SAATHII
Solidarity and Action Against The HIV Infection in India

Elizabeth Glaser Pediatric AIDS Foundation

PMTCT PRIVATE SECTOR ENGAGEMENT

Since 2002, Solidarity and Action Against the HIV Infection in India (SAATHII) and the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) have worked together to end pediatric AIDS in India with a consortium of nongovernmental organizations: Prayas (Pune), Swami Vivekananda Youth Movement (SVYM: Mysore), Bapuji Child Health Institute (BCHI: Davangere), Freedom Foundation (Hyderabad and Bangalore), Asha Kirana (Mysore), Asha Foundation (Bangalore), MGR Medical University (Chennai), and Children AIDS and Research Trust (CART: Mangalore).

In 2013, the Gilead Foundation joined the partnership and continues to provide financial support.

Between 2002 and 2015, the program received support from Eastman Kodak Company; the Gere Foundation; the Gilead Foundation; Global Fund to Fight AIDS, TB, and Malaria; Janssen Pharmaceutical Companies of Johnson and Johnson; Jewelers for Children; Johnson and Johnson (J&J); M·A·C AIDS Fund; the United Nations Children's Fund (UNICEF); and individual donors. Since 2009, SAATHII has been partnering with the Government of India through the National AIDS Control Organization (NACO) and State AIDS Control Societies.

We acknowledge the valuable and strong leadership of civil society, community members, and key populations who have been at the forefront of India's response to the HIV/AIDS epidemic. We also recognize the committed public health professionals and civil servants who have been steering India's National AIDS Control Programme over the years.

All photos unless otherwise indicated
by: Ann Summa, 2012

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Acronyms

ANC	antenatal care
ANM	auxiliary nurse midwives
ART	antiretroviral therapy
ARV	antiretroviral medications
ASHA	accredited social health activists
CCC	community care center
CMIS	Computerized Management Information Systems
DAPCU	District AIDS Prevention and Control Unit
DI	direct implementation
EBF	exclusive breastfeeding
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
F-ICTC	Facility-Integrated Counseling and Testing Center
ICTC	Integrated Counseling and Testing Centre
IEC	information, education, communication
M&E	monitoring and evaluation
MAF	MAC AIDS Fund
MCH	mother and child health
MOU	memorandum of understanding
NACO	National AIDS Control Organization
NACP	National AIDS Control Program
PMA	Professional Medical Association
PMTCT	prevention of mother-to-child HIV transmission
PO	program officer
PPP	public private partnership
PS	partial support
RDQA	routine data quality audit
RS	referral site
SAATHII	Solidarity and Action Against the HIV Infection in India
SACS	State AIDS Control Society
SMV	supportive monitoring visit
TA	technical assistance
TI	targeted intervention
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

Executive Summary

In 2015, the total number of people living with HIV/AIDS in India was estimated to be around 2.1 million, with an adult prevalence of 0.26% (National AIDS Control Organization [NACO], 2015). Children under age 15 accounted for 6.54% of all those living with HIV (approximately 137,000 infected children), and 10,400 (12%) of new infections (NACO, 2015). Since the national prevention of mother-to-child HIV transmission (PMTCT) program was launched in 2002, more than 20,500 HIV counseling and testing centers have been created in the country. Located primarily in government hospitals and clinics, these centers offer PMTCT services to pregnant women. Since 2002, 529 antiretroviral therapy (ART) centers that provide free ART to people living with HIV/AIDS, and an additional 1,108 Link ART (drug distribution) centers have been created.

Despite rigorous efforts in scaling up PMTCT in India, of the estimated 27 million women who become pregnant each year (NACO, 2013b), only 36% reach HIV counseling and testing services (NACO, 2015a). Further, in 2012-2013, only 31% (12,008 out of 38,202) of estimated HIV-positive pregnant woman were identified (NACO, 2013a, 2015a). This is, in part, because until recently the private sector has provided little-to-no PMTCT services. Today this sector caters to about 23% of all institutional deliveries in India (NHSRC, 2014).

To address the private-sector PMTCT gap, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), in collaboration with Solidarity and Action against the HIV Infection in India (SAATHII) and the endorsement of NACO, began offering PMTCT services in private hospitals in 2002. The states chosen for the implementation of the India private-sector PMTCT program were selected based on the HIV prevalence and size of private health care sector in those states. The program, from the beginning, has followed the World Health Organization's (WHO) national guidelines for PMTCT. Currently, the program follows Option B+ guidelines, recommending lifelong ART among pregnant and breastfeeding HIV-positive women regardless of disease stage.

