCT services.
- ☐ Conduct cascade analysis of the PPTCT intervention at key levels of test, referral, treat and retention
- ☐ Identify lessons learned and potential strategies (including best practices from regional experiences) to increase the effectiveness and equitable access of the PPTCT programme in Pakistan

SCOPE OF THE EVALUATION

The Evaluation was conducted between September – December 2015 and covers the entire PPTCT programme from 2007-2015 at the Federal and Provincial level in all four provinces. In consultation with the UNICEF team and Reference Group (RG), the evaluation design was divided into a 1) Desk Review phase of all HIV policy, programmatic, research, and management documents as shared by the UNICEF/NACP/PACPs and additionally identified during the desk review phase, 2) Data collection and Field visits to eight PPTCT centres as agreed with the UNICEF team during October-

[4] As per provincial PPTCT goals in Punjab, Khyber Pakhtunkhwa, Sindh.

November 2015, 3) Analysis of PPTCT data (provided by UNICEF and NACP/PACPs), and 4) Compilation of evaluation findings into the final report.

The evaluation process was participatory and included discussions with key stakeholders such as programme managers of NACP/PACPs, PPTCT focal persons/coordinators, PPTCT providers at the centres, Health Departments/Ministry of Health Services, Coordination and Regulation, UNICEF, WHO, UNAIDS, the RG, NGOs working with HIV positive people and at risk populations. The evaluation also included quality of care survey with users of PPTCT services, clinical competencies of providers, and stigma.

The evaluation is summative and aims to be comprehensive in terms of documentation of the PPTCT processes, depicting provincial contexts and needs, efficacy of the district family health model, and measuring overall PPTCT outcomes in terms of value for money and infections averted (outcome level results). Even though the OECD criteria uses impact for this evaluation we have mainly used outcomes since impact (i.e. HIV free survival is difficult to accurately measure from facility based data only and the low numbers of PPTCT beneficiaries).

STRUCTURE OF THE REPORT

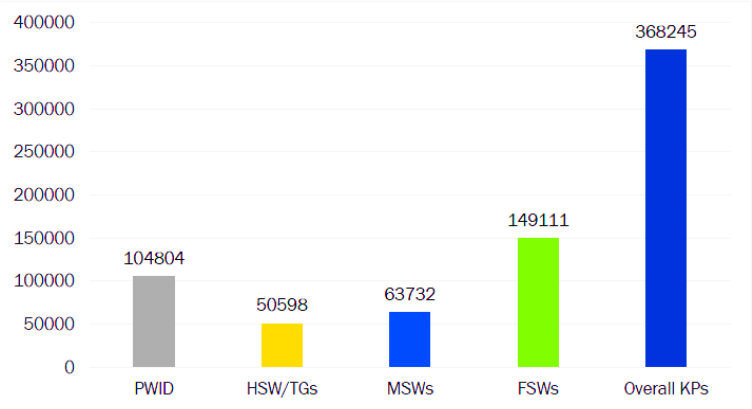
The Final Report is divided into five main sections. Section 1 describes the background of the PPTCT programme in Pakistan, including the purpose and scope of the evaluation and situation analysis. Section 2 gives the overall evaluation methodology with the Theory of Change, data collection, analysis plan, limitations of the evaluation, and ethical considerations are described. Section 3 details the findings from PPTCT centres (process and results) to cost effectiveness and sustainability of services and end users of services perspectives and issues raised, Section 4 is the discussion and learning including gaps and limitations observed during the course of the evaluation using the OECD/DAC evaluation criteria of relevance, effectiveness, efficiency, outcomes and sustainability, and in Section 5 there are policy or programmatic recommendations.

Annexes include 1) TORs, 2) Documents reviewed, 3) List of Stakeholders interviewed, and 4) Tools.

HIV EPIDEMIC IN PAKISTAN

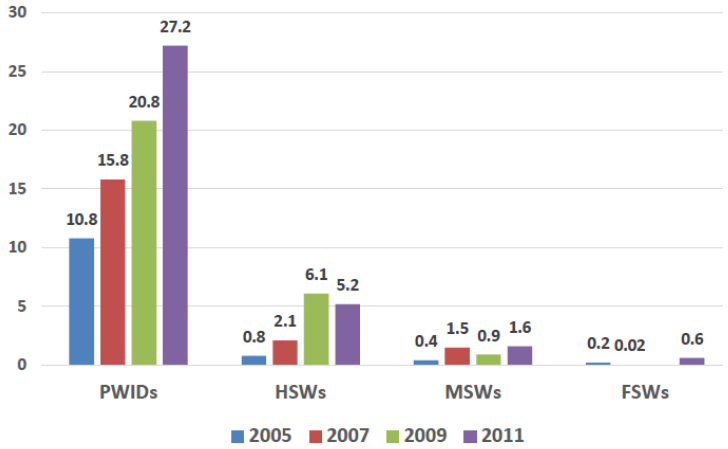
In Pakistan, the HIV epidemic is concentrated[5] amongst mainly the key populations such as people who inject drugs (PWID 27%) and their sexual contacts, male (MSW1.6%) and transgender (HSW 5.2%) sex workers with a general population prevalence of less than 0.1%. Of the estimated 368,245 key populations, there are 104,248 PWID, 50,598 HSWs, 149,111 FSWs, and 63,732 MSWs based on extrapolation data from 2011 Surveillance rounds (a 6th round of surveillance has just been started). In addition, there have been "mini-HIV outbreaks" in rural communities like Jalal pur Jattan (Gujrat), Faisalabad, and Larkana as a result of poor infection control practices and unsafe therapeutic injection re-use[6]by practicing medical (and non-doctor) providers.

Figure 2: Estimated Number of Risk Populations[7]



[5] Prevalence greater than 5%
[6]JalalpurJattan Outbreak Investigation Report 2009.NACP and FELTP/CDC.
[7] IBBS 2011 and UNAIDS 2014 Spectrum

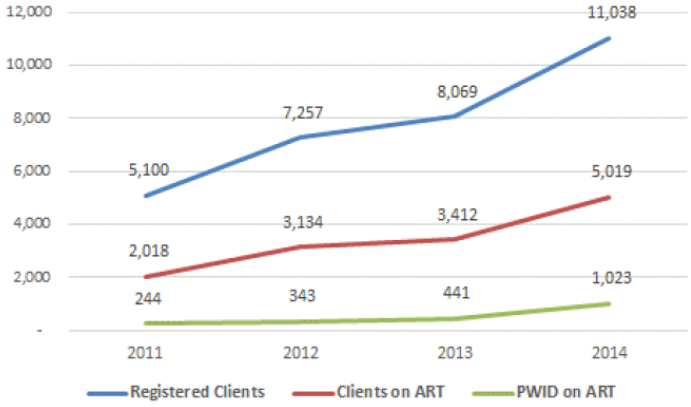
Figure 3: HIV Prevalence Trends 2005-2011 Risk Populations



According to UNAID-NACP estimates there are approximately 94,000 (58,000 – 180,000) HIV positive cases in Pakistan with an estimated 26,000 women (16,000-52,000) and 2100 (1200-3700) children ages 0 – 14 years[8]. Deaths reported due to AIDS were 5,800 (4,500 – 7,400)[9] and approximately 10,005 patients are receiving anti-retroviral therapy (ART) through government supported ART centres nationwide.

Based on ART centre data the population group most commonly accessing and receiving treatment at the ART centres belongs primarily to migrant workers (80% of the cases) and their wives and/or less often sexual contacts. The remaining 20% cases are PWIDs and their wives. Following the Asian Epidemic model, Pakistan's HIV epidemic is driven predominantly by people who inject drugs (PWIDs) among whom the prevalence of HIV is approximately 21% in at least eight major cities of Pakistan. In contrast to other countries, the key bridging population in Pakistan are wives of PWIDs who are in sexual contact and on occasion even share drugs and equipment with their husbands. In fact after PWIDs, their wives have the highest prevalence of HIV of all groups making them the next important group to intervene with. In a recent study in Punjab[10] 101/1896 wives of PWIDs were found to be HIV positive (5% prevalence) and 7/74 children (9%) tested positive in a home based outreach model of counselling and testing.

Figure 4: Number of PWIDs on ART



Among migrant workers, Pakistan is characterized by nearly 400,000 low-medium skilled migrants formally leaving Pakistan each year for overseas employment mainly to Gulf[11]countries while another 3.5 million go abroad to a host of other destinations.[12] These migrant workers mostly low skilled males represent a vulnerable and bridging population due to high rates of unprotected sex with sex workers or casual partners abroad, and with their wives back home in

[8]Pakistan Global HIV/AID Response Progress Report 2015
[9]UNAIDS www.unaids.org/pakistan (2014)
[10] Home Based Testing and Counselling with spouses of IDUs (Faisalabad, Sargodha, and Lahore 2015). Punjab AIDS Control Programme.
[11] IOM 2012
[12] UNDP 2010

Pakistan. Although on paper the migration policy of Pakistan requires that all migrants should receive HIV and STI counselling and knowledge at the time of departure/arrival this practice is rarely followed in 83% of cases[13]. Discussions with ART centre staff shows that nearly 30%-40% of the women receiving care were infected through their male spouses working abroad in the Middle East and Gulf States[14] and had no other risk factor for HIV[15]

Unsafe infection control practices and re-use of syringes are another significant concern for random transmission of HIV in non-traditional key populations and the general population. For example, Pakistan has high rates of unscreened blood transfusions[16] and a very high demand for therapeutic injections and poor infection control practices in hospitals and clinics nationwide[17].

PPTCT PROGRAMME

Started in 2005, the HIV National Treatment and Care programme was mainly funded with World Bank (Enhanced Programme 2004-2008), WHO and Global Fund (Round 2, 3 and 9) grant money. The initial five treatment and care centres (ART centres) were established in public sector, tertiary care teaching hospitals in the federal and provincial capitals to provide management of antiretroviral therapy (ART), opportunistic infections, acute and chronic HIV care, STI management, counselling, in-patient admissions, and referral/specialty services to HIV positive people and their families. Later on in an effort to increase access to treatment and care services, 9 new centres were added, 3 in the private sector, 2 public sector, and 4 in district hospitals. Currently in 2015, there are 16 ART centres with 7 paediatric care sites located within the premises of the hospitals housing ART centres.

From 2007 onwards, through UNICEF and WHO support (technical capacity building and financial) these treatment centre were complemented with 5 prevention of mother to child transmission (PPTCT) and some Paediatric care sites mainly in the same public sector tertiary care facilities to provide a more integrated and family-based approach. Later on in 2012 additional PPTCT centres were added in DHQ hospitals of Larkana, Gujrat, DG Khan, Faisalabad, and Sargodha in response to district specific need identification thus bringing the total PPTCT centres nationwide as 11. While the numbers of people enrolled in care have significantly increased to nearly 10,000 + patients and 411 women in PPTCT services (current and past) there remain a number of challenges identified during the Mid[18]-Term review in 2009 such as described below:

1. **Identification of HIV Status and VCT** remains low with PPTCT centres reporting on average 2-4 new cases every 3 months.
2. **HIV Counselling Self-Disclosure Of HIV Status By Male Patients** – despite a decade of HIV counselling services, the disclosure rate of male patients to their female spouses is well below 40%.
3. **Fragmentation Of Different Services** such as non-availability of CD4 or HIV viral load testing, or access to PPTCT from ART sites imposes significant burden- economic and social resulting in loss to follow up and interruptions in the continuum of care.
4. **Absence of Patient Tracking Mechanisms** particularly for missed appointments and lost to follow up for patients on ART (or pre-ART) is a significant concern and remains to be addressed in many centres.
5. **NGOs/CBOs are providing sporadic care and support services** mainly in the larger urban cities/surrounding areas. However, systematic and well defined linkages (i.e. functional district models of care) between tertiary and district level health facilities/services (and even community level), PLHIV associations (provincial chapters), and support organizations (Zakat, Baitul Mal) remain weak.
6. **Ready Availability of CD4 and HIV Viral Load Testing** needs to be undertaken keeping in mind geographic access, technical capacity of ART centres, and costs. There are several innovative options of point of care testing, contracting out that can be explored for feasibility in different provincial/site specific scenarios.
7. **Low coverage of ART (12%)**[19]perhaps as a result that vast majority of the PLHIVs in Pakistan are PWIDs with associated challenges of access, treatment compliance and low VCT.
8. **Decentralisation of ART sites**- closer to patients/communities through skill enhancement of mid-level care providers and ART protocols and linkages with more of one Family Care centres will increase access to and quality of care.

[13] UNDP 2008
[14] PIMS ART centre
[15] Risk Screening study NACP-UNICEF 2008
[16]NACP 2007 Assessment of Blood Banks.
[17] WHO Injection Safety 2013 Report
[18] PPTCT in Pakistan – Edith Morch-Binnema (2009)
[19] WHO Progress Report 2011 Pakistan

9. **Availability of Reliable Data and Monitoring Indicators -** while data are being collected by the PACPs/NACP, there are limited means of tracking the accuracy and reliability of the data. For example, monitoring teams are not independently validating this PPTCT centre provided information through feedback and intermittent community-based surveys.

PPTCT PROGRAMME APPROACH

The primary objective of the PPTCT programme is to prevent HIV infection in uninfected girls/women, prevent transmission of HIV from a HIV-positive mother to her unborn child, and to meet the evolving needs of HIV-positive couples in which either or both partners are HIV positive. In partnership with the National and Provincial AIDS Control Programmes, WHO and GFATM (for ART provision) UNICEF has been a key partner in mobilising technical and financial resources to support the PPTCT programme and service expansion.

In the year 2015, the number of HIV positive pregnant women, who received PPTCT services (ARVs for prevention of vertical transmission of HIV), was 103 (5.3% coverage of PPTCT) against an estimate of 1950[20] eligible or in need of PPTCT services. In 2014, 59 HIV-positive pregnant women received PPTCT services out of 1,721[20] in need and/or eligible for services, showing the coverage to be 3.4% while in 2013, 126 HIV-positive pregnant women received PPTCT services out of 1,554[20] in need and/or eligible for services, showing the coverage to be 8%. Identification of families affected by HIV and referral into PPTCT services remains the biggest barriers to increasing coverage of PPTCT services and preventing transmission.

In 2010, based on the recommendations of the mid-term assessment of the PPTCT programme UNICEF[12] in consensus with government partners (PACPs) introduced as a pilot a family centered district model (FHD) with programmatic linkages to the LHW programme.

The District Model Approach was piloted in 5 districts of Punjab and in one district (Larkana) in Sindh. The basic assumptions and objectives of the District Model approach are:

- **Optimise and Build District Level Linkages** – enhance screening/outreach through Lady Health Workers to identify and risk screen[21] potential at risk women for HIV and refer them to PPTCT centres. Build the capacity of District Headquarter Hospitals (DHQH) or Tertiary Care Hospitals to identify and refer suspected HIV positive cases from Urology, Dermatology, TB and Paediatrics and to refer them to nearby PPTCT services.
- **Referral Networks** - Refer women meeting risk criteria either directly to NGOs, ART centres or "Family health Outreach" at selected hospital in each district where women would be given nutritional supplements and encouraged to receive voluntary and informed HIV counselling and testing services.
- **Early Testing of HIV Exposed Children** - Ensure HIV exposed children were tested for HIV and offered Paediatrics AIDS care if HIV positive; and families affected by HIV and AIDS were linked to community home based care (CHBC) and other support services.

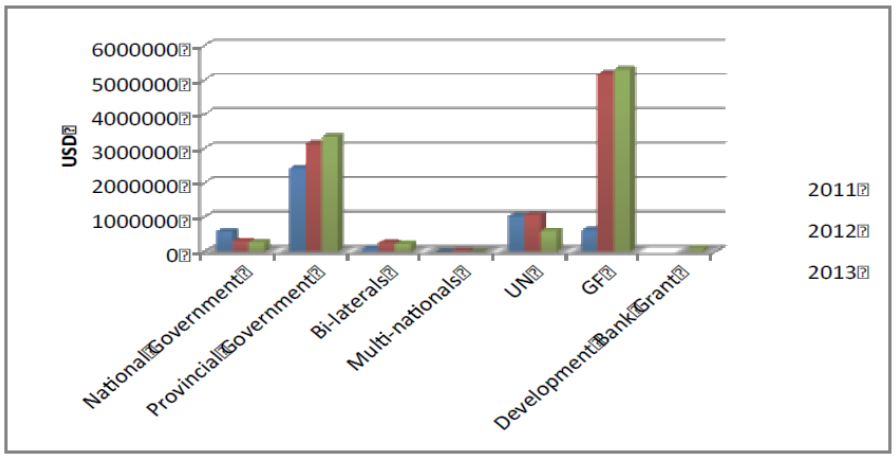
Despite all efforts to mobilise women through LHW outreach in the pilot districts the programme has not been able to reach HIV positive pregnant women in any significant numbers, and PPTCT coverage remains low.

DONORS AND FUNDING AGENCIES IN HIV

A large number of donors, funding agencies and UN partners are involved in different aspects of HIV/PPTCT programme. These include GFATM, USAID, GIZ/GTZ DFID, EU, Embassy of Netherlands, CIDA, WHO, UNAIDS, UNODC, UNFPA, UNICEF. According to GARPR report 2014[22] the funding landscape has changed over the last 5 years, from primarily World Bank soft loan and grant funding, to increased domestic allocations through PC-1s and strengthened GFATM support. In 2013 GFATM (including regional grants) accounted for over 50% of the total HIV response. Provincial Government account for 37%, UN 7% other external donors 3% and Federal Government 3% of the total HIV budget. From 2011 through 2013, expenditures by the National Government decreased given Devolution, while expenditures by Provincial governments and Global Fund increased, primarily due to the World Bank loan contribution to the Punjab Government for Health Systems Strengthening, which includes HIV.

[20] Based on the UNAIDS Spectrum modeling
[21] Using the standardized risk screening criteria
[22] Pakistan Global AIDS Response Progress Report 2014

Figure 5: Government and Donor Wise Funding Support



According to the Global AIDS Reporting system (Pakistan), in the last three years expenditures on prevention services have increased by the provincial governments and GFATM. Key gaps that remain are low ART coverage which is dependent on PLHIV being identified for care (HTC), which comes under the domain of prevention services and needs to continue to be strengthened. There are also gaps in the low expenditure on enabling environment, which are key for reducing stigma and applying targeted approaches in a concentrated epidemic, or developing synergies e.g. linkages and integration with social protection and services to reach those most at risk and in need.

There is also a Theme Group and a Technical Working Group on HIV/AIDS to coordinate the response of United Nations Agencies and to provide assistance to the government in the strategic development of activities. The theme group includes UNAIDS, WHO, UNICEF, UNFPA, UNDP, UNDCP, UNESCO, ILO, the World Bank, national and provincial programme managers, and civil society representation. There is also a Country Coordinating Mechanism with membership from donors, UN partners, government, PLHIV and NGOs.

HIV EFFORTS POST DEVOLUTION

After the devolution in 2011 (June) health is a provincial domain and delegation/transition of implementation activities by the Ministry of Health to relevant Department of Health has been completed. The NACP (under the Ministry of National Health Regulation, Services and Coordination) continues to serve as a principal recipient of the GFATM Round 9 grant funding and works closely with the provincial counterparts in helping guide the HIV response.

The present response is mainly guided by Provincial AIDS Strategies feeding into Pakistan AIDS Strategy (PAS) for control of HIV (NSP) 2015 to 2020. The plan emphasises targeted and evidence based and high impact interventions in risk populations where HIV is mostly spreading. The NSP also puts a high priority on provision of quality ART services including expanding coverage of PPTCT to those most in need. Pakistan is committed to the United Nations General Assembly Political Declaration on HIV and AIDS and commitments and targets for 2015 and beyond.

Post-devolution all 4 Provincial AIDS Control Programmes are taking charge of HIV control in their respective provinces. Except in Khyber Pakhtunkhwa all provinces have their own provincial AIDS programmes with separate budgets. However, except for Punjab, Sindh and Balochistan are facing challenges in getting Health Department approvals for their pending PC 1. This significantly hampers implementation of Provincial AIDS Strategies.

Out-sourcing health services to private sector organizations is a common delivery mechanism in Pakistan. Currently nearly 54 NGOs/CBOs and private sector partners are involved in the HIV/PPTCT programme implementation response. Main source of continued funding is coming through Global Fund Round 9 grant and Pakistan has recently submitted a concept note under the new funding model for grant expansion. Lessons learned from what worked and what did not in phase 1 were incorporated into phase 2 through the following three adjustments: 1) increase coverage of PWID and PLHIV with prevention, treatment and care services within the amount of resources available; 2) adopt more effective linkages between services for prevention, treatment and care for meeting the set targets; and 3) modify certain planned activities with little measurable impact in favour of those that respond to the needs of the population

CHAPTER 2 EVALUATION METHODOLOGY

EVALUATION APPROACH AND DESIGN

The PPTCT evaluation used a mixed approach qualitative and quantitative data collection methodology[23] along with triangulation of data received from PPTCT centres. The evaluation focused on coverage, functioning and performance of centres, transmission and survival outcomes of mother-baby pairs, counselling, provider competencies and sustainability of the PPTCT programme as per OECD[24] criteria and the UNICEF TORs (Annex 1). The OECD criteria looks at relevance, effectiveness, efficiency, impact and sustainability. However, for this evaluation, we measured the outcomes (i.e. reduction in MTCT of HIV) of the PPTCT programme instead of impact. The main limitations in measuring impacts are the low numbers of PPTCT beneficiaries and low coverage in eligible populations to have a significant impact on the HIV epidemic or national child survival rates. At this stage, measuring outcomes can help HIV programme planners to better plan future directions and cost implications of the PPTCT programme in saving maternal and infant lives.

Throughout the process we used a participatory approach to develop ownership and engagement of stakeholders for understanding the evaluation and eventually the results. At the initial preparation stage meetings were held between the evaluation team and UNICEF along with the study Reference Group (RG). RG members include representatives from government (NACP/PACPs), UNAIDS, WHO, GFATM, and UNICEF Monitoring and Evaluation Unit. The consultant presented the proposed evaluation methodology and the RG members gave inputs and suggestions. Once the final evaluation design was agreed upon, the consultant shared an Inception Report that was formally circulated to the RG members and UNICEF ROSA for additional suggestions. At the conclusion of the field visits and data collection the draft final report and presentation was shared with the RG and ROSA for feedback.