Over the years, various models of program implementation have been tested, ranging from external funding for private sites to provide all services, to partially supported interventions where HIV testing kits and supplies are provided. It was found that bundling service delivery models, such as the public/private partnership model (where government and private health facilities partner to collectively provide the full cascade of PMTCT services) and the referral site model (where health facilities that do not provide PMTCT services refer clients to sites that do), along with sensitizing professional medical associations on PMTCT helps to improve PMTCT coverage and maximizes linkages to HIV care and treatment services. Since its inception, the program has counseled and tested over 3,635,152 pregnant women, served over 9,733 HIV-positive women with PMTCT services, and delivered antiretroviral therapy to 90% of the HIV-positive pregnant women and 94% of the HIV-exposed babies identified.

This report explains the context and outputs of the EGPAF-supported SAATHII PMTCT program in India from 2002-2015, including: (1) national efforts toward PMTCT; (2) the evolution of the India private-sector PMTCT program; (3) identified service-delivery models appropriate for private health facilities; (4) the quantitative accomplishments of the EGPAF-supported program; (5) good practices learned through the program; and (6) challenges experienced by the program. Recommendations for future actions and initiatives are also explored.

The HIV Epidemic in India

India was estimated to have had around 86,000 (56,000 to 129,000) new HIV infections in 2015, a 66% decline from 2000 (NACO, 2015c). However, India still has the third-highest HIV prevalence in the world (Joint United Nations Programme on HIV and AIDS, 2013). The epidemic remains concentrated geographically, with a higher prevalence in Northeast and South India (Figure 1), by subpopulation. Certain groups, such as men who have sex with men, injection drug users, and female sex workers are at higher risk of infection (NACO, 2015b).

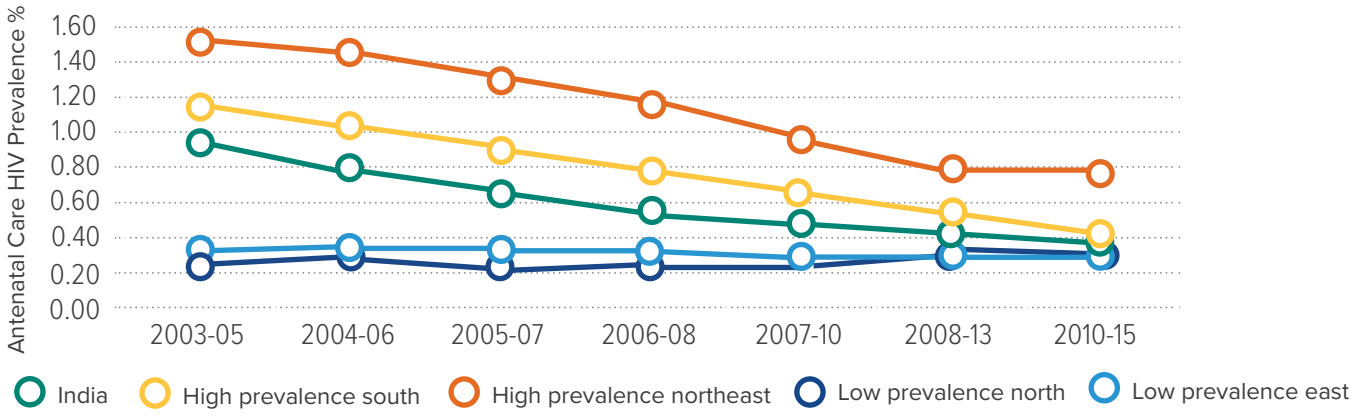


Figure 1. Regional trends in antenatal care prevalence, 2003-2015 (NACO, 2015b)†

Estimated adult HIV prevalence (ages 15 to 49) has shown a steady decline, from a peak of 0.38% between 2001 and 2003 to 0.26% in 2015. In addition, the total number of HIV infections decreased from 2.25 million in 2007 to 2.11 million in 2015. Pediatric (<15 years) HIV accounts for approximately 6.5% of total HIV infections in India (NACO, 2015c). The majority of pediatric cases were transmitted vertically from HIV-positive mothers to their children. This type of transmission is preventable in the presence of ART and PMTCT services.[‡] Provision of PMTCT services reduces an infant's risk of infection from 20% - 45% to under 5% (NACO, 2013a). Expanding access to high-quality PMTCT services could cut the rate of new pediatric infections dramatically.

[*] As of 2015, around 48% of all HIV-infected people in the country lived in the five high-prevalence southern states of Andhra Pradesh/ Telangana, Maharashtra, Karnataka, and Tamil Nadu (NACO, 2015c).

† The states included in each region are South Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Telegana, NE Maipur, Nagaland, Mizoram, North Assam, Chandigarh, Chhatisgarh, Delhi, Gujarat, Haryana, Himadal Pradesh, Chandigarh, Chhatisgarh, Delhi, Himachal Pradesh, Jammu and Kashmir, Odisha Punjab, Rajasthan, Uttarakhand, Uttar Pradesh, East Bihar, Jharkland, and West Bengal.

‡ Comprehensive prevention of PMTCT services include (1) pre-and posttest counseling, (2) HIV testing, (3) referrals to ART centers for CD4 testing and initiation of ART, (4) institutional delivery, (5) infant ARV (Antiretroviral) prophylaxis and early infant diagnosis by DBS DNA PCR, and (6) follow-up of mother and baby until final diagnosis of HIV at 18 months.

National Response

NACO conducted two feasibility studies from April 2000 to March 2002 across 11 institutions in five high-prevalence states of India: Andhra Pradesh, Karnataka, Maharashtra, Manipur, and Tamil Nadu (NACO 2006). Findings provided strong evidence of the possibility of integrating PMTCT interventions within maternal and child health (MCH) services. These studies showed that antenatal care (ANC) could be an entry point for imparting education to pregnant women about prevention and control of HIV/AIDS and taking necessary measures for PMTCT.

In 2015, NACO scaled-up PMTCT centers, in phases, to create 16,000 implementation sites across the country (Figure 2). Among the various implementation models adopted were integrated counseling and testing centers (ICTCs), both stand-alone and mobile; facility-integrated counseling and testing centers (F-ICTCs); and public-private partnership (PPP) ICTCs (NACO, 2015a).