The key stakeholders actively engaged throughout the process were NACP/PACP programme managers and PPCT focal persons, PPTCT centre providers and counsellors, NGOs working with key populations and PLHIV, and most importantly PLHIV. Before the consultant's visit to PPTCT centres and provincial programmes, an introductory letter was circulated by NACP to all the respective provincial programme managers requesting facilitation of the process. The consultant also individually contacted all relevant stakeholders (by written email or phone communication) to schedule interview and visits.

The evaluation team visited 8 PPTCT centres and conducted semi-structured interviews or FGDs with the 1) stakeholders such as programme managers/PPTCT focal persons, NGO staff, PPTCT centre staff and end users of PPTCT services, 2) Lot Quality Assessments (for quality and compliance of standard PPTCT protocols), and 3) Clinical vignettes with PPTCT providers for assessing clinical competency. The evaluation reviewed the PPTCT programme in terms of evaluability of programme design and implementation to see whether it is possible to evaluate it in "a reliable and credible fashion[25]" and whether the design and implementation was equity and rights based.

In attempting to review the overall performance of the PPTCT centres (2007-2015) and to explore bottlenecks for low coverage of women and children with PPCT services including attrition rates we used the PPTCT cascade approach (Figure 2) at four key levels – case identification, referral or access into PPTCT services, delivery of PPTCT services and retention in the continuum of care. The PPTCT cascade refers to the loss-to-follow-up (LTFU) that occurs at each of these various point along the continuum of care from case identification, to during the antenatal, intrapartum, and postnatal periods.

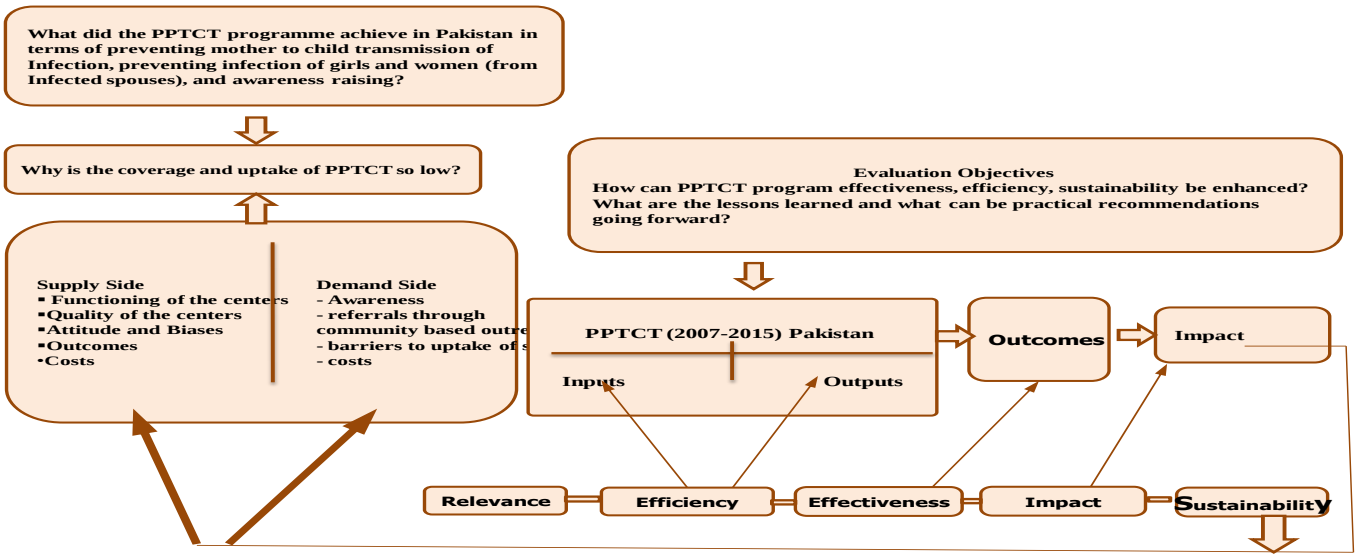
Since in Pakistan's HIV epidemiological scenario women most at risk of HIV or positive women are more likely to be identified through the ART centres and/or NGOs working with key populations by HTC, the evaluation focused on whether supply side issues such as identification and/or retention along the continuum of care are working effectively between HIV prevention efforts and PPTCT services. Demand-side bottlenecks such as women are often not well informed of their HIV risks, spousal disclosure (from infected men is low) and access to services due to stigma, financial and mobility issues were also explored in discussions with HIV positive women and their families.

[23] Qualitative refers to semi-structured in-depth interviews with stakeholders, quantitative data will be collected from individual PPTCT centres, and this data will help guide the Cascade analysis looking at HIV testing rates, % retention, % PPTCT completion, transmission rates etc

[24] The OECD/DAC Criteria for International Development Evaluations: An Assessment and Ideas for Improvement. Thomas Chianca. 2008 Journal of Multi-Disciplinary Evaluation, Volume 5, Number 9

[25] Planning Evaluability Assessment DFID 2013 Working Paper 30

Figure 6: Evaluation Approach

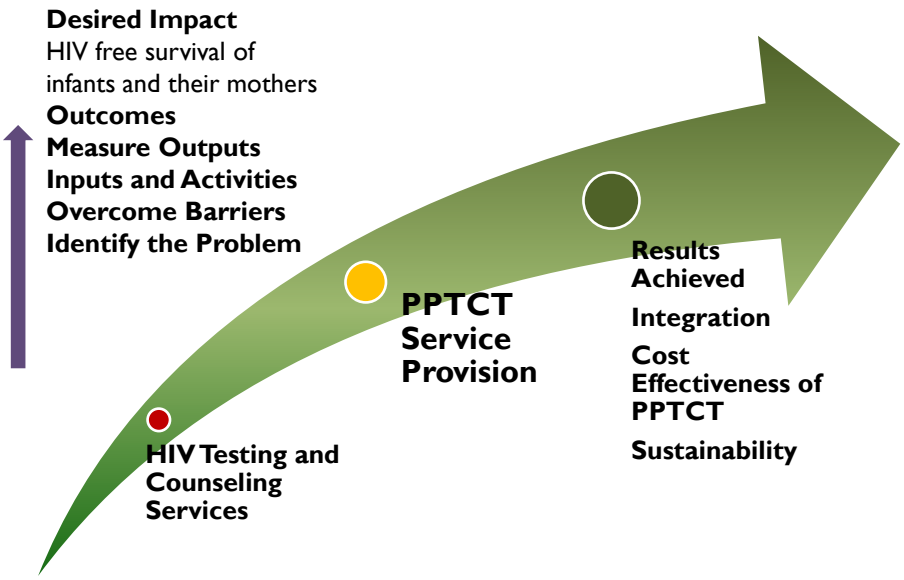


Qualitative interview data was collected and analysed using theme/content analysis. Quantitative data was used to undertake PPTCT cascade analysis and trend analysis of coverage, HIV infections averted (HIV-free outcomes in infants exposed to HIV), and retention in care. Results were then disaggregated according to centre specific differences along with interpretation of the findings and recommendations. The draft report was then shared with RG members and ROSA for review.

THEORY OF CHANGE

The Theory of Change used in the evaluation is based on UNICEF TORs and review of the original programme design 1) to increase HIV awareness, counselling and testing in women at risk of HIV, 2) to provide comprehensive package of informed (and voluntary) reproductive health and family planning services to reduce unwanted pregnancies in HIV+ women/couples, and 3) to reduce the risks of transmission from HIV+ mothers to their infants during labour/delivery and breast feeding using ART. The TOC assumed that the overarching goals of the PPTCT programme were to prevent HIV infection in HIV exposed infants and to increase HIV-free survival in infants and mothers. In order to meet these goals programme activities (inputs and outputs) were centred around setting up PPTCT centres; training providers, provide effective counselling and ART for behaviour change, and outcomes measured were uptake of services, retention in continuum of care, and HIV free infant survival at 4-6 weeks and at 18months. Impact was HIV free survival of infants.

Figure 7: PPTCT Programme Theory of Change



The TOC used took into account the 2nd phase (2011 onwards) of PPTCT programme implementation. In the 2nd phase in response to low PPTCT coverage and reach, a community based targeted approach (LHW-District Family Health Day model) was adopted. The basic TOC assumptions of the District Model Approach was that in order to overcome low case identification and hence PPTCT coverage, LHWs and community level health providers in district rural health facilities (DHQs) would be trained to identify, counsel and test people in the general populations who are perceived to be at risk for HIV and refer them into PPTCT care services.

ANALYTICAL APPLICATION

The evaluation questions and sub-question used in the evaluation are as per the TORs and given below. The evaluation matrix is shown in the Annex 4.

Table 1: Analytical Framework

Evaluation Questions	Sub-questions	Sources/Tools
Relevance		
To what extent are the objectives of the PPTCT programme consistent with the requirements of MWRA and HIV+ women	Are the PPTCT programme activities aligned with country and UNICEF goals? What are the health and RH needs of girls, women exposed and/or infected with HIV and is the PPTCT programme able to meet these evolving needs?	Desk review of country documents (Annex 1) Questionnaires with stakeholders
Are PPTCT programme objectives in line with country-needs and global priorities related to HIV/AIDS issues.	Review of national/provincial documents and international best practices – benchmarking Pakistan's PPTCT results.	Desk review of country documents (Annex 1) PPTCT centre and Country ART data
Are PPTCT programmes responsive to the needs/problems of younger women and what other modalities and	Was attention paid to the 4 PPTCT prongs? Are the needs relevant and responsive to changing needs of different population groups –wives of migrants, PWIDs etc Who is being missed and why? How is the FHD approach working?	Questionnaires and qualitative interviews with stakeholders.

mechanisms can be tried in the future?	How did the District Approach affect uptake and utilisation in Punjab and Sindh?	Review of the FHD data and discussions with programme managers
Effectiveness and Results		
To what extent was the programme able to achieve its goals of preventing HIV transmission from mother to child?	Use PPTCT cascade approach 1) % of women counselled, 2) uptake of HIV testing, 3) case identification of HIV women, 4) women into PPTCT care, 5) number of HIV-negative infants (infections averted), and 6) referral back into ART Attrition at each level, quality of care.	PPTCT centre data (2007) ART centre data (2012-2015) LQAS Clinical vignettes
How disadvantaged populations and key populations were targeted and were the services used by wives of PWIDs, migrants, FSWs?	Were service equitable for the poorest women and children/families? Is data present to document that? Are risk populations using PPTCT services (% of use)	PPTCT centre data (2007) ART centre data (2012-2015) Questionnaires and qualitative interviews with stakeholders and PPTCT staff, NGOs etc
Efficiency		
To what extent were resources (time and money) converted into efficient results? What were the Costs of averting 1 HIV infection?	How many infants were exposed and remained negative? How many were positive? Cost of 1 infection averted and 5 QALYs gained CEA	PPTCT centre data (2007) ART centre data (2012-2015) FHD data (2013-2014) Questionnaires and qualitative interviews with stakeholders and PPTCT staff, NGOs
How were the principals of equity, gender rights and human rights addressed in the service provision? Equitable access by different groups and families	Was a rights based and gender equitable approach present in the PPTCT programme design and implementation of activities? Documentation of examples?	Questionnaires and qualitative interviews with stakeholders and PPTCT staff, NGOs Chart Review (LQAS) – patient information listed.
Sustainability		
What are the measures or means of Programme sustainability beyond UNICEF support culmination including government interest to sustain this for disadvantaged populations	Are the provincial AIDS Control Programmes ready to sustain and continue the PPTCT programme – budget support confirmed or pending? What resource mobilisation efforts are underway?	Questionnaires and qualitative interviews with programme managers, UNICEF, GFATM, and NGOs.
Lessons learned	What are the PPTCT learning? Recommendations	Evaluation findings and discussion

DATA COLLECTION TOOLS

Four types of data collection tools and techniques were used in the evaluation:

1. **Semi-Structured Interview Questionnaires with Stakeholders -** these include PPTCT managers in NACP/PACP, Health Department/NHSRC, UNICEF, WHO, GFATM, NGOs working with PLHIV and risk populations, and PLHIV. Questions asked about PPTCT utility and coverage, effectiveness, factors that limit or support uptake of services, strategies for PPTCT over the programme duration, costs, and sustainability.

With HIV+ women and PLHIVs who had used PPTCT centres during the last 3 years questions were asked on demographics, ease of access to PPTCT services, stigma and discrimination, provider attitude, quality, type of services availed, costs of PPTCT services, NGO role/facilitation, barriers and their perceptions on the outcome and experience.

2. **Semi-structured interviews or FGDs with PPTCT Centre Staff -** asking about provider socio-demographic characteristics, education, training, duration of PPTCT service provision, client categories, SES profile, factors that facilitate and hinder uptake of PPTCT, type of patients, retention rates, HIV testing facilities (mother and infants), CD4 and HIV VL testing, clients per month, protocols and compliance, communication with programme managers, limitations in equipment and supplies including ART, linkages with HIV Treatment and Care centres and other NGOs, hospital services, access to social support services, referrals, MTCT outcomes by centre.

3. **Clinical Vignettes –** were administered to PPTCT providers testing knowledge and clinical scenario based actions that they would take for counselling on prong 2 (family planning and reproductive health needs of HIV+ women), and prong 3 (history, medical examination, testing and delivery of safe birthing and ART). Results of the provider knowledge levels were graded on a scale of 10, with >6 considered satisfactory.

4. **Lot Quality Assessment –** from each of the 8 PPTCT centre 20% of the patient charts between 2012-2014 were randomly selected from the total number. These charts were then reviewed according to a pre-defined checklist for completion of documentation on 1) counselling sessions – the number of sessions, durations, topics addressed, 2) HIV test results and confirmation, whether referred and by whom, 3) date of entry into PPTCT care and week of pregnancy, CD4 and HIV VL results4) ART regimen and side effects, 5) delivery method, 6) birth outcome, 7) infant test result, when tested, 8) infant prophylaxis with ARVs and clotrimazole, and 9) decision on infant feeding. The total number of yes and no variables were 15.

Findings were graded as documentation absent or present with scoring of 0 and 1. A file was considered good if the total score was 12/15 (80%) or higher. The PPTCT centre was categorised as quality compliant if all 20% of the files assessed were >80% scoring (Figure 8) .

One major limitation in completion of the LQA was that 3 PPTCT centres did not have patient charts and information in the PPTCT register did not capture the information required for the LQA.

ETHICAL CONSIDERATIONS

The evaluation process and consultant has adhered to established ethical guidelines of UNEG's and UNICEF[26] and ensured that participation of all stakeholders particularly HIV positive people was voluntary and with informed consent. To safeguard rights, dignity, and privacy all unique individual identifiers were removed from the data collected and responses to protect individuals, institutions or NGOs/PLHIV confidentiality unless permission was specifically obtained in writing from the participants to list their name with the responses.

At all times during the evaluation, the Consultant/team were sensitive to cultural beliefs, manners and customs. The evaluation paid special attention to overt and unstated issues of discrimination, stigma and gender equitable services through a semi-structured interview process that inquired about gender friendliness of the PPTCT services, provider attitudes, socio-economic discrimination to poorest populations, costs of services, and inappropriate social isolation. The evaluation took into account the end beneficiaries' perspective along with PPTCT providers and focal points and maintained privacy so that responses were shared in full honesty and confidence. Consent was verbally obtained since prior experience with HIV-positive clients and families (many of them are low literacy) showed the reluctance or concerns in signing documents. The exit client interview is covered as part of the quality of care monitoring and did not involve a separate consent.

The evaluation itself will be independent, impartial, and rigorous and conducted with professional integrity and no conflict of interest. The goal of the Consultant is to provide UNICEF Pakistan and NACP/PACPs a credible document that can contribute to the learning of future PPTCT programme direction in Pakistan.

[26] UNEGs Ethical Guidelines March 2008

LIMITATIONS

This evaluation has several limitations that should be noted.

1) Data accuracy and quality- Although data was available and readily shared by UNICEF, NACP, PACPs and the PPTCT centres there were considerable issues. Issues such as different reporting methods across provinces, incomplete or inconsistent data, absent disaggregation of client categories, duplication and internal inconsistencies may have limited the accuracy of the reported findings. The evaluation team made best efforts to validate the final numbers presented in this report but there still may be inconsistencies that escaped our notice. This would affect estimations coverage, of HIV infections averted in infants and overall cost calculations.

2) Patient confidentiality - Another limitation is the sensitivity of the HIV status information and patient confidentiality which limited the possibility of randomly selecting PPTCT beneficiaries and contacting/visiting them for feedback on their experiences (good and bad) regarding PPTCT services. In order to respect their privacy and patient confidentiality the evaluation team collected information from exit client interviews (convenience sample) from PPTCT centres or through NGO identified beneficiaries. It is possible that the beneficiaries selected in this way may be more likely to report positive experiences of both the PPTCT centres and the NGOs or may be reluctant to openly share their opinions for fears of reprisals, hostility or negative consequences.

3) We have conducted a basic cost effectiveness analysis and efficiency measurements based on the data shared by UNICEF and NACP/PACPs. However, many of the PPTCT operational costs were not disaggregated by management, supplies, ART and services costs. This can have implications that the CEA may not be comprehensive or accurate because of data inaccuracies and lumping of PPTCT management and operational costs (in 3 provinces) within overall HIV costs.

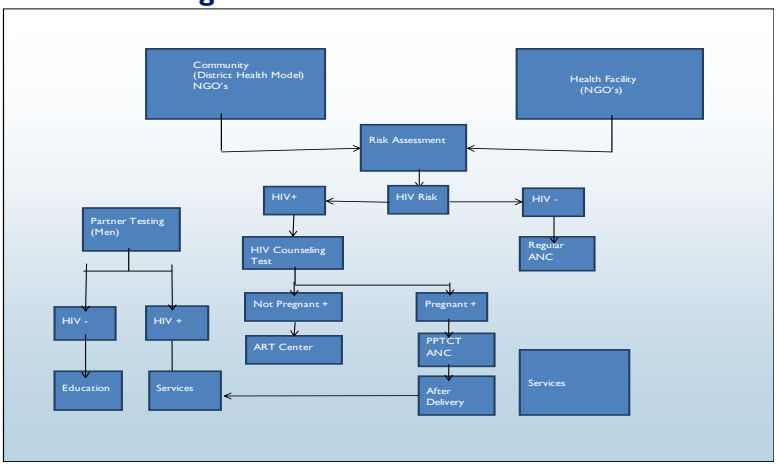
In addition, advanced level cost effectiveness analysis (CEA) requires a team of health economist, public health systems and HIV experts to determine accurate estimations of health gains, infections averted, thereby quantification into costs, adjusted for incremental benefits over the next 5-20 years, and discounting. This level of CEA was beyond the scope of this evaluation. However, as best using PPTCT and ART data we have tried to measure the benefits in terms of lives saved (infants) through disaggregation of the cost data and with cross comparisons with PPTCT beneficiaries and available testing models.

CHAPTER 3 EVALUATION FINDINGS

PPTCT CENTRES AND FUNCTIONING

There are 11 PPTCT centres in Pakistan. In this evaluation 8 were physically visited and in 2 centres (DHQ Hospital DG Khan and Sheikh Zayed Hospital Larkana) information was collected via telephonic interviews with the PPTCT service provider. All PPTCT centres follow a similar process (Figure 8) starting with risk assessment based screening of women at the first point of contact with the medical care system – this is either at the ART Centre (health facility level i.e. identified as a spouse of a HIV positive man or IDU) or at the community level through the District Family Health days and/or referrals by NGOs working with HIV risk populations. Risk screening is done by qualified Obstetrics-Gynaecology specialists, ART doctors, LHWs and/or NGO staff depending on the location of the woman.

Figure 8: PPTCT Centre Model



All women identified at risk of HIV are offered voluntary HIV counselling and screening and negative results are immediately informed, while positive tests are confirmed immediately in some centres or within 2-4 days (with additional ELISA testing) before the woman is informed of HIV positive status. Women who test negative for HIV are usually counselled on safe sex and encouraged to bring their spouses for HIV testing at the nearest HIV testing facility.

In low prevalence settings (less than 0.1% general population prevalence) universal testing of all ANC or labour room clients are low yield and challenging in terms number of tests to detect one case of HIV and incurred costs along with low uptake of services. In Pakistan HIV testing is generally not done during ANC or at delivery except in designated hospitals, PPTCT centres or at Family Health Days (FHDs) after a risk assessment tool[27]. In the initial phase of the PPTCT programme (2007- 2009), some PPTCT centres piloted the approach of testing all women visiting the ANC clinics for HIV. After testing nearly 20,000 women the HIV case identification rate was found to be less than 0.001% and the test all approach was modified to a targeted risk assessment prior to HIV testing (Risk Assessment Tool shown below). Since 2010, general population ANC attendees are tested for HIV only if they are found to have a positive risk assessment.

PPTCT centres have three main sources of in-referrals of HIV positive pregnant women 1) from HIV ART centre, 2) identified and referred from Family Health Days, 3) from NGOs working with key populations or positive people's networks. Less common source of referral is from Blood Bank screening, VCT centres, in-patient admissions, or other medical/surgical clinics.

Risk Assessment Tool

1. Occupation
2. History of working abroad
3. History of blood transfusion in past 5 years?
4. History of IV drug use in past 5 years
5. History of treatment of STIs in past 5 years?
6. History of dental treatment in last 5 years?
7. Hepatitis B or C?
8. History of any operations in the past 5 years?

Once identified as HIV positive and pregnant, the woman is counselled on ART and started on a standard regimen of Tenofovir, Lamivudine and Efavirenz (FDC). Since 2014 HIV ART and PPTCT centres are mainly following WHO's

[27] Risk Assessment Tool

Option B+ recommendation. However, there are variations in the way PPTCT centres (or ART centres) are following the guidelines. For example, some PPTCT centres are still following Option B, that is only ART prophylaxis during pregnancy and breast-feeding. The PPTCT package of services includes counselling on prevention of infant transmission, maternal nutrition, safe birthing and care, infant feeding practices, and basic elements of family planning. Routine ANC visits are scheduled monthly until 32 weeks and then 2 weekly thereafter until the time of delivery. Delivery is usually by C-section (although some PPTCT centres are now shifting to vaginal deliveries for women on ART with undetectable HIV viral load by PCR).

After delivery (within 6-12 hours) the HIV exposed infant is started daily Zidovudine or Nevirapine by either the PPTCT provider or on-site paediatric HIV physician. For six weeks post-delivery the mother-baby pair are followed at the PPTCT centre (via phone calls or actual patient visits) after which care is transferred to the HIV ART centre and paediatric HIV care physician. In some PPTCT centres HIV DNA PCR is done at 4-6 weeks, while in others a HIV ELISA test is done at 18 months or at the cessation of breast feeding to determine infant HIV status.

Table 2: Overview of PPTCT Centres and Clients (2007-2015)

PPTCT Centre (start date)	Total PPTCT clients	Mother on ART	Infants Born	Number of HIV+ Infants	Infant ARV Prophylaxis +
PIMS, Islamabad (2007)	98	89	68	0	68
Services Hospital, Lahore (2007)	25	25	21	0	21
FPAP, Lahore (2015)	5	5	1	not tested	1
ABSH, Gujrat (2011)	75	75	75	0 (5 not tested)	75
Allied Hospital Faisalabad (2012)	14	13	10	0	10
DHQ DG Khan (2010)	54	52	37	1 (late referral) 8 not tested	37
Civil Hospital, Karachi (2007)	23	23	22	2 (late referrals)	22
Sheikh Zayed Hospital Larkana (2011)	22	22	19	0 (11 not tested)	19
HMC, Peshawar (2007)	53	51	43	10 not tested 1 (home delivery)	41
BMC Quetta (2007)	42	36	38	0 (3 not tested)	36
Total	411	391(95% were on ART)	334 (81% live births)	4 out of 299 tested (1.35% transmission)	330 (99%)

FINDINGS AND OBSERVATIONS

Described below are specific observations by the evaluation team and identified in discussions with the PPTCT centre staff and PACP focal person. Centre specific information is provided in Table 3 and 4.

AVAILABILITY OF PPTCT STRATEGIC FRAMEWORK AND GUIDELINES

In 2007 the PPTCT Technical Working Group (TWG) in consultation with national and provincial HIV and MCH stakeholders developed the PPTCT Strategic Framework. The framework is evidence-based and comprehensive in addressing all 4 prongs with well-defined objectives, activities and key strategies for MTCT prevention in Pakistan. It also includes global and local lessons to improve quality of MCH services, integration and linkages with PLHIV and vulnerable populations for enhancing the efficacy of PPTCT interventions.

The PPTCT Strategic Framework (2007) was accompanied by an operational guide, clinical care guidelines and training manuals as well as various IEC materials including a flip chart on HIV and breastfeeding, an information booklet and risk assessment tool. Nearly eight years into the PPTCT experience the PPTCT Strategic Framework, clinical and operational guidelines need to be revisited to accommodate new learning and PPTCT best practices consistent with

the WHO 2014 ART and PPTCT recommendations. Current area specific gaps that need to be addressed in the upcoming PPTCT Strategic Framework and Clinical Guidelines are:

☐ Linkage of PPTCT within service delivery programmes for risk populations – the challenges of reaching >80% coverage in vulnerable and risk populations – low cost HTC options. Where would placement of services be?

☐ Integration of PPTCT within a comprehensive MCH package of services with inclusion of risk screening (and testing) for HIV, Hepatitis, awareness raising and standardized infection control practices. Including the necessity of training a wider cadre of Ob-GYN doctors, mid-level providers (LHVs, nurse practioners etc.) to handle PPTCT cases and referrals in remote facilities and districts.

☐ Human Resource and Health System Capacity and Costs – for delivering of Option B+, infant ARV and clotrimazole prophylaxis, dried blood sampling (DBS), point of care tests etc.

☐ Strengthening Monitoring systems – at different levels from HIV programme managers, to PPTCT centres, to NGOs, to Association of PLHIV as gatekeepers. Roles and responsibilities and modalities

☐ Clinical protocols with 1st and 2nd line options, timings for testing, and documentation formats

☐ Revision of IEC materials and Breastfeeding guidance according to provincial policies and PPTCT experience of 8 years

For HIV-PPTCT policy and programme decision makers it would be useful to translate the new PPTCT Strategic Framework into provincial action plans along with costing of resource needs.

CASE IDENTIFICATIONAND PREVENTION

Case identification and referral of HIV positive women particularly through outreach HIV testing and counselling (HTC) remains a major challenge for all PPTCT centres. Of the total 13,096 patients registered in the ART centres, 10433 (80%) are men, with only 2284 (17%) women, and 358 (2.7%) children. The number of women identified and registered at ART centres and as NGO beneficiaries is well below the country estimate (NACP/PACPs-UNAIDS 2014) of 26,000 (16,000 -52,000) affected women. Even in ART centre testing of female spouses is less than 60% (range 40%-60%) with many of these test results (HIV status of partner) not documented in the case files (i.e. only verbal reporting).

Discussions with NGOs working with key populations – PWID and SWs– highlight that on average less than 20% of the target populations' spouses have been tested for HIV. The main challenges in testing wives and children of PWIDs are the issues of accessing them and costs. While the outreach workers can access PWIDs many of them have not disclosed HIV status to their wives/partners– and were reluctant to connect outreach workers with their families. These concerns were further accentuated by their perceptions of discrimination, criminalisation of drug use, lack of care and treatment options for them or their infected wives/children. Overcoming these limitations to build trust and access requires considerable time and financial costs[28], and with reduction in programme funding in the last several years many of these activities were curtailed.

In the case of FSWs the difficulty is once again of access and convincing them that HIV testing (and/or potential diagnosis as HIV positive) is confidential and beneficial for them[29]. The stigma associated with a positive status and adverse economic implications on their sex work are major limiting factors for sex workers to seek voluntary HTC. This is reflected in the fact that less than 1% of the cases registered at ART centres are identified as sex workers[30] or referred through NGOs working with SWs.

Case identification through Family Health Days (FHDs) has been low yield 0.8% (i.e. 37/4471) cases identified in six piloted districts of Punjab and Sindh 2013-2014). Based on the current documentation it is difficult to follow how many of these detected HIV+ men had their spouses tested and whether the positive women were tested for pregnancy and/or referred into PPTCT care services.

[28]Ibid NGO Roshan Rasta
[29] Ibid NGO Contech
[30] Personal communication ART centre staff

Some specific observations are:

- Of the PPTCT centres visited (8/8) linkage with service delivery NGOs working with PWIDs and sex workers is limited to only NGOs bringing clients over for VCT, PPTCT or ART services (i.e. mainly PWIDs and very rarely sex workers are visiting the PPTCT centres) . PPTCT staff particularly counsellors or case workers are not aware or understand as part of their job description the importance of prevention. Counsellors and/or case workers at PPTCT centres are not actively involved or participating with the NGO staff in intensive HTC. None of the counsellors or case workers had ever visited the NGO field office to gain understanding of the case identification process.

- Very low rates of service delivery NGO case referrals into PPTCT care are taking place – estimated at less than 10% excluding some select centres. Most of the case referrals are NGOs working with PLHIV.

- PPTCT centres do not have a directory of local NGOs (non HIV associated NGOs) and their areas of work. For example, in many districts MCH activities/clinics are being undertaken by local NGOs that offer safe birthing, family planning, abortion care, nutrition, and many other maternal-child services that can be linked with PPTCT programme. This would save costs for both the PPTCT programme as well as provide social and MCH services for impoverished patients.

- There are very limited interactions between PPTCT centre management, ART centre staff, NGOs working with PLHIV and key populations, and the PACPs for planning an enhanced case identification and referral strategy, and quarterly reviews for progress. Except for large scale seminars in provincial capitals we could not find documentation of regular sessions.

Table 3:PPTCT Centres Outputs and Performance Indicators

Key Indicator (Input or Outputs)	Tracer Indicator	Frequency	Observations
1. Effectiveness			
Quality of HR and Services	% of clinical staff trained in PPTCT % of counsellors present in PPTCT centres % of clinical staff trained in HIV and infant feeding	8/8 (100%) 5/8 (63%) 3/8 (38%)	PPTCT providers (OB-GYN doctors) are providing counselling in some PPTCT centres and do not have standard counselling protocols.
Access and Use of Services	% of PPTCT centres open 5 days a week i..e clinic staff present % of facilities with immediate ART availability (on-site or through ART centre) % of facilities with easy availability of HIV VL	4/8 (50%) 7/8 (88%) 4/8 (50%)	Lack of clarity on the availability of the ART provider in Gujrat ART centre (1x/week) Facilities in Peshawar, Quetta, Faisalabad, and Larkana have limited access to HIV VL testing.
Functioning of management systems	% of facilities with reported ART stock outs % of facilities with IEC material on counselling % of facilities visited at least once by the PACP monitor in the last 6 months % of facilities with a dedicated counselling room	0/8 (0%) 5/8 (63%) 8/8 (100%) 5/8 (63%)	
2. Performance Outputs			
Infant testing	% of facilities with documentation of infant testing at 6 weeks	3/8 (38%) 5/8 (63%)	

	% of facilities with documentation of infant testing at 18-24months		
Ante-natal testing rate of women	% of ante-natal clients tested for HIV (2014)	2302/44000 (5%)	Estimated based on all ante-natal visits to the 8 MNCH Hospitals
HIV VL testing rate	% of facilities with a documented HIV VL in the patient file	4/8 (50%)	Based on LQAS of facility charts/patient registers

PPTCT COUNSELLING

While the PPTCT centres are doing some form of counselling for prevention of HIV transmission from mother to child through ART, safe delivery and infant feeding practices, we found many variations in the content and approach to counselling. For example, there are different models of practice that are being followed: 1) Designated counsellors or case workers (female) are counselling the woman/couple in a series of counselling sessions, 2) PPTCT providers (i.e. Ob-GYN doctors) are counselling mainly the woman during a routine PPTCT visit in busy OPDs, 3) NGOs linked to or the one's referring the woman to PPTCT are expected to do the counselling, and 4) Counselling is done mainly at the ART centre and the PPTCT centre simply examines the woman and does ANC, delivery and six week follow up care and then refers the woman back to ART centre.

In each of these models perhaps less so model 1 – the impression was of the woman/couple as a passive recipient of information rather than proactively participating in the care and decision making process. For example, the decision process for the optimal type of delivery (vaginal or C-section) is not discussed with the patient. A more inclusive approach to discussions with the patient on transmission risks by delivery mode, the role of viral load, prior ART and hospital infection control protocols would help in making women feel that they are a part of the process of care that affects their bodies/lives. PPTCT providers reported several cases where women did not deliver in the hospital facility for fear of C-sections and instead delivered at home or elsewhere.

Similarly for infant feeding practices there are contradictions (sometimes even at the same centre) between the counselling by the PPTCT provider, case worker and/or NGOs on what is the best method of feeding. Mostly providers are looking at "best method" from the perspective of preventing "infant mortality due to all causes" in Pakistan and suggesting breast feeding (as per WHO recommendations for developing countries). NGOs and to some extent case workers are recommending formula feeding as the safest way to reduce HIV transmission risks of breast feeding.

The content of PPTCT centred counselling is not clearly defined and there are no written protocols. Individual PPTCT centres have made their own counselling outlines but these miss out on standard terminology and concepts, the evolving needs of women from pre-pregnancy to post-delivery care, focus on prong 1 (prevention of HIV infection in girls and women), and updated information on family planning methods and referrals.

Furthermore documentation of the counselling process from baseline needs assessment to the learning outcomes is a routine part of PPTCT quality of care and is currently not being adhered to.

Some specific observations are:

- Risk screening tool is being randomly used on certain PPTCT days to counsel and test women visiting ANC clinics or when presenting in the labour room. Most PPTCT cases are already known HIV+ pregnant women referred from ART centre, VCT, NGOs, other health/provider clinics, or FHDs. PPTCT providers or counsellors do not have a clear criteria for administering the Risk Assessment Tool – in terms of what days it is administered, the decision process of selecting particular days, how were the initial HIV awareness counselling sessions conducted in the group, and what the steps were followed till the time of testing.

- There is no documentation at the PPTCT centres or from FHDs on who accepts or refuses HIV testing and counselling.

- General PPTCT information is not included in routine MCH IEC materials. So only women identified as at risk of HIV receive additional information/counselling. This is a missed opportunity to create overall awareness of HIV in Pakistan.

- PPTCT counselling is being conducted with wide variations in counselling duration across centres. For example, in centres reported counselling takes 15minutes – 2 hours. Counselling is also viewed as *point interactions* and *not a continued learning process*. For example, in 2 centres counselling sessions are held once or twice during the 7 month PPTCT period. While in others as many as 8-10 sessions are mentioned. Rarely is there feedback or monitoring of how effective counselling was to women/couple needs.

- Documentation of counselling sessions/notes on are poor and progress on women/couple learning or engagement is not measured. The topics of counselling appears to be "counsellor driven" rather than woman centred (based on our observations of what/how the counsellors discussed with clients) and generally discusses safe sex, safe delivery, ART, infant feeding, and nutrition. Counsellors are on average not discussing about family planning options, psychological issues, stigma, financial pressures, or home-based service needs with women and their families.

- Most counsellors and PPTCT providers are not aware of how the rights based approach is practiced in the PPTCT centre activities. For example, counsellors mixed rights based approach with maintaining client confidentiality, privacy and avoiding discrimination. There was little comprehension of creating an enabling environment, catering to different key populations, youth specific needs, beneficial disclosure (its negative impacts and rationale), and the rights of right holders.

- Involvement of men is minimal in most PPTCT services. This is not surprising as many ANC out-patient clinics actively discourage men from accompanying their wives or entering premises. PPTCT providers/staff are also not actively engaging with men.

- In 4/8 PPTCT centres the position of PPTCT counsellor are vacant for the last 6months – 1 year. In 3 centres UNICEF, GFATM and NACP are supporting counsellor/case manager positions and this support is nearing its end in 2016. There is uncertainty on how the positions will be funded and PACPs are seeking bridge funding from GFATM or UNAIDS.

- There is a lot of contradiction in the message on breastfeeding with 5/8 PPTCT centres promoting formula feeding or leaving the choice upto the woman/couple. The risks of mixed feeding are not being emphasised adequately, and in some instances counsellors themselves are not clear of the risks.

- Uptake of counselling to final HIV testing varies between PPTCT centres and may be reflective of the quality of counselling or faulty documentation. For example, in Punjab there is 100% uptake while in PIMS less than 10% of women counselled opted for HIV testing. This needs to be explored further.

Figure 9: Uptake of PPTCT Services (PIMS Islamabad)

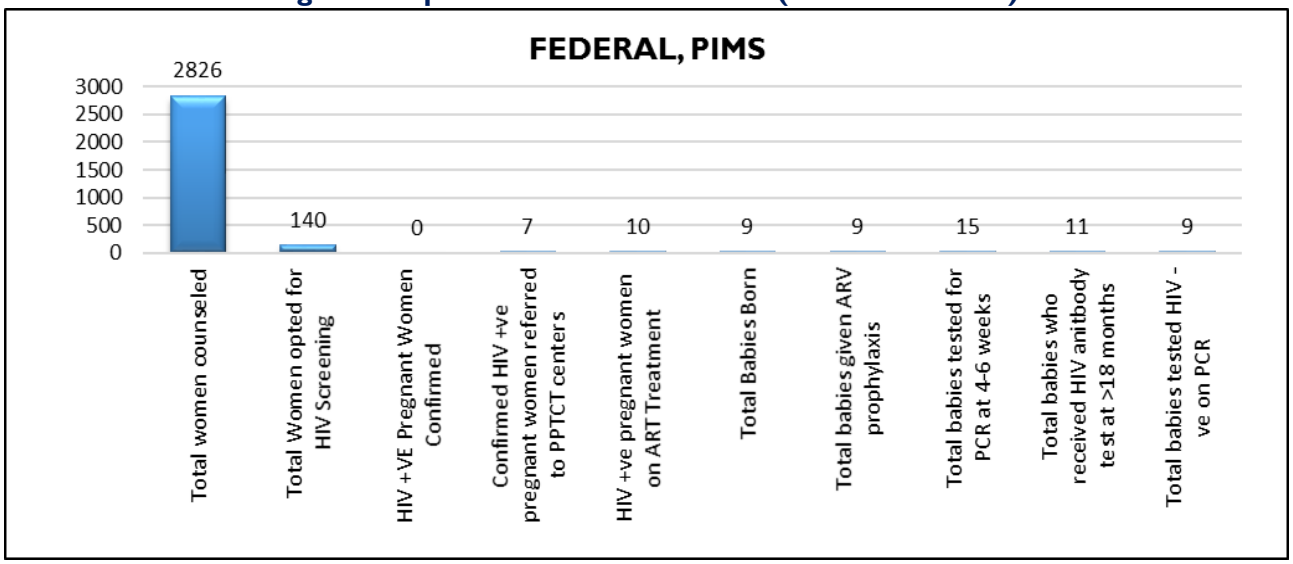


Figure 10: Uptake of PPTCT Services (BMC Quetta)

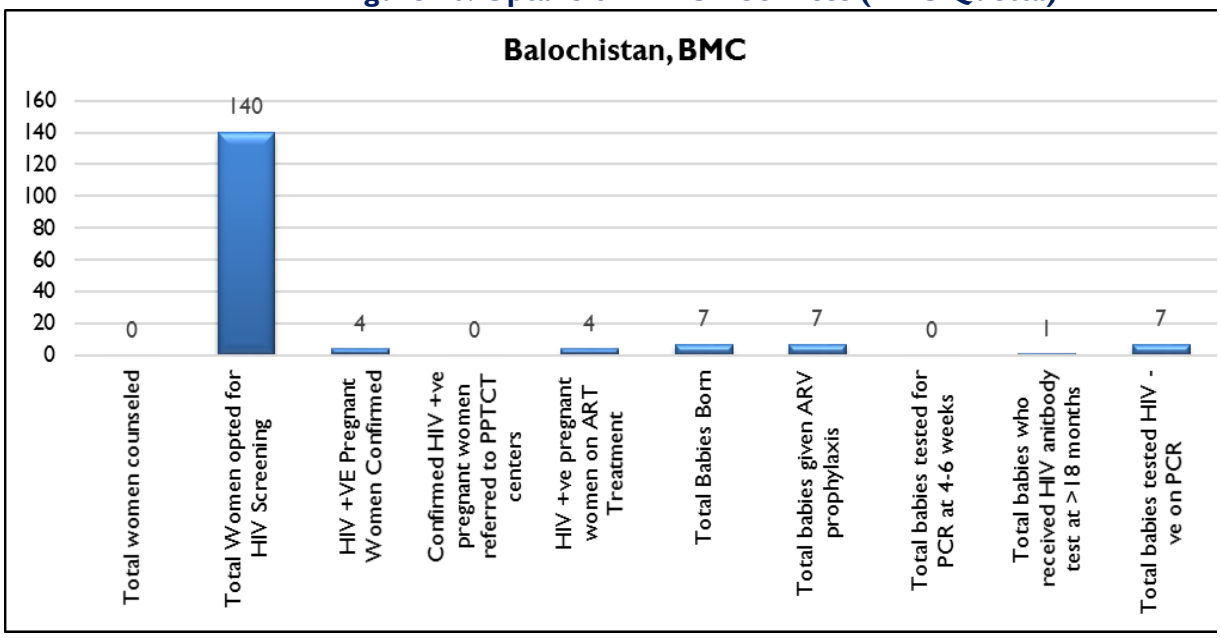


Figure 11: Uptake of PPTCT Services (Lahore, Gujrat)