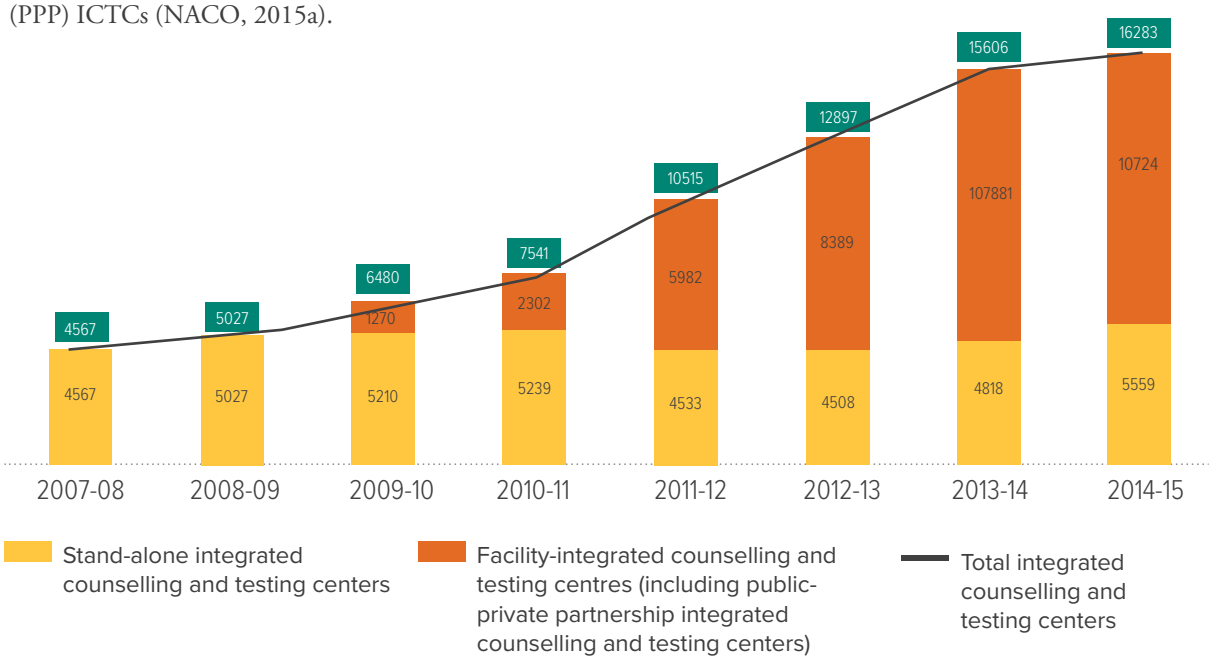


Figure 2. Scale-up of ICTC from 2007 to 2015

The government also launched a free ART program on April 1, 2004, initially in eight government hospitals in the six high-prevalence states (Andhra Pradesh, Karnataka, Nagaland, Manipur, Maharashtra and Tamil Nadu), and subsequently scaled up to 453 functional ART centers across the country as of September 2014. This program was vital in linking those who tested HIV-positive at an ICTC to treatment, when required. As of January 1, 2014, national PMTCT guidelines recommended that all HIV-positive pregnant women enroll in lifelong ART, regardless of CD4 count and WHO clinical staging (Option B+). In addition, their newborn (HIV-exposed) babies were initiated on six weeks of Nevirapine syrup immediately after birth so as to prevent transmission of HIV from mother to child. This pediatric dosing is extended to 12 weeks, if the mother was on ART for less than 24 weeks before delivery. To further support extended pediatric HIV prophylaxis and treatment, eight ART centers were upgraded to pediatric centers of excellence. These centers provide model treatment and referrals to ensure provision of high-quality pediatric HIV care. They also undertake research and provide quality training to personnel involved in caring for pediatric HIV-positive patients.

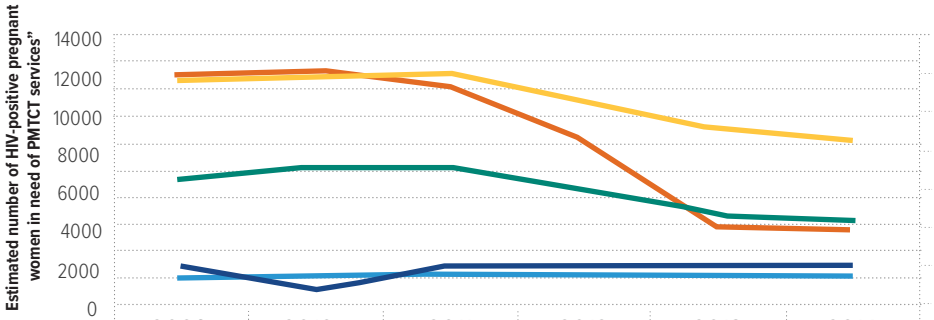
Despite all these efforts, out of the estimated 27 million women who became pregnant from 2013 to 2014 (NACO, 2013b), only 9.8 million (36%) were reached with HIV counseling and testing services (NACO, 2015a). Of these 9.8 million pregnant women, 12,008 were found to be HIV-positive (NACO, 2015a), which is only 31% of the 38,204 pregnant woman who were estimated to be HIV-positive in India in 2012-2013 (NACO, 2013a). In order to provide universal access to PMTCT services, further scale-up is planned for the public health sector at the community health center and primary health center levels, as well as in the private sector, through the forging of additional PPPs. Through these measures, the Government of India is committed to working toward achieving elimination of new HIV infections among children.

Impediments to Universal Coverage the Private Sector

In India, estimates from the late 1990s showed that 93% of hospitals, 64% of hospital beds, 85% of doctors, 80% of outpatient visits, and 56% of inpatients were based in the private sector. As the private sector came to make up such a large proportion of the country's health care system, it became clear that it would need to be engaged in the provision of quality services, in-line with national guidelines. NACO continuously scaled-up its PMTCT efforts. However, the lack of private-sector participation in the national PMTCT program and the lack of national oversight and regulation of HIV testing and treatment practices in this sector have challenged the overall efficacy of the national program. EGPAF and SAATHII collaborated to develop the private-sector PMTCT program to overcome this challenge.