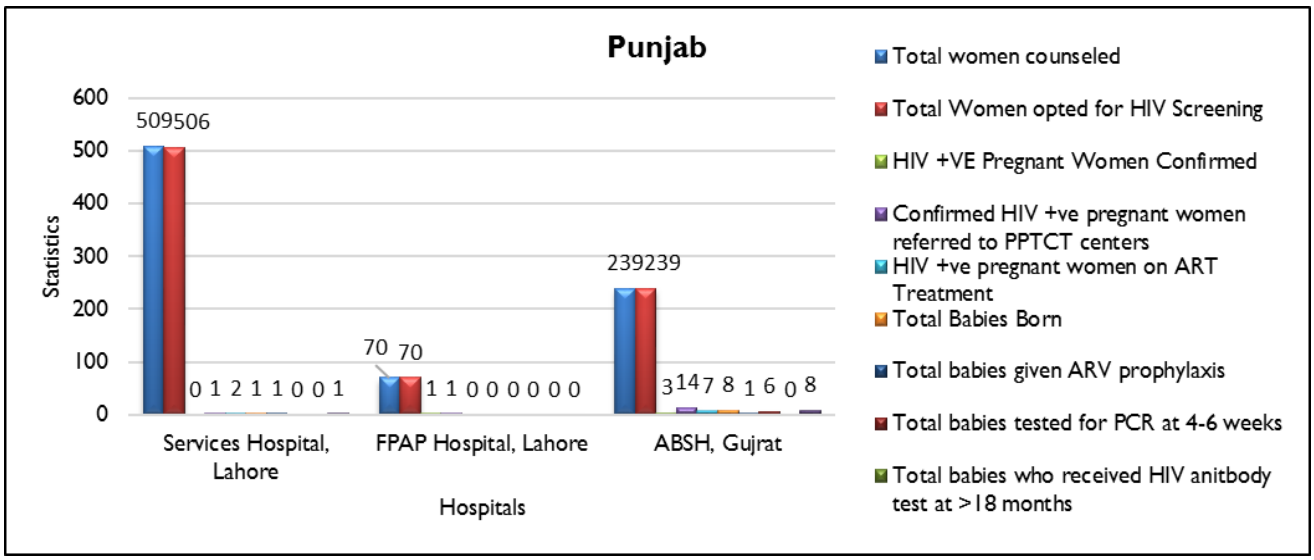
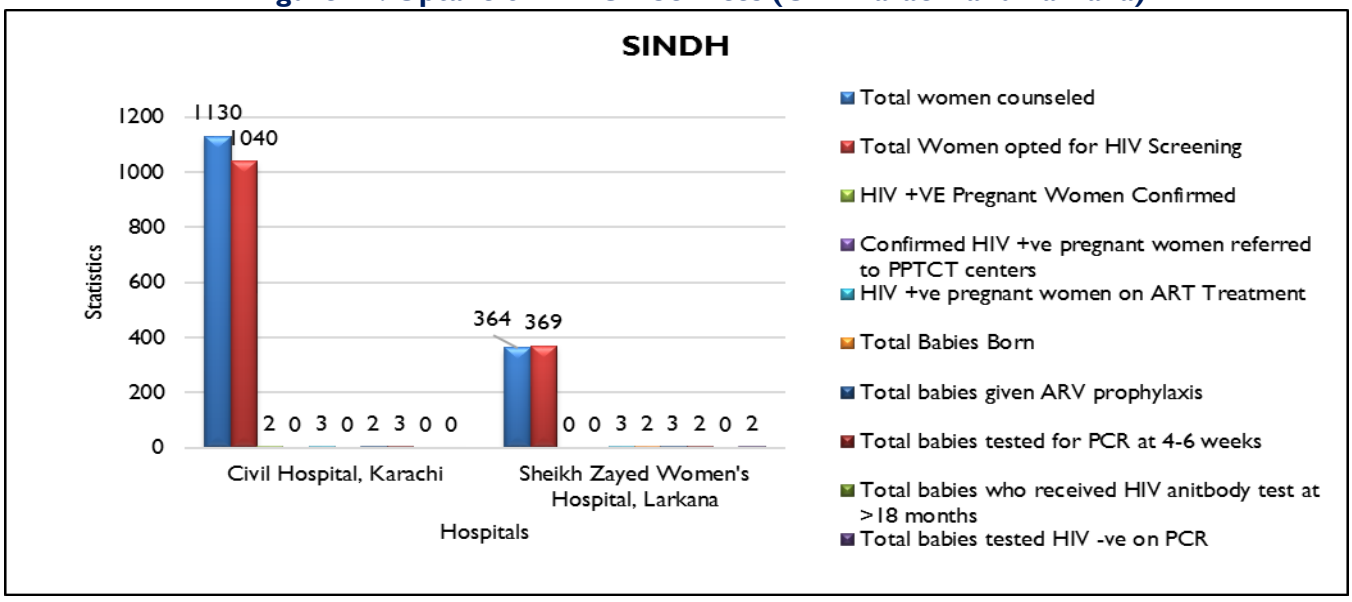


Figure 12: Uptake of PPTCT Services (Civil Karachi and Larkana)



ART AND SAFE DELIVERY PRACTICES

As per WHOs 2013 PMTCT Guidance Pakistan's PPTCT guidelines recommend Option B+ (all pregnant women with HIV are offered lifelong ART), however, this guidance is not being adhered to in all instances and some PPTCT centres are continuing to follow Option B (ART initiated at the time of pregnancy and continued until cessation of breast feeding regardless of the CD4 count). Initially women (2007-2012 PPTCT protocols) with CD4 counts greater than 350cells/mm^3 were given the choice of initiating ART (Option A) but that has now been phased out. The regimen being used is Lamivudine, Tenofovir and Efavirenz given in a convenient 1 pill daily dosing. Except for 2 centres (HMC, AH) ART initiation is generally started at the ART centre due to a greater level of ART counselling expertise and provider experience in handling side effects. Another reason is that many of the women are already on ART and become pregnant later.

Review of records shows that of the total registered women at ART centres nearly 60% (1386/2284) are receiving ART and of these 411(16%)[31] have used the PPTCT programme services at least once in the last 8 years. However of the overall eligible women, PPTCT coverage is less than 3%.

[31] 29 women are repeat users of PPTCT programme services

PPTCT centres are commonly following the practice of delivery by C-sections in nearly 75% of the cases although in the cases of compliance with ART regimens (i.e. patients with <1000 copies of HIV viral load on Option B/Option B+) the advantage of reducing perinatal HIV transmission via an elective C-section versus a vaginal delivery is no longer recommended[32]. In many hospitals providers reported that there were poor infection control practices such as absence of protective supplies and sub-optimal sterilization of equipment. Therefore often HIV positive cases are deliberately scheduled at the end of operating days, the materials (gowns, bed sheets, coverings) are burned, and fears of transmission are prevalent in the support staff and even amongst some Ob-GYN doctors who refuse or avoid taking HIV+ deliveries.

Some specific observations:

- ART compliance is reported as good – estimated to be >90% by the PPTCT staff. However, our LQAS of 20% patient chart or register review shows less than 50% documentation of HIV VL PCR results to validate this assumption. Difficulty in getting HIV VL (only available in Karachi, Islamabad and Lahore) due to transportation and cost issues limits this option. However, it is imperative to find working solutions to reduce the risks of ART resistance and detect regimen inefficacy as early as possible before clinical signs of failure start appearing.

- In HMC Peshawar some women/couples are reluctant to deliver in health facilities (due to tradition and costs) and are often referred back home with safe delivery kits and infant ARV prophylaxis. Linking these families with supportive services or home-based CHBC (GFATM Round 9) or local peer helpers (if feasible) needs to be be explored more.

- A greater number of Ob-GYN and mid-level providers (LHVs, nurses) need to be trained in PPTCT knowledge and skills. Currently only 1-2 Ob-GYN doctors and 2-3 support and paramedical staff per hospital facility have been (are) trained per PPTCT centre. These numbers should be increased and peer-peer staff training can be piloted for feasibility.

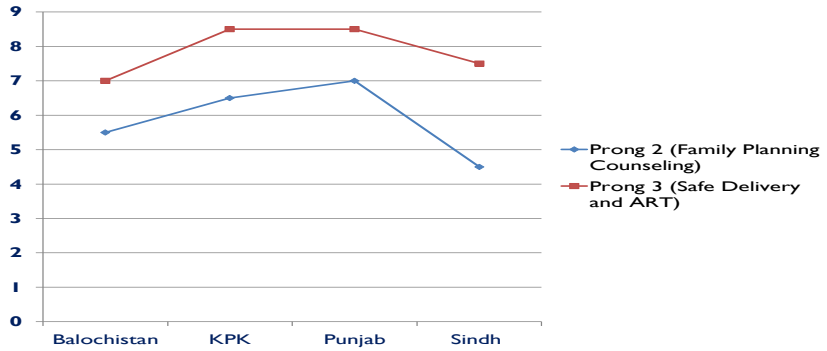
- PPTCT refresher trainings have to be conducted as a routine since most of the hospitals visited reported frequent staff turnover and re-assignments particularly in the support staff. Average staff rotation duration in different departments at these public sector facilities is 1-2 years. In addition, PPTCT training for providers must address new knowledge on safe delivery techniques, psychological needs of HIV+ women, and infant feeding practices including a more holistic view of PPTCT.

- We found encouraging models of hospital ownership in 3/8 PPTCT centres – in terms of hospitals supporting staff salaries, providing infection control supplies, and routine testing of Hepatitis and HIV together (out of hospital budgets). In all 8/8 PPTCT centres hospital management is providing space for PPTCT centres although in 2/8 centres there were issues of inadequate counselling and examination space.

- No stock outs of ART, infant prophylaxis or other essential HIV-related medicines were reported in the last 12 months. ART is provided by NACP via GFATM Round 9 funding support.

[32] PMTCT Guidelines 2015 US Clinical Mode of Transmission

Figure 13: Provider Knowledge on Family Planning and PPTCT Safe Delivery



PREVENTION OF HIV TRANSMISSION

In all PPTCT centres the HIV transmission from mother to exposed infant has been very successfully controlled to less than 1.35% (comparable no intervention HIV transmission risks are 30%-40%). Coverage of infants with Nevirapine or Zidovudine prophylaxis is nearly 100% and according to PPTCT provider discussions (and in some cases documentation reviewed) within 6-12 hours of delivery.

In 4 HIV exposed infants (i.e. 4 HIV positive/299 infants tested) who tested positive the main risks were maternal non-compliance with prescribed ART regimen, opting out of PPTCT care and home-based deliveries. The uptake of infant testing for HIV is approximately 89%. However it is important to note that verifiable documentation of infant test results (HIV VL PCR at 4-6 weeks or HIV ELISA testing >18months) is very poor and many patient files do not have this critical information listed and/or easily available. For example in Civil Hospital Karachi a separate paediatric file (different physical location) is maintained with infant test results listed there.

Follow up of HIV exposed infants at 18 months or at the cessation of breast feeding is a passive facility-dependent process. For example, most PPTCT centres wait for the mother-infant pair to visit the health facility (i.e. PPTCT centre) instead of linking up with local NGOs/CBOs or district HIV testing facilities to offer the testing. We found cases where definitive infant testing and diagnosis was delayed up to 24+ months or more until the mother-baby pair visited the centre. Local arrangements with immunisation or health facilities in the vicinity of the mother-baby pair have not been considered at this time for concerns of patient confidentiality. However, in consultation with the woman/couple these should be considered as viable options.

The evaluation shows that the PPTCT programme focus on prong 1 (prevention of HIV transmission from infected partners to girls/women) has been and is a weak component from the beginning and remains so. The two key areas of high impact intervention 1) universal testing of wives of infected men at ART centres, and 2) targeted testing of at least 80% of wives/partners of key populations is unsatisfactory. Trend analysis of spouse testing rates from 2010-2013 (ART centre data) shows slight increase from 40% to 60%, with much of the improvement driven by a few ART centres.

Given the high male-female transmission rates for men yet not started on ART (i.e. 50% of registered men are not yet on ART) and that many of these men repeatedly visit the ART centre for routine check-ups there is an urgent need to review the counselling effectiveness of individual centres and PPTCT programme policy along with the ART centres. Discussions with PPTCT and ART providers report the persistent lack of disclosure of HIV status by some male patients and the dilemma of patient confidentiality versus the rights of women to protect themselves from HIV infection. Currently very limited ethical guidance or intensive counselling interventions are in place to increase spouse testing and prevent new infections in uninfected women exposed to HIV through male partners.

Some specific observations:

- Service delivery of Prong 3 is the main focus of the PPTCT programme and centres. PPTCT centres are not engaged or involved in the actual strategic planning. Many of the PPTCT providers are busy Ob-GYN providers and have a "clinician based" approach to MTCT prevention – simply considering ART and safe delivery as their sole responsibility. These providers have very little understanding of the public health and epidemiological implications and resource planning. Helping these providers to understand and slowly integrate PPTCT as a component of MCH would be helpful in the long term.

- Documentation of spouse to spouse (from infected men-their wives) and mother-child transmission rates needs to improve. This can be done through timely testing of women and infant testing at 4-6 weeks and 18 months in the PPTCT centres and at the ART centres of all registered patients and their spouses. Without reliable data strategic planning and analysis of programme effectiveness are difficult.

- Provider bias exists (in some instances only) that HIV positive women/couples are unreasonable and demanding, and that there is inequitable distribution of resources and facilities compared to other poor yet non-HIV patients. It would be helpful to sensitise providers on HIV specific rights based approach and the responsibility of duty bearers and rights holders to that end.

INFANT FEEDING PRACTICES

Breast feeding is low at 38% in Pakistan[33] and our discussions with HIV positive women and NGOs depict a picture of high rates (70% or more) of either formula feeding or mixed feeding practices from early on. There is no reliable cohort follow up data on rates of HIV transmission at 4-6 weeks (peri-partum) and through following breast feeding practices and the incidence of diarrheal illness (risks of non-HIV related mortality or morbidity) in HIV exposed and infected infants at 18, 24 and 36 months from Pakistan.

Counselling messages are different and between NGOs staff and counsellors/PPTCT providers and are confusing women on whether to breast feed or use formula. The issues of trust, risks of diarrheal diseases and affordability are not being addressed in short duration counselling sessions and this affects how women eventually choose to decide on the feeding method for their babies. We found partial information and prevailing misconceptions amongst the PPTCT users interviewed such as references to promotion of breast feeding as a means to save costs at the expense (and programmatic indifference) to the risks of poor babies getting infected, and breast feeding as a means to give the baby ART.

Some specific observations:

- There is no uniform message on breastfeeding, when to stop, how to stop, and the risks of mixed feeding for HIV+ women in Pakistan.

- NGOs hold responsible PACPs/NACP for failing to provide formula feeding to all HIV+ pregnant women and their families. In the present scenario with low numbers of HIV+ women and infants – there is a need to engage with them and find acceptable solutions instead of ignoring the perceptions.

DATA TRACKING AND QUALITY INDICATORS

At present data reporting from PPTCT centres is weak with duplications and lack of consistent indicators. Data limitations made it difficult for the evaluation team to accurately measure the transmission chain and attrition rates along the PPTCT cascade of interventions.

At each step of the PPTCT data recording and collection process there appears to be 10% -15% attrition or in some cases even over-estimation from the starting point. Another unusual occurrence noted was the reported counselling uptake which is listed as 100% across all centres in Punjab (most likely a reporting error).

Going forward is important to find suitable strategies and linkages which can improve the reporting capture including lowering the attrition and avoiding overestimations/duplications for the following:

- ☐ Number of estimated HIV+ pregnant women (modelling estimates) – requires strengthening of case finding by NGOs and outreach testing.
- ☐ Number of identified HIV+ pregnant women registered at PPTCT centres (90% attrition at the level of PPTCT centres)
- ☐ Number of HIV+ pregnant women on ART (5% attrition)

[33] Exclusive BF at 6 months PDHS 2012-2013

- ☐ Number of live births to HIV+ pregnant women (25% attrition)
- ☐ Number of infants tested for HIV at 4-6 weeks (15% attrition)
- ☐ Number of infants tested for HIV at 18 months (10% attrition)

We found passive monitoring and reporting of PPTCT programme data with sub-optimal engagement and very low role of NGOs/CBOs in case identification, home-based service provision and follow up of final transmission and survival outcomes.

Figure 14: Chart Review and LQA[34] Results

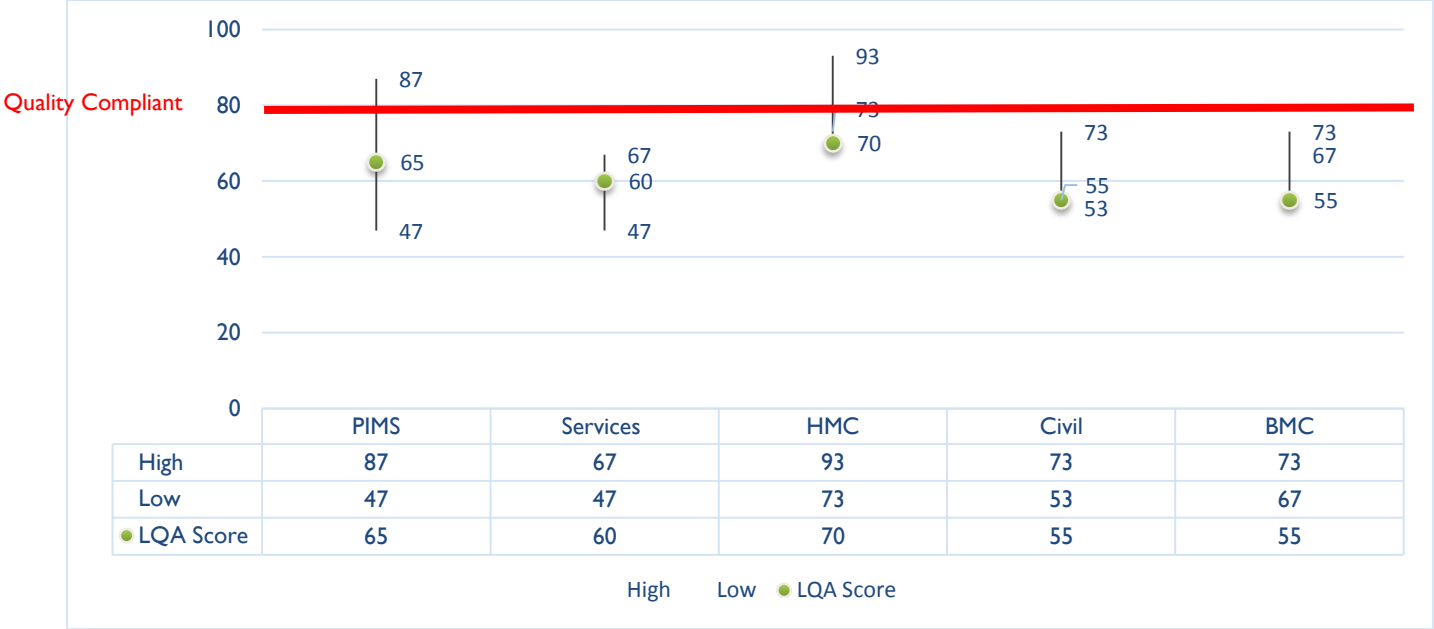


Table 4:PPTCT Centres Islamabad, Karachi, Peshawar and Quetta

Area	PIMS Islamabad	Civil (Karachi)	HMC (Peshawar)	BMC (Quetta)
PPTCT Centre Set Up				
Location	Tertiary care hospital	Tertiary care hospital	Tertiary care hospital	Tertiary care hospital
Accessibility	Good. Situated in MCH out-patient clinics. PPTCT signs present and MCH staff aware of PPTCT centre	Good. Situated in MCH out-patient clinics. Needs improvement in placement of PPTCT signs.	Good. Situated in MCH out-patient clinics. PPTCT signs present and MCH staff aware of PPTCT centre	Good. Situated in MCH out-patient clinics. Needs improvement in MCH staff awareness of PPTCT centre location and signs to guide patients
Linkage with ART centre	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.	PPTCT centre initiates and provides ART.	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.
Linkage with NGOs	Good. Direct contact and referrals from NGOs to PPTCT centre (and back).	Weak. NGOs contact SACP and not the PPTCT centre. Needs to be strengthened.	Good. Direct referrals from NGOs to PPTCT centre.	Needs strengthening. Low numbers of NGOs working with risk/vulnerable populations.

[34] LQA pass is 100% score.

Source of patients	ART centre and NGOs.	ART centre	NGOs and ART centre	ART centre
Infrastructure	Adequate. 1 room	Needs improvement. 1 small room with lack of adequate space.	Adequate 2 rooms and supplies storage space.	Needs improvement.
Provider and Services				
Trained Ob-Gyn PPTCT providers	Present (2-3)	Present (2)	Present (3-4)	Present (2)
Trained ancillary staff (nurses in ANC, paramedics etc)	Needs additional training	Weak. Needs additional training	Good.	Weak. Needs additional training
Doctor competency in PPTCT knowledge[35]	High	High	High	High
Attitude [36]	Good	Good	Good	Good
Counselling	Done by nurse	Done by PPTCT provider	Done by counsellor (both male and female counsellors present)	Done by PPTCT provider
On-site HCTS	+	+	+	+
CD4 Test	Yes	Yes	No	No
HIV Viral Load	Yes	Yes	No	No
ART (on-site)	No	No	Yes	No
Pediatric ART prophylaxis (on-site)	No	No	Yes	No
FP services (on-site)	No	Not at PPTCT centre, but FP clinic in hospital premises	Not at PPTCT centre, but FP clinic in HMC premises	No
Condoms (on-site)	Yes	Yes	Yes	Yes
Infection control supplies	Yes provided by NACP	Yes provided by Civil/PACP	Yes provided by HMC/PACP	Yes provided by PACP
Documentation and Records				
Patient file maintained	Yes	Yes	Yes	Yes
Assigned case number	Yes	Yes	Yes	Yes
Appointment register maintained	Yes	Yes	Yes	Yes
Patient tracking and follow up mechanism	Weak. Needs improvement	No	Yes by the PPTCT coordinator	Yes but limited by incorrect contact numbers.
Infant HIV status documented	Weak. Missing information	No. Is documented in the Paediatric file (could not review)	Yes.	Weak. Needs improvement
Referrals and Integration				
Referrals from FHD	N/A	N/A	N/A	N/A

[35] Clinical Vignettes (2 cases)
[36] Feedback from PPTCT end users and NGOs

PPTCT integrated in MCH and ANC services	Yes	Yes	Yes	Needs improvement. PPTCT centre is operating as a vertical component within MCH services.

Table 5: PPTCT Centres in Punjab - Lahore, Gujrat, and Faisalabad

Area	Services (Lahore)	FPAP (Lahore)	ABSH (Gujrat)	AH (Faisalabad)
PPTCT Centre Set Up				
Location	Tertiary care hospital		District teaching hospital	District teaching hospital
Accessibility	Good. Situated in MCH out-patient clinics. PPTCT signs present and MCH staff aware of PPTCT centre	Good. Situated in MCH out-patient clinics. Needs improvement in placement of PPTCT signs.	Good. Situated in MCH out-patient clinics Needs improvement in MCH staff awareness of PPTCT centre location and signs to guide patients	Good. Situated in MCH out-patient clinics. Needs improvement in MCH staff awareness of PPTCT centre location and signs to guide patients
Linkage with ART centre	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.	PPTCT centre initiates and provides ART.	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.	Strong. ART initiated and provided by ART centre. Regular coordination with ART centre.
Linkage with NGOs	Good. Direct contact and referrals from NGOs and PACP	Recently started. Good. Direct contact and referrals from NGOs and PACP	Good, direct referrals from NGOs working with positive people.	Good, direct referrals from NGOs working with positive people and risk populations.
Source of patients	ART centre and NGOs.	NGOs and PACP	NGOs and ART centre	ART centre and NGOs
Infrastructure	Adequate. 1 room	Needs improvement. 1 small room with lack of adequate space.	Adequate. 1 room	Adequate 1 room.
Provider and Services				
Trained Ob-Gyn PPTCT providers	Present (2)	Present (1)	Present (2)	Present (1)
Trained ancillary staff (nurses in ANC, paramedics etc)	Good.	Weak. Needs additional training	Weak. Needs additional training.	Weak. Needs additional training
Doctor competency in PPTCT knowledge[37]	High	High	High	High
Attitude [38]	Mixed reviews of good and bad	Just started	Mixed reviews of end user and NGO experiences	Good

[37] Clinical Vignettes (2 cases)

[38] Feedback from PPTCT end users and NGOs

	experiences in the last 5 years.			
Counselling	Done by counsellor	Done by PPTCT provider	Done by PPTCT provider	Done by counsellor
On-site HCTS	+	+	+	+
CD4 Test	Yes	No	No	No
HIV Viral Load	No	No	No	No
ART (on-site)	No	Yes	No	Yes
Paediatric ART prophylaxis (on-site)	No	Yes	No	Yes
FP services (on-site)	No	Yes	Not at PPTCT centre, but FP clinic in ABSH premises	No
Condoms (on-site)	Yes	Yes	Yes	Yes
Continuity Infection control supplies	Yes provided by PACP/Services	Yes provided by PACP	Yes provided by ABSH/PACP	Yes provided by PACP/AH
Documentation and Records				
Patient file maintained	Yes	No	Yes	Yes
Assigned case number	Yes	Yes	Yes	Yes
Appointment register maintained	Yes	Yes	Yes	Yes
Patient tracking and follow up mechanism	Weak. Needs improvement	No	No. Used to be maintained by the PPTCT case worker	Yes by the case worker
Infant HIV status documented	Weak. Missing information	Just started	No. Weak missing information	Weak. Needs improvement
Referrals and Integration				
Referrals from FHD	1-2 cases	No data	Yes 5 cases	Yes 10+ cases in 2 years
PPTCT is an integratedin MCH & ANC services	Yes	Just started	Yes	Yes

EFFICIENCY AND COST EFFECTIVENESS OF PPTCT PROGRAMME

UNICEF direct support to the PPTCT programme (2007-2015) has varied between Federal and Provincial AIDS Control Programmes and their respective PPTCT centres over the years. According to the cost data shared by UNICEF Islamabad the breakdown between human resource (i.e. staff salary support) and PPTCT supplies such as infection control materials, safe kits, lab consumables are shown in Table 6 below. Other management costs covered by Government were not available (except Punjab) despite several requests by the consultant.

The costs of conducting FHDs (partial support by UNICEF and some Government of Punjab support in Punjab) including support by GFATM (ART, and HR support for counsellors, data entry staff), and USAID (laboratory consumables for CD4 and HIV VL PCR) are not included in here but have been added when reviewing the efficiency of the PPTCT programme in delivering services and costs per woman served estimations. Unfortunately the evaluation team, excluding PACP (Punjab), was not able to obtain cost data on Government contribution to the PPTCT programme despite repeated requests. All costs are shown in Pak Rupees and in $ (Rs 105 = $1 conversion rate).

Table 6: UNICEF Support to PPTCT Programme

Recipient	HR Support	PPTCT Supplies	% share of Total Programme Costs	Number of Women Served **(cost per woman served)**
NACP	PPTCT coordinator (7 years) 7,200,000	4,000,000	11,200,000 (23%)	98 (Rs 114,285)
PACP (Balochistan)* [39]	PPTCT coordinator (5 years) 3,600,000	1,000,000	4,600,000 (9%)	42 (Rs109,525)
PACP (Khyber Pakhtunkhwa)	PPTCT coordinator (4 years) 2,400,000	4,050,000	6,450,000 (13%)	53 (Rs121,700)
PACP (Punjab)	3 PPTCT coordinators (5 years) 9,000,000	4,000,000	13,000,000 (27%)	173 (Rs 75,145)
PACP (Sindh)	PPTCT coordinator (8 year) 9,480,000	4,000,000	13,480,000 (27%)	45 (Rs 299,555)
Total	Rs 31,680,000 ($301,714)	17,050,000 ($ 162,380)	Rs 48,730,000 ($ 464,095)	411 (cost per woman served is Rs 118,565 ($ 1130)

Based on the costs above it appears that delivery of PPTCT package of services cost approximately $ 1130 per woman served with the lowest costs being $ 715 in Punjab (i.e. better efficiency) and highest $2853 (i.e. lower efficiency) in Sindh.

Using a decision-based analytical model with approximate costing of the PPTCT package of services in Pakistan we estimated the cost effectiveness of PPTCT programme in terms of 1) number and cost of averting HIV infection in infants, 2) health outcomes of HIV+ women/mothers based on the benefits of Option B+ using quality adjusted life years (QALYs) . PPTCT laboratory based services (CD4, HIV VL test, pre-test counselling, EID) costs were lumped as one cost unit using data from Punjab AIDS Strategy costing exercise (Annex). Only 1st line ART costs were calculated for 20 years based on the current pricing with 3% incremental increase. Costing assumptions are shown in Table 7. Excel sheets of costing exercise are available (Annex).

Table 7: Costing Assumptions for PPTCT CEA

Assumptions	Value	Source
Cost per person counselled and tested.[40]	Rs 1450 ($14)	PPTCT data 2012-2014. These costs are average of costs from PPTCT centres and FHD costs for HTC.
Cost per HIV case identified[41]	Rs 178,468 ($1700)	
Cost of ART 1st line regimen (per year)	Rs 13,188 ($ 126)	UNICEF Pakistan
Cost of Infant Nevirapine or Zidovudine prophylaxis (6 weeks)	= Rs 444 ($ 4.23)	
PPTCT Need and Coverage Estimates		
% of women pregnant per year	12%	PDHS 2012-13 estimations
Estimated number of HIV positive women in Pakistan	26,000	UNAIDS-NACP 2014
Estimated number of pregnant HIV+ women per year	1720	(calculated by UNAIDS-NACP at 6.5% probability due to reduced fertility in HIV+ women)

[39] This is estimated since costs from Balochistan were not available

[40] This is based on the average costs of testing at the PPTCT centre from 2010-2015 and includes counseling, consumables and infrastructure costs

[41] Calculated as an average of PPTCT costs Rs 175,678 + HTC costs Rs 181,257 = Rs 356,935/2 = Rs 178,468

Number of women who have availed PPTCT services (2007-2015)	411 women or 58 per year	PPTCT data 2007-2015
Estimated coverage of PPTCT services (per year)	58/1720 (3.5%)	Calculated by dividing total women /eligible pregnant women per year
ART Delivery and Coverage		
Number (%) of HIV+ men on ART	5253/10433 (50%)	ART centre data start – 2015
Number (%) of HIV+ women on ART	1386/2284 (60%)	
ART compliance (%)	>90% in 85% of the patients on ART	ART centre data extrapolation based on providers' experience.
Number (%) of HIV+ pregnant women on ART	391 (95%)	PPTCT centre data
Option B+ was modelled relative to costs of delivering Option A and Option B (ART for 18 months), We assumed that no additional resources would be required to deliver the ART to PPTCT beneficiaries (since the health system was already in place)		
CD4 test per person once	Rs 1050 ($10)	NACP
HIV VL per person once per year	Rs11,500 ($110)	
Case Identification (HTC)		
PPTCT Facility Based - Number needed to test for 1 HIV case detection = 625 (Sindh), 154 (KPK) 58 (Punjab), and 35 (Balochistan)		
Community Based - Number needed to test for 1 HIV case detection = 124 people		
Key Population based (key populations, PWID wives) – Number needed to test for 1 HIV case detection = 25 people		
Percentage of wives of HIV+ men tested (spousal testing)	40%-60% (ART centres)	ART centres data
Percentage of FSWs tested	5%	IBBS 2011 data
Percentage of PWID wives tested	Unknown	NGO anecdotal <20%

Model 1 – Cost Effectiveness of HIV Infections averted in Infants through PPTCT Facility Based Risk Screening and HIV Testing

In model 1 we looked at the costs of averting one HIV infection in an infant at the PPTCT centre using patient and cost data from the PPTCT centre for the year 2014. In 2014, 2302 pregnant women presenting at all 11 PPTCT linked ANC clinics were given a risk assessment screening and tested. Of these 19 women (0.8%) were found to be HIV +. Assuming 100% uptake of PPTCT services we estimated the following cost scenario:

Model 1 Assumption	Costs	Savings /Life Benefits
Cost of testing 2302 women based on the average cost of testing and counselling one woman is Rs 1450.	2,302 x 1,450 = Rs 3,337,900 ($ 31,789)	Greater HIV awareness in ANC Risk assessment and right to testing Targeted approach
Cost of per case identification (19 women i.e. 0.8% yield)	Total spent was 3,337,900/19 women identified = Rs 175,678 ($1,673)	Early identification of HIV+ women and enrolment into PPTCT services
Early ART initiation Option B + for average 20 years. Assuming 90% adherence Cost per 1 woman = Rs 13,188	No intervention = Rs 3,758,580 (15 years) With PPTCT intervention = Rs 5,011,440 (20 years)	Reduced HIV related adverse health outcomes and healthcare costs and assuming 5 QALY gained. Additional costs incurred = Rs 1,252,860
Delivery Outcomes- No intervention = 25% risks of poor delivery outcomes = 14 live births With PPTCT intervention 15% risk reduction = 17 live births	No intervention = 14 live births PPTCT intervention = 17 live births	Risk reduction from 25% to 15% in 19 women Improved neonatal survival

Reduction in MTCT of HIV	No intervention = 40% risk MTCT= 6 HIV+ infants With intervention = 0.2 HIV+ infants	MTCT reduced to 1.35% from 40% based on PPTCT experience 2007-2015
Infant HIV Infections averted. No intervention (40% MTCT HIV) and with intervention (1.35 MTCT HIV)	No intervention = 6 infants HIV+ With intervention = 0.2 infants HIV+	5.8 infant infections averted in 17 live births
Infant ART prophylaxis 6 weeks (17 infants) + TMP-SMX prophylaxis	Rs 7,548 ($72)	Reduced adverse health outcomes in infants
Cost of ART – No intervention = 6 Infected Infants for 20 years vs. 0.2 HIV+ infants with PPTCT intervention	No intervention = Rs 1,582,560 ($15,072) With PPTCT intervention = Rs 52, 752 ($ 502)	Savings of 5.8 averted infections = Rs 1,529,808 ($ 14,569)
Healthcare and laboratory incurred by HIV+ mothers/infants costs at Rs 10,000 per year	Rs 200,000 ($1,800) per person	Held constant for no intervention and intervention
Total cost	No Intervention = Rs 8,679,040 With PPTCT intervention = Rs 8,402,092	Costs of averting 1HIV infections Rs 276,948
In this facility based model the cost of averting one infant HIV infection = Rs 276,948 ($2637) and 5 QALY gained for women/mothers.		

Model 2 – Cost Effectiveness of HIV Infections averted in Infants through FHD/Community Based Risk Screening and HIV Testing

In model 2 we looked at the costs of averting one HIV infection in an infant through FHDs or other general population testing. We used testing and costs data from FHDs in 2013 and 2014 in Sindh and Punjab. In 2013 and 2014, a total of 4471 men and women were counselled, risk screened and HIV tested through FHDs. Of these 37 (0.8%) were found to be HIV +. Assuming 100% spouse testing and referral into ART or PPTCT services we estimated the following cost scenario:

Model 2	Costs	Savings /Life Benefits
Cost of testing (4,471 persons) based on the total costs of conducting FHDs in 2013 and 2014. Approximately Rs 1,500 per person tested. The Rs 1,500 is derived from averaging of the working shown in Table 8. [42]	4,471 x 1,500 = Rs 6,706,500 ($ 63,871)	Awareness raising in the general population. Risk assessment and right to testing. Universal access to HIV testing
Cost of per case identification (37 men and women i.e. 0.8% yield)	Total spent was 6,706,500/37 people identified = Rs 181,257 ($1,726)	Early identification of HIV+ men and women and enrolment into ART or PPTCT services
Early ART initiation Option B + for average 20 years. Assuming 90% adherence Cost per person started on ART= Rs 13,188	No intervention = Rs 7,319,340 (15 years) With PPTCT intervention = Rs 9,759,120 (20 years)	Reduced HIV related adverse health outcomes and healthcare costs and assuming 5 QALY gained. Additional costs incurred = Rs 2,439,780 due to early diagnosis.
Delivery Outcomes No intervention 25% risk of poor outcomes= 4 live births	No intervention = 4 live births	Risk reduction from 25% to 15% in 5 pregnant women (12% fertility estimations) Improved neonatal survival

[42] Average of Rs 1,628 + Rs 1,318 = Rs 2,946/2 = Rs 1,473

With intervention = 15% risk reduction = 4.5 live births	PPTC intervention = 4.50 live births	
Reduction in MTCT of HIV	No intervention = 40% risk MTCT= 2 HIV+ infants With intervention = 1.35% risk MTCT = 0.05 HIV+ infants	MTCT reduced to 1.35% from 40% based on PPTCT experience 2007-2015
Infant HIV Infections averted	No intervention = 2 HIV+ infants With intervention= 0.05 HIV+ infants	3.95 infections averted in 4 live births
Infant prophylaxis 6 weeks + TMP-SMX prophylaxis. Costs taken from NACP-GFATM ART procurement costs.	No intervention = Rs1,665 ($ 16) With intervention = Rs 2,000 ($19)	Reduced adverse health outcomes in infants
Cost of ART – No intervention = 2 Infected Infants for 20 years vs. 0.05 HIV+ infants with PPTCT intervention	No intervention = Rs 527,520 With PPTCT intervention = Rs 13,188	Savings of 2 averted infections = Rs 514,332 ($ 4898)
Healthcare and laboratory incurred by HIV+ mothers/infants costs at Rs 10,000 per year	Rs 200,000 ($1,800) per person	Held constant for no intervention and intervention
Total cost	No Intervention = Rs 7,846,860 With PPTCT intervention = Rs 9,769,672	Costs of averting 3.95 HIV infections = Rs 1,922,812
In this community based general population testing model the cost of averting one infant HIV infection = Rs 486,787 ($ 4636) and 5 QALY gained for men, women/mothers.		

NGOS ENGAGED IN HIV PREVENTION AND CONTIUUM OF CARE SERVICES

At least 38-54 NGOs were (are) involved in HIV prevention and care services including PPTCT, public awareness, service delivery with key populations, home based care, and the Association of PLHIV. In fact a strong feature of the current programme is the growing involvement of NGOs over the years. For example, NGOs are providing many of the essential and complementary services at the community level that HIV programme would otherwise not be able to provide due to access, efficiency of out-reach and capacity constraints.

Good linkages between the NGOs and medical providers are critical in assisting PLHIV and their families and for achieving good health outcomes. In PPTCT programme these linkages are still developing with some centres having greater maturity (i.e. stronger linkages) than others. For example, in particular PIMS Islamabad, Services Lahore, ASBH Gujrat, AH Faisalabad, Civil Hospital Karachi, and HMC Peshawar the benefits of efficient linkages between NGOs and ART centres and PPTCT centre are evident. However, the number of NGOs linked to the ART and PPTCT centres is fairly small, mainly limited to those working with PLHIV or PWIDs.

None of the PPTCT centres visited (or in discussions with provincial managers) had any concept of regular meetings between partner NGOs to address the issues of low referrals. In addition, PPTCT centres and PACPs have rarely approached cross-sector NGOs working in social welfare, MCH and reproductive health to find possible mutual collaborations of interest.

DISTRICT FAMILY HEALTH MODEL

The District Family Health Model (2012) is a community-based HIV awareness outreach and testing model piloted in 5 districts of Punjab (Gujrat, Faisalabad, DG Khan, Lahore and Sargodha) and 1 district in Sindh (Larkana) in response

to low PPTCT coverage[43]. The basic hypothesis is that community outreach workers such Lady Health Workers would create awareness of HIV through their routine house to house visits in remote communities and encourage people (both men and women) to seek testing on designated days at the local Rural Health Centres (RHC) or Basic Health Units (BHUs).

The District Model Approach has been successfully piloted and implemented by Family Health International and the Governments of Cambodia and Viet Nam. In Pakistan it is being piloted in districts with a concentration of HIV positive people or recognised population of injecting drug users. In a joint collaboration of the provincial health department programmes (i.e. the Primary Health Care programme and the AIDS Control Programme) in selected rural communities LHWs have received training on HIV awareness, risk identification and counselling. LHW visit house to house and create awareness and demand for HIV testing (along with other preventive services).

On pre-designated Family Health days (FHDs) a team from the HIV ART centre or Provincial AIDS Programme visits the RHC/BHUs and provide voluntary counselling and testing services. People identified as positive would be confirmed and referred to the nearest HIV ART centre. The estimated costs of LHW trainings, preparation for FHDs, team visits, testing and launching as per the original planning document shared by UNICEF is approximately $ 20,000 (PKR 2.12 million per district).

Table 8: Case Identification and Costs FHD (2013-2014)

FHD Model	Counselled	Tested	HIV+	Cost per Tested	Total Cost of FHDs	Cost per HIV+ Identified
	Sindh					
Larkana (2014)	432	328	2	403	132,500	66,200
Larkana (2013)	303	257	4	3190	820,000	205,000
Total	**735**	**585**	**6 (1%)**	**1,628**	**952,500**	**158,733 ($ 1,512)**
	Punjab					
Gujrat (2014)	363	363	2	1410	511,998	255,999
Gujrat (2013)	305	305	1	1268	387,875	387,875
DGK (2014)	394	394	6	1299	511,998	85,331
DGK (2013)	323	323	0	1200	387,875	387,875
Sargodha (2014)	529	529	7	967	511,998	73,141
Sargodha (2013)	297	297	7	1305	465,450	55,410
Faisalabad(2014)	489	489	4	1047	511,998	127,997
Faisalabad(2013)	442	442	3	877	465,450	129,291
Lahore (2014)	288	288	0	1777	511,998	511,988
Lahore (2013)	456	456	0	850	465,450	387,875
Total	**3,886**	**3,886**	**31 (0.7%)**	**1,318**	**4,732,090**	**152,648 ($1,454)**

Some specific observations:

- The FHD is very well received by the PPTCT centre staff and PACPs, and there is strong perception that it is enhancing awareness and reducing stigma in the general population of HIV. We did not find substantial verifiable documentation of the number of cases referred into PPTCT or ART centres as a direct result of FHDs. Provincial staff repeatedly mentioned the high rates of people who show up for FHDs but were unable

[43] PPTCT Evaluation 2009

to provide data on how many people participated, how many were counselled, uptake of counselling into actual testing, and whether the number tested were new or repeat tests at the FHDs.

- It is unclear at this time how receptive LHWs are or would be to continue this exercise on a long term basis without continuation of additional monetary compensation (currently being done by UNICEF). There is no provision of FHDs in the government funding documents of Balochistan and KPK. Punjab has put in FHDs in their funding document (PC 1) and for Sindh it is still pending.

- Consideration should be given whether FHDs which is a costly model (not cost effective according to WHO guidelines of being more than 3 fold higher than the GDP per capita) can be sustained or whether alternative options using local health facilities and NGO partners instead of external visits can be pilot tested. Lowering the costs and increasing the yield are key considerations in order to make FHDs sustainable and effective in early case identification of HIV positive persons.

PERSPECTIVES AND CHALLENGES IDENTIFIED BY PPTCT BENEFICIARIES AND PROVIDERS

☐ **Stigma and Myths of HIV Transmission -** Patient A, pregnant for the time and a first time user of PPTCT services. She has been affiliated with a PLHIV NGO for the last 2 years. During her 3 day stay at the hospital post C-section delivery she was admitted in the isolation ward and except for one nurse and her PPTCT provider, she claims that all the other hospital staff avoided entering her room for fear of HIV transmission. Though her personal health and infant outcomes were good as a result of PPTCT intervention, her overall perception of PPTCT services was poor and she is disheartened by the stigma displayed by healthcare providers.

Issues Raised
- Need for broader training of hospital staff in HIV transmission risks and psychological demands of HIV
- Putting in place patient feedback mechanisms for PLHIV to address such concerns in a timely manner.
- Greater role for PLHIV Association as unbiased advocates for PLHIV and PPTCT centres

☐ **Counselling and Clarity -** Patient B, is a 30 week pregnant young woman who got HIV through her husband who is a PWID but the information was kept hidden by him/his family. She has been enrolled in PPTCT/ART services for 2 months now and received 3 counselling sessions from the PPTCT centre and local NGO. She reported that the PPTCT centre advised her to breastfeed while her NGO staff counsellor is advising against that. The patient said that she intends to follow the NGO advice for her baby's sake, even though she is very poor and her husband is jobless but she trusts them more to advise the "right thing".

Issues Raised
- Communication with local NGOs and having a uniform infant feeding message
- Feasibility of providing or subsidising infant formula and safe preparation techniques
- Operational research on the risks in Pakistan between BF, formula feeding and mixed approach in terms of HIV transmission

☐ **Patient Disclosure and Ethical Concerns** - Patient C, is a 31 year male patient recently started on ART (3 months ago) has been referred from the ART centre to PPTCT for counselling on disclosure and the fact that his wife is now pregnant. He does not know of her HIV status and has not disclosed his own positive status to her even after 1 1/2 years of marriage. He is saying that he will only bring his wife for care if the PPTCT provider does not reveal his positive status and provides his wife with services without mentioning HIV or saying that the wife has Hepatitis.

Issues Raised
- Ethical guidelines for providers on who they represent and boundaries of patient confidentiality versus rights of the exposed/at risk woman?
- Targeted behavioural counselling for hard to convince and recalcitrant patients – special cases like these should be more intensively counselled
- Counselling protocols

☐ **High Expectations and Entitlement -** Patient D, is a HIV + woman, 3 time user of PPTCT services and a NGO employee. PPTCT staff reports that she is always complaining and that women referred through her also have "very high expectations of preferential treatment". In unusual situations if they have to wait for ½ hour of more (in some cases the Ob-GYN doctor) was busy in OR, they complain to the provincial programme office that they are being stigmatised and not receiving care. The PPTCT centre feels pressurised and is angry with these clients for their lack of understanding and undue expectations compared to hundreds of other poor mothers in the ANC.

Issues Raised

- Roles and expectations for all parties in the PPTCT programme
- The rights of PLHIV to health and care with dignity and respect.
- Good communication with NGOs involved in the care process to all work together as a team and not promote conflicts and hostility unnecessarily.

CHAPTER 4 DISCUSSION AND LEARNING

This section discusses the evaluation findings in light of the questions put forth in the TORs and global best practices on PPTCT and the current programmatic gaps in Pakistan. The learning from 8 years of PPTCT programme, policies and implementation is highlighted with proposed suggestions for going forward.