Lack of National Program Coverage in the Private Sector

In spite of the national PMTCT scale-up, as of 2004 only 3.94% of pregnant women had received HIV counseling and testing, and only 2.74% of the expected HIV-positive pregnant women had received ARV prophylaxis (NACO, 2006). The idea of a multisectoral approach, involving collaboration among the government, private sector, and national and international organizations on issues concerning HIV/AIDS, arose during the first National AIDS Control Program (NACP I) (Kumar, 2008; NACO, 2003). However, participation of the private sector was limited through both NACP-I and NACP-II between 1999 and 2006 (NACO, 2005). A majority of PMTCT centers that existed at the start of NACP III (2007-2012) were in the public sector. Yet, 50% of institutional deliveries took place in the private sector in 2006, with even higher estimates in the high-prevalence states. Although the estimated number of HIV-positive pregnant women in the country decreased to 8,496 by the year 2014, many were not being reached (Figure 3).



	2009	2010	2011	2012	2013	2014
Andhra Pradesh & Telangana State	4335	4446	4121	3150	1586	1518
Karnataka	640	287	706	684	674	708
Maharashtra	2347	2551	2572	2148	1681	1534
Tamil Nadu	492	485	567	548	524	521
India	11685	11968	12058	10640	8915	8496

Figure 3. Estimated number of pregnant women needing PMTCT services in the private sector (2009-2014) in five highest-prevalence states

In recognition of the private-sector gap in NACP-II, the NACP-III's strategy involved engaging the private sector through PPPs in the key initiatives of NACP, including the PMTCT program (NACO, 2005). However, meaningful cooperation between the public and private sectors on a large scale has been hindered by mutual mistrust, poor communication, and lack of ownership. The conflicts arise, in part, from perceptions of the government that the private sector does not want to comply with standard guidelines, and is motivated more by business models than a desire to impart quality care. The private sector views the government as being intrusive and demanding. Improving partnerships remains a guiding principle of NACP-IV (NACO, 2012). SAATHII has been working to build trust between the private and public sectors through its interventions, with some success.

Lack of Regulation in the Private Sector

The lack of government oversight of the private health sector raised concerns about the quality of HIV services implemented in that sector. Specifically, NACO was uncertain whether private practitioners, who were providing services to a large proportion of people living with HIV/AIDS, were adequately sensitized, trained or following standard guidelines or protocols; 90% of private providers who were supplying treatment for HIV had neither formal training nor expertise in HIV management (NACO, 2005). Lack of regulation led to issues such as testing without proper counseling and informed consent, breaching confidentiality, and not disclosing test results properly (Datye et al., 2006). Furthermore, since private hospitals were not reporting HIV in national data reporting systems, it was hard to accurately measure national, state, or local prevalence for the purposes of policymaking and program evaluation.

Thus, another goal of engaging the private sector in the national program through formal partnerships was to establish appropriate safeguards to ensure quality, such as compliance with protocols/guidelines related to treatment and patient management, referrals, maintenance of patient records, and reporting (NACO, 2005). Again, the strained relationship between the private sector and the government continued to slow progress towards achieving this goal, however, significant gains have been achieved (e.g., nearly 13,000 sites enrolled in the program) due in part to the intermediary role SAATHII.

> **"Many private hospitals are still reluctant to report to the government"**
>
> *— Government Official*

India Private Sector PMTCT Programming

The need to bring quality PMTCT services into the private sector was viewed as an important issue even before it became a priority for the national program. In 2002 EGPAF, in partnership with SAATHII, initiated the India Private Sector PMTCT Program to complement government programs, which were predominantly focused on the public health sector. This initiative focused specifically on women accessing the private health sector. Today, SAATHII's India Private Sector PMTCT Program has become one of the largest supporters of PMTCT efforts in India, second only to the national PMTCT program. The latter program concentrates primarily on the public sector and provides technical assistance (TA) to both the public and the private sector.

Founded in 1988, EGPAF is an international nonprofit organization dedicated to ending pediatric HIV/AIDS through research; advocacy; prevention, and treatment programs. EGPAF funds and works with partners around the world to fight pediatric HIV. The mission of SAATHII, a national nonprofit agency founded in 2002, is to strengthen and expand HIV/AIDS services in India in pursuit of its vision of universal access to health care. SAATHII provides technical, operational, and financial assistance to groups working in HIV prevention and treatment; advocates at the local, state, and national levels for increased attention and political commitment to HIV/AIDS; and builds partnerships among government, civil society, and the private sector. The program has been implemented through a consortium of nonprofit partners (Appendix 1) since 2002. Over time, new partners have joined while others have been phased out.