RELEVANCE

Evaluation question 1: to what extent were the PPTCT programme objectives in line with global and country needs on HIV?

PPTCT Programme Design and Objectives are Consistent with Global and National Priorities but Low Coverage Undermines Effectiveness

Internationally and nationally prevention of MTCT has been recognised as an essential intervention to reduce HIV incidence in the population and to eliminate new HIV infections in children. In 2010 the WHO Global Elimination of MTCT Initiative (WHO/UNICEF/UNFPA/UNAIDS, 2011) aims, *inter alia*, to reduce new paediatric HIV infections by 90% from the 2009 estimated baseline and reduce the overall, population-based HIV transmission rate (through MTCT) to <5% (<2% in the absence of breastfeeding or as measured at 6 weeks). At the global level there is now an unprecedented collaboration and political will to accomplish these goals, and many countries including Pakistan have made exceptional progress[44]. According to UNAIDS estimates, in 2013, 68% of pregnant women living with HIV in low and middle-income countries received effective ART for prevention of mother to child transmission (PMTCT), a substantial increase from 48% in 2010. However stagnation is being witnessed in the 21 priority countries (i.e. increase in only 4% from 64% coverage of ART during pregnancy to 68% between 2012 to 2013).

The Pakistan PPTCT strategy 2008 and the four Provincial AIDS Strategy documents all clearly highlight the national/provincial commitment to reduce MTCT to less than 5%. In Pakistan's low prevalence concentrated epidemic stage the PPTCT programme design has a four part approach – prevention, treatment and care, building capacity and collaborations, Using the ART centres as the central hub the PPTCT centres are nonetheless closely linked to them and to prevention interventions through community outreach (District Family Health Model) or through NGOs working with risk populations. While the PPTCT programme design and objectives are consistent and have successfully achieved the reduction in the MTCT chain to less than 5%, however its low coverage remains a major gap. Eight years into PPTCT programme implementation NACP/PACPs are still uncertain on clear strategies for increasing coverage through targeted case identification. The programme decision makers fail to understand that setting up additional centres will not solve the biggest challenge – which is low coverage and accessing those who either intentionally (structural barriers or biases) or unintentionally (i.e. unaware of their HIV status) are not accessing services.

The evaluation shows that beyond reducing the MTCT chain, the subsequent necessary actions needed such as targeted 100% HTC amongst spouses of key populations (and key populations themselves) leading to enhanced prevention, case identification and referrals efforts have been and are a weak component. Review of ART centre and PPTCT data shows that less than 30% of registered patients belong to the risk populations where the HIV epidemic is mainly focused, and of the four largest NGOs working with PWIDs, HIV testing of spouses and enrolment into care is well below 50%. Helping programme managers understand strategic planning, smart resource allocations, and targeted approach that is responsive to their provincial HIV epidemics and population targets would be useful in the coming phase to increase PPTCT effectiveness.

Evaluation question 2: to what extent were the PPTCT programme objectives consistent with the requirements of reproductive age women particularly HIV+ pregnant women?

Strengthening Family Planning Services and Responsiveness

All women, including HIV+ women have a right to choose and voluntarily plan their pregnancies. This is particularly important in the context of Pakistan where 60% of the adolescent girls/women are married before the age of 20, and who are at greater risk for pregnancy-related complications. Family planning is one of the four prongs of PPTCT (prong 2) on the prevention of the mother-to-child transmission of HIV. A key requisite of an effective PPTCT programme is

[44] Global Plan Progress Report 2014 and Pakistan Progress Report 2014

to provide responsive counselling, support and contraceptives choices to HIV+ women to meet their family planning goals, optimize health outcomes and reduce the risks of MTCT. Family planning counselling and emphasis on it (prong 2) is a major gap in the current programming. Discussions with HIV+ women and facility based PPTCT providers both affirm that this is an often neglected area because both the providers and the clients are unaware of how FP and reproductive health fits into the PPTCT approach. For example, providers summarily advise the woman/couple to adopt family planning as a rhetorical form of instruction with less than 15 minutes spent on counselling regarding FP methods, addressing queries and actually providing the opted for method[45]. There is no documentation on FP uptake in the patient charts or PPTCT centre register records, and no tracking mechanisms exists on the outcome of patient visits to FP Welfare clinics or other NGO provided FP services.

From the perspective of PPTCT programme there is need to emphasise how prong 2 fits into PPTCT, develop population based mechanisms to capture the reproductive health and family planning needs of young and more mature HIV+ women/couples in order to provide more real time information on the fertility preferences of women living with HIV and to inform PPTCT programme implementation.

Equitable Access to Ante-Natal, Safe Delivery and Other Healthcare Services

In their recent Countdown to 2015 report[46], there is reporting of significant inequities in coverage for many essential health services such as antenatal and postnatal care, childhood immunisation and family planning, whereby women from wealthier households are more likely to receive these services than those from poorer households. This pattern is particularly evident for services that require a functional health system, having information to avail resources, living in remote rural areas, having low education levels and restrictions on mobility for women.

Consequently, Pakistani women in the poorest quintile are two to three times less likely than those in the richest households to have access to, or use, these vital interventions (PDHS 2013). Data shows that pregnant adolescent girls/women in resource-constrained communities are further disadvantaged by their youth and lack of experience to navigate the health system which further disempowers them. Currently there are very limited linkages between PPTCT centres (tertiary care hospitals/DHQs) and sub-district level facilities or providers. Going forward PPTCT programme linkages must be established between tertiary/district level PPTCT centres, local CBOs and smaller MNCH facilities and health services closer to them as part of the continuum of care model. This requires capacity building and coordination efforts to decentralise PPTCT skills to the lowest levels, and the inclusion of equity considerations i.e. who is availing what services data.

While equitable access is a important component of both UNICEF and Government of Pakistan HIV programme approach, it's translation into PPTCT programme activities would require collecting data on who is accessing services and sensitising providers. At present according to verbal reporting by PPTCT providers and NGOs the lowest socio-economic group is most affected and hence availing the services but there is no reliable data or strategies for avoiding elite capture when scaling up interventions.

Rights Based Approach to HIV and PPTCT

Since the beginning of the epidemic, the protection of human rights has been an integral part of the HIV response. The high degree of stigma and discrimination associated with HIV including marginalization of those most at risk of HIV especially women has made human rights protection a necessity and a public health goal. The PPTCT programme implementation should reinforce the value of basic principles related to the dignity and agency of HIV positive women (and their families) to participate in the design and implementation of programmes, to be informed and to make informed decisions about their health and lives, to be protected from harm, and to have opportunities to seek redress and accountability for abuses.

Currently there is lack of clarity in the understanding of rights based approach vs. a "right to health". When asked about effective service provision many PPTCT implementers and providers categorise approaches to control the

[45] FP supplies except for condoms are not available at PPTCT centres except at one. Women are referred to on-site and in some cases off-site Family Welfare clinics.

[46] UNICEF and WHO 2014

spread of HIV through a more "isolationist" restrictive approach such as proposing mandatory testing, weak consent, reporting of cases, and enacting laws that criminalize HIV transmission etc. As the programme matures it is important for policy and program decision makers to put in place policies and practices that emphasize accountability and empower vulnerable and socially marginalised populations, ensure that programmes are accessible to all, of good quality, and link the knowledge gained by HIV testing to the ability of PLHIV to protect themselves and others from risks.

EFFECTIVENESS AND OUTCOMES

Evaluation question 3: was the programme able to achieve its outcomes in preventing MTCT of HIV

Highly Effective Reduction in MTCT of HIV

As a result of the PPTCT programme since 2007, perinatal and post-natal transmission of HIV accounts for 1.35% of total HIV cases (delivered and/or registered at the PPTCT centres) compared to 30%-40% without interventions. Of the 299 HIV exposed infants tested only 4 were found to be positive, and according to PPTCT centre data the uptake of PPTCT services including ART and infant testing is approximately 90%. Even with the low coverage rates, the PPTCT programme was able to avert a potential of 133 infections (40% transmission rate in 334 live births among HIV+ women) over the last 7 years.

At present 11 PPTCT centres are functional in all four provinces and providing a convenient once a day ART regimen (Lamivudine, Tenofovir and Efavirenz) to prevent mother-child transmission, and infant prophylaxis of Zidovudine. The major challenge remains the very low coverage of PPTCT programme at less than 3% (estimations are based on UNAIDS/NACP estimates of 1,700 HIV positive pregnant women in 2014) due to poor targeted case identification rates and referral into PPTCT services.

As per national guidance PPTCT centres are required to follow WHO's recommended Option B+ recommendation and start pregnant women on life-long ART, however some PPTCT centres are still following Option B, which includes mother's ART prophylaxis only during pregnancy and breast-feeding. According to verbal reporting infants are also initiated on Bactrim prophylaxis for prevention of opportunistic infections. In ART centres 60% of women and 50% of men are already on ART with plans for slowly initiating the remaining people.

Expanding the Strategic Role of NGOs

PPTCT is extremely important in Pakistan with a birth cohort of 3million deliveries per year and a nearly half-half ratio of skilled birth attendants or at home deliveries. The challenges for the PPTCT programme are two-fold- 1) Universal HIV testing of all ANC or health facility visits would be prohibitively expensive and still miss out on 50% of the population at risk. Including the fact that those that do not seek care may perhaps be more at risk of HIV (or already know of their positive status), and 2) the low yield of general population testing as seen by the FHDs data and ANC study (2008) shows a yield of <0.8% and would result in provider fatigue, burden health system quality and resources logistics. In such a scenario the role of NGOs/CBOs becomes ever important as low cost local solutions. NGOs in Pakistan are and can be further strengthened for reaching out to those most at risk, forming care and support linkages, providing HTC, and PPTCT specific services such as decisions on infant feeding options, follow-up of mothers and testing of infants (using dried blood sampling and transport).

Current gaps and challenges include the PPTCT programme linkage with a small number of NGOs, support for some activities that have only negligible impact on the case identification rates or MTCT transmission leading to suboptimal use of resources (e.g., activities targeting the general population while most at risk populations are not included). Underlying this issue is the suboptimal use of national- and programme-level data collection and sharing from NGOs to inform strategic programming including lessons learned in the last 7 years. For example, we found in most of our discussions with PPTCT programme stakeholders including NGOs a strong reluctance to learn from past weaknesses or shortcomings in project implementations. Other gaps include the lack of a clear and appropriate "long term" strategy shared between PPTCT programme management (provincial level) and the partner NGOs generally operating on a project specific approach.

Evaluation question 4: was the PPTCT programme able to help disadvantaged women especially spouses of key populations including wives of PWIDs and migrant workers in access to and utilisation of services at the PPTCT centre?

Very Low Out-Reach and Missed Opportunities by Sex Workers and PWIDs Prevention Programmes

Access to and uptake of PPTCT services is determined foremost by good case identification and availability of HIV counselling and testing services to those key populations especially their spouses. In this regard the critical link is the coverage and linkage of PPTCT with prevention programmes (i.e. SDPs). However, review of surveillance and Midterm Review documents shows major gaps that undermined the effectiveness of PPTCT programme – and needs to be addressed by the Provincial AIDS Control Programmes. For example, based on 2011 IBBS surveillance data ("Do you know where you can go if you wish to receive an HIV test and in the last 12 months?" and "In the last month, have you been given condoms?") the percentage of sex workers who answered "Yes" to both questions clearly indicates that the overall coverage for sex workers is low - for FSW= 5%, MSW= 10%, and for HSW= 20%.

For the question have you received an HIV test and result in the last 12 months - The uptake of HTC offered through community SDPs and other methods for sex workers in Pakistan is low: overall 6% among FSW, 14% among HSW and 5% among MSW reported receiving an HIV test in the past 12 months and knew their results. Looking at age breakdown there was not much difference among age cohorts in FSW (15-19: 5%; 20-24: 5.6%; 25+: 5.8%) and HSW (15-19: 10.4%; 20-24: 12.8%; 25+: 14.6%), however the rate of MSW tested 13-19 years was significantly lower than other cohorts (13-19: 2.7%; 20-24: 5.5%; 25+: 7.3 %). The results also indicate the highest rate of SW tested and knowing their results was HSWs.

The rate of SW reached with HIV prevention programming was lowest in the youngest cohorts often the most vulnerable. For MSW only 3% were reached and 5% of HSWs in the 20-24 years age group. Last reported awareness rates of service delivery programs in their area (IBBS 2011) were 13% for MSWs, 32% for HSWs and 20% for FSWs. These low numbers clearly indicate an urgent need to strengthen prevention programming and linkage with PPTCT programme prong 1 and 2.

With an estimated population of 104,000 PWIDs nationwide and recognised as the main drivers of the HIV epidemic the importance of reaching at least 85% coverage of prevention programmes and HTC for them and their spouses is of utmost urgency. Since drugs for OST[47] have not been initiated in the country therefore all HIV+ PWIDs have to undergo detoxification before being eligible for ART. This is posing a challenge since relapse rates are very high in this population leading to loss of follow up, ART resistance rates, and on-going transmission to their wives.

Review of national and provincial Midterm review documents show concerning gaps in all the provinces in the levels of coverage (maximum in Punjab at 28%), poor quality of detoxification programmes, and very low HTC in spouses (less than 20% testing rates except for small pilot interventions). IBBS 2011 data shows that but only 33% knew of a place where they could be tested for HIV and only 7% % had received an HIV test in the past 12 months and knew their status.

In addition, the mixed piecemeal funding support for PWIDs through Global Fund grant, UNODC, US Embassy, provincial governments, UNHCR and ANF with their guiding mandates are all adding to the service delivery inefficiencies and poor coordination between various partners and components of the service delivery and access to care for PWIDs and their spouses/children remains compromised.

Evaluation question 5: were the PPTCT programme objectives and modalities of implementation relevant and responsive towards different problems and reproductive health needs of young women?

Evaluation question 6: what other methodologies and strategies were missed which if used would have helped reach more women and achieve higher MTCT of HIV.

PPTCT Package of Services – Counselling, Testing, ART, Safe Delivery and Infant Prophylaxis

[47] Opiod Substitution Treatment

It is encouraging to observe that the PPTCT package of services are being provided as a joint collaboration between NACP/PACPs, UNICEF and other partners including GFATM, USAID, UNAIDS, and WHO. Nearly 50+ NGOs/CBOs along with the Association of PLHIV form the civil society component and are actively engaged in service provision, advocacy, awareness raising and monitoring of the services along the continuum of care to eliminate MTCT of HIV and reduce AIDS related maternal deaths by 50% in Pakistan. The focus of the PPTCT programme has been mainly prong 3 and 4 and to this end 411 women have received PPTCT services (2007-2015) and of 299 infants tested only 4 (1.35%) were HIV+. The FHDs (2012-2014) have tested 4967 men and women and linked 28 HIV+ women into PPTCT/ART centres, 771 LHWs have been trained on HIV awareness and risk screening tool, and 144 health providers in rural districts are equipped with basic HIV knowledge and referral skills.

ART centres are slowly focusing on using ART as a prevention strategy in sero-discordant couples (i.e. preventing sero-conversion in wives since mostly men are positive and their wives are HIV negative). A pilot (TasP2014) was initiated in 88 couples receiving care at the ART HMC Peshawar to test the efficacy of ART in reducing transmission. Till date all 88 sero-discordant spouses are HIV negative. However, much work remains in transitioning nearly 5500 men and women currently registered but yet not on ART to lifelong treatment. Issues of patient disclosure, ART compliance, readiness, and resistance are likely to crop up as the ART experience grows and a greater number of people are initiated. At the PACP level the emerging challenges facing both the PPTCT and ART services are the cost burden and health system capacity to address the number of newly infected cases (due to weak prevention programmes) that continue to outstrip the current demand for treatment and care services.

Counselling at all stages of the PPTCT process seems ad hoc, lacking evidence-based protocols or need responsive and interactive with the evolving needs of women/couples. For example, the counselling needs of a first time pregnant HIV positive woman will vary as the pregnancy progresses and from pregnancy to pregnancy. Currently many of the counselling activities by counsellors and PPTCT providers are undocumented and according to women/couples not actively engaging beneficiary feedback and participation. There are many opportunities that the PPTCT programme might consider linking with, leveraging or supporting to improve counselling and capacity development in PPTCT centres. These include updating of counselling guidelines and protocols, a greater role and presence of NGOs/peer counsellors in PPTCT centres, and a wider engagement of community level participation through Association of PLHIV or other representative civil society forums. PLHIV should have the leadership role both in implementation of these approaches to support PPTCT, ART adherence and retention, as well as in developing and refining approaches by which lay cadres and support groups can be used more effectively.

A real concern for PPTCT programme is inadequate documentation which can seriously jeopardises accurate estimations of gains and the process (results) level shortcomings. For example, verbal reporting of infant prophylaxis with Zidovudine and Bactrim is stated to be well over 90%. However, internal inconsistencies are present between PPTCT data and assessment of patients' charts and/or registers in all 8 PPTCT centres reviewed. Many of the reporting formats have duplication of numbers and missed information.

The PPTCT programme has contributed significantly to reducing HIV stigma and discrimination in MNCH settings in large and mid-size public sector teaching hospitals. PPTCT centres are located in busy out-patient ANC settings and the NACP/PACPs have actively encouraged engagement of hospital administration and Ob-GYN doctors in HIV awareness sessions, PPTCT trainings, and strategies to support rights based approaches for HIV positive women and their families. While stigma and discrimination have not been completely eradicated according to NGOs working with positive people the number of discriminatory incidences and barriers to seeking care are certainly lower compared to the early years of the PPTCT programme initiation.

Clarity on Infant Feeding and Lessons

Breastfeeding provides complete nutrition for 6 months and a significant proportion of nutrition until 1 year. Well recognised immunological factors present in breast milk provide immunity against infections for infants and is the recommended mode of infant feeding in developing countries where unsafe drinking water, unsuitable formula preparation and risks of diarrheal illnesses can significantly increase infant morbidity and mortality (WHO 2013). WHO and UNICEF state that: "When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV infected mothers is recommended. Otherwise exclusive breastfeeding is recommended for the first 6 months of life followed by early breastfeeding cessation by six months.

Pakistan's Breast Feeding and Infant feeding guidelines recommend breast feeding with complementary solid food until 12 months of age. However, this creates confusion between what WHO recommends for HIV+ women and what is being proposed nationally for non-HIV positive women. Clarity on the breastfeeding message including duration and cessation through counselling at the facilities as well as NGOs needs to have a unified message. Substantial number of studies in India (2002 NACO) and Sub-Saharan Africa show higher morbidity among infants of HIV-positive mothers who did not breast feed as compared to infants of HIV-positive mothers who breastfed, and highest rates of transmission were seen in infants receiving mixed feeding.

Certain important messages need to be included while counselling HIV-positive mothers regarding their infants. These include advocating exclusive breastfeeding while strongly discouraging mixed breastfeeding. Counselling should include breast care and hygiene, helping mothers understand that they need to seek medical help promptly for breast problems, and an emphasis on rapid weaning and practicing safer sex, especially during breastfeeding.

NGOs highlighted that in some households mothers have little say within their homes and families hence selective placement or linkage with a companion or "mother's helper" to support the mother in her decision to exclusively breastfeed would be useful.

Additional learning from Pakistan's PPTCT experience would be to develop a prospective database of locally feasible feeding choices for HIV-positive mothers, including biological factors, transmission rates, and economic, social and behavioural factors affecting feeding. In addition, iterative discussions with HIV-positive mothers and couples to make a choice about feeding and continue with it, not revert to mixed feeing because of pressures at home or within the family are needed. "Mother helpers" might include the HIV-positive mother's own mother, mother-in-law, sister-in-law or even the husband – depending on the disclosure status and family comfort level. These "mother helpers" need to be counselled as well. Counselling has to especially address the issue of stigma and pressure to mix feed due to low milk production, harmful milk from HIV+ women, and transmission risks. Furthermore amongst all care providers the message should be consistent – which at this time is missing.

Delayed Infant Testing and Diagnosis

WHO recommends that children exposed to HIV be tested within 4-6 weeks of birth so that those babies who have peri-natal HIV infection can be started on treatment immediately. This is in part, because evidence shows that babies who are infected in-utero or during the intrapartum period have worse survival prognosis; the earlier they are identified and placed on therapy, the better their clinical outcomes. Infants less than18 months still have maternal HIV antibodies and can only be tested through a HIV VL PCR test (i.e. virological testing).

In Pakistan free HIV VL PCR (funded through the NACP/PACP) is done in only in three selected public sector central laboratories such as PIMS (Islamabad), Civil Hospital (Karachi), and Jinnah Hospital (Lahore), At one time Shaukat Khanum Hospital (private sector, Lahore) was also providing free HIV PCR to cases referred from PACP Punjab. However, Pakistan has yet not adopted the systems to perform HIV VL PCR test on dried blood specimens (DBS). So at present the mother-baby pair have to physically come to the PPTCT centre where blood is collected in a test tube and transported for testing. This has led to considerable delays in early infant testing and diagnosis since many mothers-baby pairs do not visit the PPTCT centre in time, there are delays in reporting of test results (3-4 weeks), and in some centres the expertise to safely package and transport the samples (i.e. sample transport network) is not present and/or costs are not covered by the PPTCT programme. Existing PPTCT records do not clearly depict the percentage of infants who were tested at 4-6 weeks versus those that were tested at 12-18months (at the cessation of breastfeeding) – this potentially creates a bottleneck in early initiation of paediatric ART and poor infant survival outcomes for those infants that are HIV-positive.

WHO is currently exploring the options for HIV VL PCR at birth and point of care devices that will enable easier access to testing for infants. In the meanwhile the PPTCT programme Pakistan would be better served to look into the strategic and resource availability for inducting DBS.

Measuring and Following Retention in Care

Retention in care as defined by four stages of retention in the continuum of care starting from a positive HIV test to enrolment in care, enrolment in care to ART/PPTCT services, from care to initiation of ART, and finally continuation

of lifelong ART are important for successful prevention of MTCT of HIV and PPTCT programme. Retention is critical to reduce HIV-related morbidity and mortality in women and their infants, and prevent incidence of new infections and reduce development of ART resistance. Retention in care is often tracked at the facility level by "lost to follow up cases" (i.e. the number or percentage of patients no longer retained in care) and could be a combination of patient side or service delivery side issues.

According to global evidence the highest rate (up to 80%) of loss to follow up (LTFU) occurs between HIV diagnosis and initiation of ART[48]. Based on discussions and anecdotal evidence there are many causes of LTFU in Pakistan along the continuum of care, including stigma (actual or perceived) in the community and from healthcare providers, incurred patient costs (transportation, loss of income, testing), service delivery factors (distance to health facilities, health facility timings, poor linkage between services, lack of or poor patient tracking systems, poor integration, stock-outs) patient factors and traditional beliefs (limited perception of treatment demands, denial, alternative health beliefs, lack of disclosure to partner/family), and most importantly a centralised PPTCT healthcare systems (PPTCT services are available in only 11 facilities).

Risk factors for LTFU amongst special populations such as sex workers and PWIDs are often more complex and reflect the greater vulnerability and multifaceted health and social needs of these key populations. While inclusive to all the PPTCT package of services and the PPTCT programme design are more geared to general population needs. For example, sex workers and PWIDs may feel ostracised and discriminated or perceive a lack of privacy if they seek services through public sector PPTCT or ART centres.

Currently there are major challenges in the monitoring and evaluation of programmes at patient and health system delivery levels to assess coverage, retention and to allow PPTCT programme to identify province specific problems with retention and address these effectively.

Ensuring Equitable Access to Services

In the current setting increasing coverage via recognised/knowledge of HIV status and targeted outreach is a challenging problem. But the broader issue as the number of cases expands is to ensure that this access is increased equitably and reaches the women who need it most. If improved access only occurs in urban areas, or in beneficiaries of NGOs, rapid and sustained reduction in new HIV infections amongst infants will not be achieved. Structural barriers to access are a serious issue in rural areas where health services and perception of risks particularly among women are limited.

In Pakistan, accessing some communities and populations are difficult and geographic distance and high transport costs pose real challenges to equitable access to PPTCT services. Inaccessible rural populations which are generally disadvantaged in terms of skilled birth attendants and other health services including institutional deliveries will need to be especially targeted in the next phase of PPTCT services. These areas are also often overlooked in data collection and reporting, and yet must form the evidence base for decisions on what programmes governments pursue and where they should be located. Underrepresentation of disadvantaged and marginalised populations in reporting sustains this disadvantage, as policy makers do not have the full picture of the epidemic and make policy decisions based on partial or biased information. Key examples of such instances were in Uganda's and India's early experience of the epidemic. Initial HIV prevalence data was based on results from only a handful of ante-natal clinics in Kampala and large urban states in India, resulting in an extremely high estimate of HIV prevalence, and a limited understanding of how to approach the epidemic[49]. The numbers and the characterisation of the epidemic changed dramatically over the years as more representative national surveys including Integrated Behavioural and Biological Surveillance data was collected to inform decision making.

For HIV programme managers (NACP and PACPs) the key challenge to ensuring equitable access are having good facility and community level information collection mechanisms in place to understand who needs treatment and where, and who is receiving these services.

[48] Rosen S et al. Retention in Care between HIV Testing and Treatment a Systematic Review in Sub-Saharan Africa. PLOS Med 2011

[49] Parhurst 2002 and Blanchard 2004

EFFICIENCY

Evaluation question 7: to what extent were the inputs/resources used by the programme converted into results i.e. prevention of MTCT
Evaluation 8: what were the costs of averting one MTCT through this programme? What other methods if employed could have reached the same results at a lesser cost.
Evaluation 9: were the benefits of the PPTCT programme equitably availed by women in different socio-economic group.

Cost Effectiveness of PPTCT in Pakistan

The central question for policy makers when planning prevention of MTCT of HIV in countries with a concentrated epidemic and low prevalence in the general population is not whether such interventions should be offered but rather how best to offer them and what is the relative value to other competing interventions to improve population health. Hence a proper cost-effectiveness exercise will need to look at

1. Which PPTCT strategies are the best in a given local context?
2. How coverage of PPTCT interventions can be improved
3. When evaluating cost effectiveness of PPTCT programmes can we evaluate all 4 prongs instead of focusing on prong 3
4. How best can PPTCT services be organised and delivered to strengthen MCH services and improve the lives of women and children.

The current cost-effectiveness analysis is mainly focused on prong 3 and compares 2 PPTCT models i.e. facility and community based (FHDs) testing model to see which is more cost-effective in terms of HIV infections averted in infants and QALY for the woman, with no interventions. According to WHO, a health intervention in a developing country can be considered cost effective if it costs less than 3 times the GDP per capita[50].The GDP per capita of Pakistan is $ 1275 so any intervention costing less than $ 3825 would be considered cost-effective. We found that facility-based testing and case identification and PPTCT service package (Model 1) costs $ 2509 to avert one HIV infection in an infant and to gain 5 QALYs for the woman. In the FHD community based testing and case identification (Model 2) the costs are $4481 for averting one HIV infection in an infant and gain in 5QALYs for the woman. For better relative value additional comparison with a highly targeted risk population testing model would be useful in planning how best to organise and increase coverage of PPTCT programme for maximum yield.

In the current scenario's the low yield of both facility and community based testing (approximately <0.8%) and the high number of people needed to test to identify one HIV positive case – all drive up the costs of the PPTCT programme without additional benefit in terms of lives saved. Evidence from small pilots and discussions with NGOs shows that the yield can be 5%-10% in key populations with substantially lower case identification costs.

There are several caveats in the models and cost-effectiveness assumptions that should be considered 1) ANC and facility based deliveries are less than 50% in Pakistan, 2) the poorest and rural populations may be less likely to seek MCH services, 3) costs and benefits of linked service integration models at different levels (for example health care worker can be trained to provide multiple HIV services – to maximize each patient care opportunity) may substantially reduce the costs of PPTCT services and increase yield.

SUSTAINABILITY

Evaluation question 10: how far and in which way will the programme benefits be able to continue after culmination of UNICEF support? Will the government be able to continue and sustain the benefits of this programme for vulnerable populations particularly women without UNICEF support?

Ownership and Going Forward

[50] WHO. Cost Effectiveness Thresholds. 2011.

The commitment of the government i.e. NACP and PACPs to sustainability of the PPTCT programme is moderately strong. In Punjab and Khyber Pakhtunkhwa, and perhaps to a lesser extent in Sindh and Balochistan, the respective Health Departments have taken ownership in principle to support the continuation and in many cases expansion of PPTCT centres to newer districts via PC 1 – 5 in Punjab, 7 in Sindh, 3 in Balochistan, and 5 in KPK. Despite these commitments confirmed budget support (except for 1 province) for the required level of staffing and key activities are still not guaranteed at this time.

Discontinuation of UNICEF funding by March 2016, is likely going to affect PPTCT centre functions since in some centres PPTCT coordinators are receiving direct salary support or honorariums, and bulk of the FHD costs including travel/daily allowances are currently borne by UNICEF. This may be the right time for national and provincial government decision makers to critically review the best strategies for integration of PPTCT services into MCH and re-visit the cost effectiveness of isolated FHDs in impacting the HIV prevention efforts.

Provincial AIDS Control programmes can also use this opportunity to advocacy to Health Departments for mobilisation of internal government resources including pragmatic reallocation of additional resources (including creating fiscal space) to secure sustainable financing for implementing PPTCT and HIV care efforts. For this PACPs will have to show that their HIV and PPTCT activities are cost-effective, performance based, and good value for money invested compared to other public health interventions.

CHAPTER 5 RECOMMENDATIONS

SUMMARY OVERVIEW

The evaluation team reached the following conclusions and recommendations from analysis of the PPTCT data, discussions with stakeholders and triangulations of PPTCT data with field visits to PPTCT centres. The recommendations were shared with the RG for their inputs and feedback. Many of these conclusions (shown below) cut across the evaluation questions. For ease of reference, the conclusions are grouped under themes followed by the recommendations presented in the Table 9 below.

Conclusion and Results of Pakistan's PPTCT Programme

☐ Pakistan remains a concentrated HIV epidemic country and the appropriate and timely intervention of the HIV treatment and care programme along with the PPTCT component, over the last 8 years, have helped reduce the number of new infections in infants. By early initiation of ART in nearly 6000 men and women, the programme has been able to reduce HIV transmission in sero-discordant (i.e. husband positive) couples and from infected mothers to their infants. The UNICEF supported PPTCT programme has played a significant role in this leading this response.

☐ UNICEF's relatively modest resources (approximately $ 464,000 - $600,000 over 8 years) and technical contributions to the PPTCT programme, compared with total HIV funding for the country, provided the impetus for establishing 11 PPTCT centres, developed a cadre of trained PPTCT providers and created crucial linkages of PLHIV with the broader MCH programme than the proportion of its funding would suggest. Despite low coverage, PPTCT has met the national target of reducing MTCT of HIV to less than 2%, raised awareness and strengthened institutional infection control practices, created general population awareness of HIV and somewhat improved the quality of care.

The Effectiveness of the PPTCT Programme

☐ Overall, PPTCT centres have become well established and have increased PLHIV access to and use of key PPTCT services. Many activities meet globally accepted best practices, and the application of innovations along the way have somewhat helped address barriers to care seeking or lessons learned during 8 years of implementation. A programme supported risk assessment tool has been tested in other regional countries to increase yield of HTC.

☐ Although programme activities and interventions are, on the whole, implemented well and of moderate quality, the programme continues to be undermined by low case identification (HTC), spousal testing, referrals and sub-optimal linkages with NGOs working with risk populations. Gaps in reaching women most in need through targeted activities results in programme uptake and coverage to <5% of all eligible women- and that has undermined the overall impact of the PPTCT programme.

☐ PPTCT functioning would be improved with standardization of some practices. These include counseling, availability of family planning information and supplies on site, clarity on breastfeeding, and strengthened roles for trained PLHIV counsellors or as case managers within PPTCT centres. Currently there is a hierarchal system of care delivery in which HIV+ women/couples are passive recipients of care with little participation in the decision making processes.

☐ Several factors affect programme performance but are constrained by funding and weak documentation. These include the long terms staff vacancies of counsellors, case managers and/or PPTCT coordinators in many centres, absence of routine data review to assess changes and inform results of programme interventions. For example, resource utilisation would be of higher impact if FHDs Union Councils were selected based on preliminary evidence of risks i.e. feedback from NGOs, LHWs, Blood Banks or local VCTs etc.

Sustainability of the PPTCT Programme

☐ There is a unanimous agreement between all the stakeholders that PPTCT is a national and provincial priority need. However, stakeholders differ on the mechanisms of sustainability. Strategic considerations and options are present for decentralization of some services as feasible to general health facilities and mainstreaming PPTCT more widely into MCH programming while at the same time recognizing unique needs of risk populations and PLHIV and strengthening the complementary role played by civil society partners/NGOs/CBOs.

☐ Ongoing funding constraints and limited resources in HIV budgets are a good opportunity for the provincial and national programmes to reassess how the PPTCT programme needs to revised in the light of 8 years of implementation lessons. Areas of particular focus should include increased beneficiary ownership through participation and delivery of programme activities (i.e. employment of PLHIV through HIV programme or community level activities), cost efficiency of service provision, and integrating services to reduce missed opportunities in identification of positive cases and accessing care.

Table 9: Recommendations

Recommendations
1. **PPTCT Strategic Direction and Policy**
1.1 Decentralisation and Integration of PPTCT versus New PPTCT Centres Pakistan has a concentrated HIV epidemic with many competing public health challenges such as high infant and maternal mortality rates, high prevalence of Hepatitis B/C, endemic maternal and child malnutrition, and low institutional skilled deliveries. In this scenario limited resources have to be utilised wisely to provide maximum impact on the health of populations and well being. Pakistan's health spending is less than 2% of GDP or $ 18 per person/year. WHO recommends an optimal of $ 35 per person/year. In this backdrop, HIV and PPTCT prevention and care services have to be "highly targeted" to key populations and areas where people most at risk for HIV (and spouses) are likely to be present and access them. In order to control the HIV epidemic and prevent a greater number of new mother-baby infections, the emphasis should be on integration of PPTCT skills and services in outreach and service delivery programmes for PWIDs, SWs and other bridging populations rather than the general population. Simultaneously health providers including a wider cadre of Ob-GYN doctors should be trained and made aware of PPTCT across all provinces (districts) as part of the routine MCH service package. This can also be a joint opportunity to strengthen infection control practices since healthcare staff are more likely to be exposed (and spread to other patients) to Hepatitis versus HIV in their practices. Decentralisation of risk assessment and case identification (along with referral links to HTC or on-site HIV rapid testing kits) to 1st and 2nd level healthcare facilities and outreach should be part of the medical care package – rather than just FHDs or specific point of care testing in order to reduce high costs and increase local ownership in delivering care services.
1.2 Improve Efficiency of PPTCT Services Due to low numbers and fixed costs of setting up PPTCT centres, the cost of PPTCT service package is on average $ 1,130 per woman served ($715 - $2,853). This is well above the costs of other concentrated epidemic countries such as Viet Nam, Nepal, Bangladesh and India. Once again targeting resources and using evidence-based tracking such as which districts/union councils cases are coming from, surveillance estimates, ensuring >80% (universal testing) in ART centres, and risk populations would ensure that scarce resources are used most efficiently. Of all the eligible population (i.e. 94,000) less than 6,000 (6.3%) are on ART, and amongst them nearly 60% spouses (mostly women) have yet not been tested for HIV. The current yield of general population testing even with the risk assessment tool is only 0.8% and is not a cost-effective approach when less than 20% of the risk populations have received HTC in the last one year. Operational research should be undertaken on the cost effectiveness of different PPTCT activities and between existing models of service delivery by NGOs, PLHIV, and CHBCs to improve service efficiency.
1.3 Revision of the Risk Assessment Tool The current Risk Assessment Tool is too broad and needs to be revised through operational research. The revised version can then be field tested in different population categories for enhancing sensitivity and yield. It may be possible that specific provincial or population-based risk assessment tool modifications may be needed. Inclusion of PLHIV, NGOs and research experts would be helpful to revise the current tool.
1.4 Case Reporting Mechanisms Some countries are now collecting /piloting confidential name-based case reports of HIV infection through a passive and active HIV/AIDS surveillance system. It may be worthwhile for Pakistan to further refine its passive surveillance

methodology to newer methods. For example, the US CDC recommends laboratory-confirmed infections of HIV are monitored by respective Health Departments through this active and passive surveillance system. Additionally, regular contact is maintained with the identified public and private clinical sites to help ensure completeness of reporting (active surveillance): and Demographic, exposure, and clinical data are collected on each case[51] and entered into a central database developed by the U.S. Centers for Disease Control and Prevention (CDC).

Factors that impact the completeness and accuracy of HIV/AIDS surveillance data include: compliance with case reporting, timeliness of case reporting, test-seeking behaviors of HIV-infected individuals, and the availability and targeting of HIV testing services. This helps in identifying the disease trends and targeting services more efficiently over long periods of time.

2. PPTCT Centre Performance and Functions

2.1 Improve Quality of Counselling Tools and Guide

Counselling protocols should be developed consistent with standard guidelines by each PPTCT centre according to their specific population needs and language convenience. These protocols should take into account evolving needs of women, subsequent pregnancies, topics of interest, family planning, reproductive health, infant feeding, safe sex, counselling for men. The suggestion to make counselling videos on different messages and sharing counselling tools with NGOs and PPTCT centres for consistent and clear messages would be helpful and can be done in collaboration with the PLHIV association and qualified counsellors.

Counselling is a process and documentation of the sessions/learning objectives and results achieved would be helpful in understanding the progress being made (or missed). PPTCT centres can work together with ART centres, PLHIV Association, NGOs, and PLHIV to identify need responsive counselling content and modalities. Much of this material is already available in some centres/NGOs resources and is not being adequately used.

2.2 Compliance with Chart Documentation

Fortunately the numbers of PPTCT clients are fairly low and PPTCT programme in collaboration with individual centres can easily develop a simpler, user friendly patient information forms (maximum 2 pages with check boxes) with all relevant PPTCT information listed. All PPTCT centres should as a matter of routine maintain patient charts as part of their records.

Currently some centres are using PPTCT registers, patient cards or patient files, and information is dispersed in multiple sources and often missing. Streamlining the documentation process at this stage would be helpful in improving the quality of care as well as monitoring purposes, and preparing for future increases in patient case loads.

2.3 Patient Appointment and Follow Up Mechanisms

In efforts to improve quality of care and coverage, it is important to consider retention along the whole continuum of care. PPTCT centre case managers and counsellors need to be more actively involved in NGOs working with key populations, PLHIV and ART centres to increase access and linkage to PPTCT services.

This requires having an active patient tracking system to follow up on appointments, referral or testing outcomes, monitor on linkages with other services, and trace lost to follow ups. The current informal or passive system of "remembering" when patients are expected to visit or waiting for patients to show up (in some centres) weeks later, is not suitably equipped to handle a growing number of cases or identify reasons and stages where loss to follow up/attrition is occurring. Both in-clinic and outreach has to be strengthened through working with local NGOs/CBOs and for PPTCT staff through using technology and computer generated self-reminders.

2.4 Enable Easy Access to Infant Testing

It is critical that diagnosis of HIV infection in HIV exposed infants be conducted at the earliest possible <6 weeks of age so that if needed ART regimen can be initiated without delay. Delays in treatment or no treatment will lead to high mortality in HIV-infected (yet undiagnosed infants) by 2 years of age.

All PPTCT centers that do not have HIV PCR capacity should consider options of using DBS, developing transport networks and linkages with local CBOs/NGOs to ensure that patient-related distance and cost issues do not delay infant diagnosis to 18-24 months. PPTCT centres should not wait for mother-baby visits as the only opportunity for conducting the test.

[51] CDC has refined the case definition for AIDS over the years. The most recent change to the case definition occurred in 1993 when (in conjunction with confirmed HIV infection) tuberculosis, recurring pneumonia, invasive cervical cancer, or a CD4 count of less than 200 (or below 14% of lymphocytes) joined 23 other AIDS-defining infections/conditions.

3. Clinical Competence and Quality of Care

3.1 Good Clinical Competence but Gaps Prong 2 and a Holistic Approach to PPTCT

PPTCT providers are very well versed in delivery of Prong 3 components but are relatively weaker in knowledge of counselling for family planning, EID, empathy building and recognising stigma. Based on our findings we recommend that PPTCT trainings for different level of care providers (doctors, counsellors, case managers, paramedical staff etc) should be broader to include both clinical as well prong 1, 2 and 4 competencies as appropriate.

Trainings/refreshers should be routinely conducted as with PPTCT and non-PPTCT staff as turnover rates are high, and evaluated for learning in key areas of interest on regular yearly intervals to motivate self-learning. Staff should be encouraged (non-monetary incentives) to increase their learning and knowledge of HIV care delivery.

4. Case Identification and HTC

4.1 Strategies and Funding to Increase Outreach and Targeted HTC of Risk Populations

The on-going IBBS Round 2015 will provide good mapping and estimates of risk populations, HIV prevalence and incidence extrapolations, and HTC trends comparison from 2011. This will help guide targeted testing through SDPs, NGO initiatives and other prisoners, bridging population efforts to strategically place services where most needed. The last IBBS 2011 showed HTC less than 20% among the key populations.

Provincial programmes must now ensure (i.e. hold accountable) that going forward SDPs are providing at least 80% testing and linkage to PPTCT/ART services – and this should be a measured performance KPIs of implementing partner organisations (results based payment system arrangement). Activity responsive funding as per standard costing exercise as done in the NSP should be followed and enforced to make sure that the services are efficient and give value for money.

4.2 Strategies for Health Facility Based Testing and Referrals

Referrals from TB, STI, dermatology and other non-ART centre clinics have increased. However, their numbers account for less than 1% of the PPTCT users. Many health providers in these clinics are not aware of the HIV Risk Assessment Tool (ART centre staff), and creating awareness amongst them can potentially increase the number of case referrals or identify those most at risk through a higher level of suspicion (i.e. multiple STIs, resistant to treatment STIs, failure to thrive, unexplained weight loss, candiadiasis etc).

Operational research would be needed to pilot and test out the feasibility of such an approach in targeted health facility clinics in priority districts.

5. Role of PLHIV and Civil Society

Government and NACP/PACPs cannot provide all the critical services along the continuum of care. Engaging NGOs and greater involvement of PLHIV is extremely important so that all partners feel engaged - from design, implementation and to feedback and improvement to make the activities and services more responsive to real needs.

As the PPTCT programme expands and new HIV+ women enter into care services, there is a danger that current "PPTCT facility centred" systems will become overstretched, possibly compromising quality. There is an urgent need now to develop community systems and engage PLHIV workers to support, among other things, retention in care. Innovative methods of providing HIV care support will be needed to generate, motivate and maintain this community involvement.

There are many good models and best practices of CHBC including Pakistan's own experience of the last 5 years that can be used for developing context-specific engagement with other community support structures.

6. Monitoring and Data Use for Decision Making

Monitoring of PPTCT programme in terms of results (outputs and outcomes) is one of the weakest areas throughout the provinces. Several key issues need to be addressed from the key data being collected to *how and who will be reviewing it*, and strategies for using this information into decision making. Additionally better coordination of strategic information through linking PPTCT and ART data in terms of couples and users of services, referrals from SDPs working with risk populations, preferably using some of the same indicators, streamlining reporting between GFATM and non-GFATM targets for a comprehensive picture on what are the coverage levels, where there is duplication of reporting, and what is being missed.

The upcoming IBBS 2015 will help establish denominators for key populations to better monitor how PPTCT programme is reaching out in terms of Prong 1 coverage. However for migrant workers – better data reporting and couple linkages will assist in increasing spousal tracing, LTFU, and coverage of services.

Finally while provincial autonomy is foremost, the PPTCT programme will need to compile a holistic national picture with strategic information from all provinces. This would require building agreement on coherent indicators of process, outputs and outcomes along with data aggregation, research focus, and piloting of innovative strategies to gauge the overall efficacy and outcomes of the PPTCT program in Pakistan.

Operational Research there should we annual operational research plans to look at the effects and outcomes of interventions, behavioural research to see changes and needs of different populations, and the research findings need to disseminated and incorporated for programme adjustments.

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ANNEX 1: TERMS OF REFERENCE

1. Programme Background

Since the reporting of first HIV case in 1987, the HIV epidemic in Pakistan has steadily established itself among the Key Populations; results[52] of the last round of HIV surveillance conducted in 2011 confirmed rising prevalence of HIV among, People Who Inject Drugs (27.2%), transgender (Hijra) population (5.2%) and to a lesser extent among male sex workers (1.6%) and female sex workers (0.6%). In 2008, however, localized epidemics with varying transmission dynamics were observed where a substantial number of HIV infections occurred among the general population and preliminary findings indicated that the risk factors included an overlap between unsafe therapeutic injection by health practitioners, sexual risk behaviour and migration. Other groups now emerging with increasing prevalence include men working abroad and jail inmates, while evidence from data from PPTCT centers suggests that women in Pakistan are mostly acquiring HIV infection from their husbands. Thus HIV is now visible from marginalized populations like PWID and transgenders to general population sub groups or vulnerable populations like men working abroad and their wives and wives of People Who Inject Drugs (PWID).

At the end of 2013 according to UNAIDS/WHO estimates, there were approximately 68,000 people living with HIV and almost half of them were estimated to be women. Pakistan launched its Prevention of Parent to Child Transmission (PPTCT) Programme in 2007. First PPTCT center was established at PIMS Hospital, Islamabad by NACP with UNICEF support, through a MoU (attached) between UNICEF, NACP and PIMS, the purpose of which to establish Pakistan's first PPTCT center in MCH setting at PIMS. Subsequently, the programme was scaled up in all provinces, at present there are 11 PPTCT centers across the country (1 in KP, 2 in Sindh, 1 in Balochistan, and 7 in Punjab). There was no other project document, e.g., Logframeetc, developed for this programme

The objective of the PPTCT programme is to provide prevention of parent to child transmission services to couples in which either or both partners are HIV positive. UNICEF is a partner of the National and Provincial AIDS Control Programmes(N/PACPs) for elimination of mother to child transmission of HIV in the country. In 2013, the number of HIV positive pregnant women, who received PPTCT services (ARVs for prevention of vertical transmission of HIV), was 126 against an estimate of 1,500, who were actually in need of PPTCT services in 2013, which shows low uptake of PPTCT services.

Identification of families affected by HIV and AIDS is the biggest barrier to ensuring the survival of children and their parents. While the estimated number of persons of reproductive age living with HIV was 68,000 at the end of 2013, only about 8,000 were registered with the Government HIV facilities and approximately 3,500 were on AIDS treatment by December 2013. Through treatment center data we know that returned overseas migrants and their families are of the worst affected. We also know that catching women earlier in their disease progression will limit the chances of transmission to their babies, and that over 50% of HIV infected babies will die before they reach 2 years of age if not diagnosed early and put on treatment.

After an assessment of the PPTCT programme in 2009, which found that not enough HIV positive pregnant women were being identified and linked to PPTCT services, a district model approach was introduced in 2010, which promoted outreach approach through programmatic linkages with LHW programme.

2. District Model Approach: Preventing Transmission in Infants through Caring for Affected Families

The District Model Approach was piloted comprehensively in 5 districts of Punjab by the Punjab AIDS Control Programme and one district (Larkana) in Sindh. As Pakistan faced a concentrated HIV epidemic, districts with sizeable population of PWID which also had a concentrated epidemic, or a higher than average number of reported PLHIV (with multiple or concurrent risk behaviours) were selected for this approach.

3. The District Model Approach had following objectives:

The methodology adopted by the District Model Approach was, outreach by Lady Health Workers, organization of Family Health Days and referral/linkage to PPTCT centres. It aimed to build capacity of District Headquarter Hospitals (DHQH) or Tertiary Care Hospitals to identify and refer suspected HIV positive cases from Urology, Dermatology, TB and Paediatrics and to provide Prevention of Parent to Child Transmission (PPTCT) services.

Identify female spouses at risk through men registered in the Government HIV treatment and care centers (2009 NACP data showed that only 40% of wives had been tested).

Identify women at risk for HIV in districts with a concentration of HIV positive persons, through public outreach cadres of Lady Health Workers (LHW) through screening by applying a standardized risk criteria in districts with a sizeable population of PWID through NGOs serving PWID.

Refer women meeting risk criteria either directly to NGOs, HIV treatment and care centers or "Family health Outreach" at selected hospital in each district where women were given iron and vitamin supplements and were offered HIV testing and counseling.

Ensure HIV exposed children were tested for HIV and offered paediatric AIDS care if HIV positive; and families affected by HIV and AIDS were linked to community home based care (CHBC) and other support services.

Despite all efforts to mobilize women through LHW outreach in selected districts the programme has not been able to reach HIV positive pregnant women in substantial numbers, therefore, the coverage/uptake of PPTCT services is much below the desired level (in 2013 only 8.4% of the estimated HIV positive pregnant women received PPTCT services, while in 2014 this coverage was 3.6%).

[52] HIV 2nd Generation Surveillance (IBBS) in Pakistan – National Report Round IV 2011.

4. Theory of Change

PPTCT centers were established at selected hospitals (in high burden districts) to respond to respond to at least three prongs of the PPTCT National Strategic Framework, namely; (i) Increasing HIV prevention and general awareness among women and men, (ii) preventing unwanted pregnancies in HIV positive women, and (iii) preventing HIV transmission from HIV positive mother to her infant (PMTCT). District model approach was introduced in Punjab and Sindh (in selected districts) with the aforementioned objectives. Through the training of LHWs on HIV/AIDS prevention and application of standardized risk criteria on women of child bearing age, it was expected that HIV positive women will be screened, identified and linked to PPTCT services. In addition it was expected that with capacity building of DHQH staff, increasing HIV positive pregnant women will be referred to PPTCT centres, thus increasing the coverage and uptake of prevention of parent to child transmission of HIV services and contributing to elimination of mother to child transmission of HIV.

5. Evaluation Purpose

The purpose of this assignment is to evaluate the country's PPTCT programme, especially the district model approach, and determine the extent to which the programme has been able to reach HIV positive women in need of PPTCT services; and identify major bottlenecks.

The evaluation findings will be shared with the Government to help improve programme efficiency and enhancing equity in future.

6. Objectives

- To assess the effectiveness, efficiency and sustainability of the PPTCT programme
- Evaluate the efficacy of the HIV screening criteria/tool (of district model).
- Once identified and linked with PPTCT services, assess whether the HIV positive pregnant women are retained and deliver at designated ANC clinics following the PPTCT protocols.
- Determine the proportion of the infants born to HIV positive pregnant women receiving PPTCT services are born HIV negative and stay HIV negative till cessation of breastfeeding or not.
- Determine the cost of one mother to child HIV transmission averted.
- Conduct cascade analysis of the PPTCT intervention.
- To identify lessons learned and formulate recommendations on how to revise the PPTCT strategy with a view to reach more HIV positive pregnant women per year and enhance equitable results.

7. Scope

The evaluation will cover the entire programme and all its phases including the district model approach. The overall time frame of the programme covered by the evaluation will be from 2007 to 2015. It would cover all four provinces as well as the federal capital territory.

Main stakeholders of this programme are National AIDS Control Programme (NACP), Ministry of National Health Regulation, Provincial AIDS Control Programme (PACPs), and Departments of Health of all four provinces, UNICEF, UNAIDS, WHO and NGOs working with Key Populations and NGOs working with People Living with HIV. All of these will be involved in the process of evaluation. Although all stakeholders are expected to benefit, however, the NACP and PACPs will benefit the most from the evaluation findings due to their direct involvement in PPTCT programme implementation.

8. Evaluation Criteria and Questions

The evaluation will use UNICEF and UNEG's recommended OECD/DAC criteria that covering aspects of relevance, efficiency, effectiveness, and sustainability (explained in detail below) and human rights based approach. Evaluation questions related to these criteria are given in the following:

Relevance

- To what extent the objectives of the PPTCT programme are consistent with the requirements of reproductive age women, particularly HIV positive pregnant women?
- Whether the objectives of the PPTCT programme are in line with country-needs and global priorities related to HIV/AIDS issues.

Effectiveness

- To what extent the programme was able to achieve its outcomes in preventing mother to child transmission of HIV (cascade analysis)?
- To what extent did this approach help disadvantaged women, especially spouses of key populations, including wives of PWID and migrant workers, in accessing and utilizing the services at PPTCT centres?
- How far the PPTCT programme objectives and modalities are relevant and responsive towards different problems and needs of young (reproductive age) women?
- What other methodologies, modalities or strategies were missed, which if used, would have helped reach more women and achieve prevention of mother to child prevention?

Efficiency

- To what extent the resources/inputs (funds, experts, time, etc.) used by the programme were converted to results, i.e., prevention of mother to child transmission of HIV?
- What was the cost of averting one mother to child transmission through this programme?
- What other methods/modalities, if employed, could have reached the same results at a lesser cost?

- Whether the benefits have a cost equivalent for women belonging to different social groups; and whether these are allocated equitably?

Sustainability

- How far and in which ways the programme benefits will be able to continue after the culmination of UNICEF support?
- Whether and in which ways the government will be able to sustain the momentum built by this programme and its benefits for the disadvantaged women without UNICEF's support?
- The above mentioned proposed evaluation questions will be further refined and finalized by the consultants in the conception report in consultation with the Reference Group.

9. Methodology

This is a summative evaluation that will need to use mixed method approach (both Quantitative and qualitative methods). The overall methodology will include a thorough desk review of all the relevant key documents (a list will be prepared in consultation with the key stakeholders and provided to the consultant). Using quantitative method, a short survey of current usage of services from each selected health center will be conducted. To help explore in depth findings, semi-structured interviews with key informants and focus group discussions both at national and provincial levels will be held to take advantage of the qualitative approaches for understanding the existing situation, gaps and suggestions for ameliorative actions.

Based on the above guidance, the consultant is expected to provide a detailed methodology in the inception report that will be finalized in consultation with the Reference Group. Throughout the evaluation process, UNICEF's quality standards for evaluation and ethical safeguards will be strictly followed.

10. Ethics

- The evaluation will adhere to UNEG's ethical guidelines enclosed with this ToRs. To ensure informed consent, the consultant will be expected to annex Sample consent forms for various types of respondents.
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- 9. Deliverables
- Inception report (based on an outline/format to be provided by PMER), including tools for evaluation and evaluation framework.
- 1st draft report.
- 2nd draft report (and audit trail).
- Final report (and audit trail), which will form the foundation for the review of PPTCT strategy of the country.
- Presentation to stakeholders/Reference Group of main findings and recommendations and building consensus on major actionable recommendations.
- Final debrief to UNICEF team/Reference Group.

11. Timeframe

45 working days spread over 04 months (September – December 2015), various outputs that need to be separately factored in by the consultant and included in the detailed workplan will include:

- Introductory meeting.
- Desk review.
- Briefings of evaluator(s).
- Preparing the detailed inception report.
- Evaluation mission (details of field work).
- Preparing the draft report.
- Stakeholder meetings.
- Finalization of report.
- Discussion of final findings and recommendations with stakeholders
- Final debriefing to UNICEF team/Reference Group.

12. Management arrangements

The Evaluation Unit, UNICEF will have the overall responsibility of quality assuring the entire evaluation process and all deliverables. The evaluation team/consultant(s) will be supported by HIV/AIDS Specialist – UNICEF for all coordination support required for the field work. A list of key documents will also be provided to the consultant.

A Reference Group will be established that would comprise of the key stakeholder institutions including NACP, UNICEF, UNAIDS and WHO that will also support in the overall oversight of the evaluation and reviews of inception and draft report.

13. Profile of the evaluation team

a) Qualification:

Master's in Public health, sociology and/or other social sciences

b) Work Experience:

Minimum 05 years' work experience working in the area of public health, Health and HIV, in Pakistan.

Minimum 03 years experience in evaluations with demonstrated experience in evaluation of similar programmes (evaluation/research design, literature review, design and/or adaptation of research tools, undertaking or supervising quantitative research data collection, data cleaning and analysis, and report writing).
Previous experience of PPTCT/PMTCT programming/evaluation will be preferred
Previous work experience with UNICEF and/or UN is desirable.

c) Language Proficiency:

Excellent oral and written communication skills in English.Working knowledge of Urdu.

d) Competency Profile:

An action-oriented approach and strong drive for results.
Highly developed negotiation and communication skills.
High tolerance for operating in an environment characterized by uncertainty and ambiguity and working with people, showing respect to their views and contributions.

14. Annexes

UNICEF Evaluation Ethics Guidelines
List of Key Documents
Copy of MoU signed between UNICEF, NACP and PIMS for the establishment of PPTCT center at PIMS;
PPTCT National Strategic Framework;
Punjab, Sindh, KP, Balochistan AIDS Strategies;
National PPTCT Guidelines (2011);
National Strategic Framework-2.

ANNEX 2: STAKEHOLDERS INTERVIEWED AND FIELD VISITS

Categories of Stakeholders

1. Programme managers NACP and PACPs
2. Focal PPTCT programme
3. UNICEF focal person PPTCT
4. UNAIDS focal person HIV and PPTCT
5. WHO HIV and PPPTCT focal person
6. PPTCT providers (8 centers) – PIMS Islamabad, Services Lahore, FPAP Lahore, ASBH Gujrat, AH Faisalabad, Bolan Medical Complex Quetta, Civil Karachi, Hayatabad Medical Comples Peshawar between September – October 2015
7. NGOs working with PLHIV and Most at Risk Populations in Karachi, Rawalpindi, Gujrat, Lahore and Peshawar
8. NGOs working with risk populations (PWIDs, Sex workers etc)
9. NHRSC and Provincial Department of Health
10. PLHIV and their families through NGOs or exit interviews at PPTCT centres

Number of Interviews

Number of Interviews*	Quantitative	Qualitative
UNICEF	-	2
Health Department/NHSRC	-	5
NACP/PACPs programme manager/staff	-	5
WHO, UNAIDS staff	-	3
PPTCT Center providers	7	7
NGOs	-	5
PPTCT Service Providers Clinical Vignettes	7	-
PPTCT users/HIV+ women	-	21
Lot Quality Assessment	20-25 per center as feasible	-
Total	**14**	**48**

ANNEX 3: EVALUATION MATRIX

Evaluation Criteria	Evaluation Questions	Methods/Tools	Sources
Relevance	To what extent are the objectives of the PPTCT program consistent with the requirements of reproductive age women, particularly HIV positive pregnant women? Were local partners involved in program design and implementation? Was there a review of what the needs of HIV+ women/families are in terms of PPTCT? How do these needs change over time? How well did the program utilize existing maternal and other HIV programs in the country?	Desk Review Key informant interviews	Desk Review of PPTCT program design and implementation documents HIV+ women, NACP/PACPs, PPTCT program managers, and service providers Health Department NGOs UNICEF, WHO. UNAIDS
	Were the objectives of the PPTCT program are in line with country-needs and global priorities related to HIV/AIDS issues? What is the country and province specific needs regarding PPTCT? Are they adapted in the PPTCT program design and implementation? Is the PPTCT HIV epidemic responsive?	Desk Review	Desk Review of PPTCT program design and implementation documents, country MCH policy and strategy documents Provincial documents
Effectiveness and Results	How far were the PPTCT programme objectives and modalities relevant and responsive towards different problems and needs of young (reproductive age) women? Was this reflected in the uptake of services by different users – young women? What were the programme achievements and limitations? How were the limitations addressed in the programme implementation phases? Did the programme capture the changing needs and was it able to meet those evolving needs of girls and women?	Key Informant interviews	HIV+ women, NACP/PACPs, PPTCT program managers, and service providers Health Department NGOs UNICEF, WHO
	To what extent the programme was able to achieve its outcomesin preventing mother to child transmission of HIV (cascade analysis)? Can this be successfully demonstrated by individual PPTCT centers – in HIV testing, counselling, retention and treatment data? What were the SOPs followed at the center level?	Cascade analysis LQA – quality and compliance with standard PPTCT protocols Clinical vignettes of PPTCT providers	PPTCT programme data PPTCT client registers
	To what extent did this approach help disadvantaged women, especially spouses of key populations, including wives of PWID and migrant workers, in accessingand utilizing the servicesat PPTCT centres? can this data be disaggregated by user categories, SES?	Data analysis by user category Key Informant interviews	PPTCT programme data PPTCT client registers NGOs HIV+ women, LHWs in selected areas PPTCT service providers

	Were the marginalized and most at risk reached through the District Model and did this help in uptake of services? Was there a follow up and tracking mechanism to ensure retention into services?		
	What other methodologies, modalities or strategies were missed, which if used, would have helped reach more women and achieve prevention of mother to child prevention? Why were they missed and what was or could have been done to prevent these missed opportunities?	Key Informant interviews	NACP/PACPs, PPTCT program managers, and service providers Health Department NGOs UNICEF, WHO Review of Global Best practices and other models
Evaluation Criteria	Evaluation Questions	Methods/Tools	Sources
Efficiency	To what extent were the resources/inputs (funds, experts, time, etc.) used by the programme converted to results, i.e., prevention of mother to child transmission of HIV? Can these be measured? Was it value for money by regional and global PPTCT standards?	Quantification of inputs, outputs by stakeholder interviews and UNICEF/Government	Government and UNICEF inputs and financial data PPTCT programme data and outcomes
	What was the cost of averting one mother to child transmission through this programme?	Costing calculation based on inputs and infant outcomes – transmission prevention efficacy measures by regimen used Cascade analysis	PPTCT programme data and outcomes
	What other methods/modalities, if employed, could have reached the same results at a lesser cost?	Desk Review	Review of Global Best practices and other models
	Whether the benefits have a cost equivalent for women belonging to different social groups; and whether these are allocated equitably? Disaggregation of data by SES Disaggregation by categories of users	Data analysis by SES and user category Key Informant interviews	PTCT programme data PPTCT client registers NGOs HIV+ women,
Sustainability	How far and in which ways the programme benefits will be able to continue after the culmination of UNICEF support?	Key Informant interviews	NACP/PACPs, PPTCT programme managers, and service providers Health Department NGOs UNICEF, WHO
	Whether and in what ways will the government be able to sustain the momentum built by this programme and its benefits for the disadvantaged women without UNICEF's support?	Key Informant interviews	PACPs/NACP Health Departments/NHSRC
	Lessons learned - Evidence base of the lessons learned Recommendations	Desk Review Triangulation of information sources Key informant interviews	Desk Review PTCT programme data PPTCT client registers HIV+ women,

			NACP/PACPs, PPTCT program managers, and service providers Health Department NGOs UNICEF, WHO, UNAIDS

ANNEX 4: GUIDE FOR SEMI-STRUCTURED INTERVIEW (Programme Planners)

Location ---------- Date---------- Time: start ---------- Finish---------- Interviewer Signature ---------- Name of respondent ---------- Position----------	Gender 1. Male 2. Female Category: 1. NACP/PACP 2. Dept of Health/NHRSC 3. UNICEF 4. UNAIDS 5. WHO

Thanks	I want to thank you for taking time to discuss the topic today.
Intro	My name is _____ and I would like to talk to you about your experience of PPTCT programme in Pakistan
Purpose	Specifically we are conducting an evaluation on the PPTCT programme, its results 2007-2015 and ways of further improving the programme to better serve the needs of HIV+ women and prevent new infections among infants.
Confidentiality	All responses are voluntary, and will be kept confidential, without mentioning your name or position unless you give us permission to do so.
Duration	The discussion will last somewhere from 45 -60 minutes.
Tape/Notes	I will be taking notes during this interview. If you permit we may also record the session because we don't want to miss any of your comments.
Clarifications	Are there any questions about the evaluation or information shared?
Consent	Are you willing to participate in this interview?

No.	Question	Probe
1.	**Profile of Participant**	▪ Years of experience with the PPTCT programme ▪ Educational background
2.	**Expectations and understanding of the PPTCT programme?**	▪ Interest and attitude to HIV/PPTCT ▪ Focus on which prongs of PPTCT – counseling, treatment, infants, delivery, referrals, overall programming ▪ Relevance of PPTCT to provincial or national priority?
3.	**Relevance of PPTCT to mother-child well being?**	▪ How does PPTCT contribute to
4.	**How do you make planning decisions for HIV treatment and care**	1 Resource allocations? 2 Factors that influence decision 3 Use of data?
5.	**Who should mainly fund HIV services**	1 Government 2 Donors 3 Other
6.	**Who should mainly deliver HIV services**	1. Government 2. NGOs 3. Other
4	**In your views, what are the most important prevention services that you would like to have**	1. Where and how should these services be delivered 2. Prioritize
1.	**In your views, what are the most important care services that you would like to have**	3. For care – community level 4. For care – health facility level 5. Where and how should these services be delivered 6. Prioritize
2.	**In your views, what are the most important treatment services that you would like to have**	1. community level 2. health facility level 3. Where and how should these services be delivered 4. Prioritize
3.	**In your views, what are the most important support services that you would like to have**	1. community level 2. health facility level 3. Where and how should these services be delivered 4. Prioritize – care giver support, livelihood opportunities, literacy, activism?

4.	**Currently are there any barriers to PLHIV accessing HIV services or your delivery of these services**	1. 2. 3. 4. 5.	Specific barriers – VCT, access to care/ART, PPTCT, support? Different barriers for women and men? Financial ? Stigma ? social Judgmental?
5.	**Generally (on average) how many new PLHIV are you identifying (in the last month or in the last 1 year estimates)**	1. 2. 3. 4. 5.	VCT Through peer networks New membership HIV clinic referrals PPTCT
6.	**How many PLHIV are not accessing care and treatment services**	1. 2.	Reasons for not? Strategies that would help
7.	**In your opinion, how best can government support help PLHIV become more self-sustained and <u>independent</u> in the near future**	1. 2. 3. 4. 5.	Economic opportunities Social support – what type Empowerment – how Literacy – PLHIV Association role? Schooling
8.	**Any other suggestions that you may have?**	1. 2. 3.	Future roles In designing the services Placement