The EGPAF-SAATHII Partnership

EGPAF's contributions to the India private sector's PMTCT program has been instrumental in nurturing the public-private partnership and in improving access to PMTCT, in general. Throughout these 13 years of support to SAATHII, EGPAF has provided financial and TA, while ensuring the quality and long-term sustainability of the program.

Financial Support

Since 2002, EGPAF has been a reliable source of funding for SAATHII and its consortium partners. EGPAF was the first organization to fund PMTCT services in the private sector, and has provided both direct funding and indirect funding through sub-granting mechanisms. Over the years, EGPAF has also built SAATHII's capacity to secure and manage larger, more complex projects. For example, EGPAF supported SAATHII to prepare a reproductive, maternal, newborn, child, and adolescent health proposal for United States Agency for International Development funding, which SAATHII successfully secured, expanding its reach beyond PMTCT.

Technical leadership

EGPAF has also played a significant role in strengthening SAATHII's technical and organizational capacity. EGPAF has included SAATHII in its technical conferences and forums, where SAATHII has gained clinical, operational, and monitoring and evaluation (M&E) knowledge and skills. In the beginning, EGPAF provided regular training and supportive monitoring at health sites, while organizing consortium meetings, which fostered information sharing, capacity-building, and collaboration among SAATHII and partners. EGPAF also helped increase SAATHII's visibility, presence, and contributions at the national and state levels, leading to their recognition as a key PMTCT partner in India.

Building a High-Quality, Sustainable Technical Assistance Model

Through support adaptation and implementation of the WHO guidelines recommending expanded use of triple ART regimens for PMTCT, EGPAF helped raise the standards in PMTCT services in India (previously, the Indian government recommended Nevirapine-only prophylaxis and treatment). EGPAF also helped establish site-level follow-up mechanisms to track HIV-positive pregnant women and HIV-exposed infants; counseling and referral services to ensure successful linkages to treatment, care, and support services; psychosocial support counseling to reduce stigma, creating an enabling environment for health care providers in the private sector; and championed the use of polymerase chain reaction (PCR) testing for early infant diagnosis. Over the years, EGPAF has helped to develop new models to expand the program's reach and increase efficiencies resulting in a more sustainable approach.

Geographical Selection for Implementation of PMTCT

India's private sector PMTCT program has grown tremendously; starting in nine private health facilities in 2002, expanding to 1,530 implementation sites and 5,462 referral sites spread across 112 districts in five high-prevalence states (Andhra Pradesh/Telangana, Karnataka, Maharashtra, and Tamil Nadu) as of 2015. This rapid scale-up of implementation sites and engagement of other private hospitals as referral sites was made possible by the PPP model. EGPAF's support helped to initiate this program. Additional support from MAC AIDS Fund (MAF) in 2009 helped the state teams establish and scale-up PPP implementation sites extensively. MAF supported the expansion of the PPP program to new geographies, including Kerala and Rajasthan. In October 2015, the program teamed up with NACO and State AIDS Control Society (SACS) in 14 states (including the five initial implementation states) of India to expand HIV testing and treatment in the private sector through strategic PPPs. This initiative is now referred to as the Śvetana Project and is supported by the Global Fund to Fight AIDS, TB and Malaria.

Andhra Pradesh (now Andhra Pradesh and Telangana State), Karnataka, Maharashtra, and Tamil Nadu, the original states chosen for the implementation of the private-sector PMTCT program were selected based on their HIV prevalence and contribution to ANC HIV-positive detection, as well as the size of their private health care sectors. NACO classified all four states as "high prevalence," which was defined by HIV prevalence rates exceeding 5% percent among high-risk groups and 1% among women in ANC (NACO, 2004). Furthermore, the private sector contributed a large proportion of the ANC and delivery services in these states (Figure 4), making private-sector PMTCT interventions vital. Even as the national proportion of institutional deliveries occurring in the private sector has gone down over the years—to 23% of institutional deliveries by 2013-2014 estimates (NHSRC, 2014)—it remains higher than the national average in these implementation states (Figure 5).

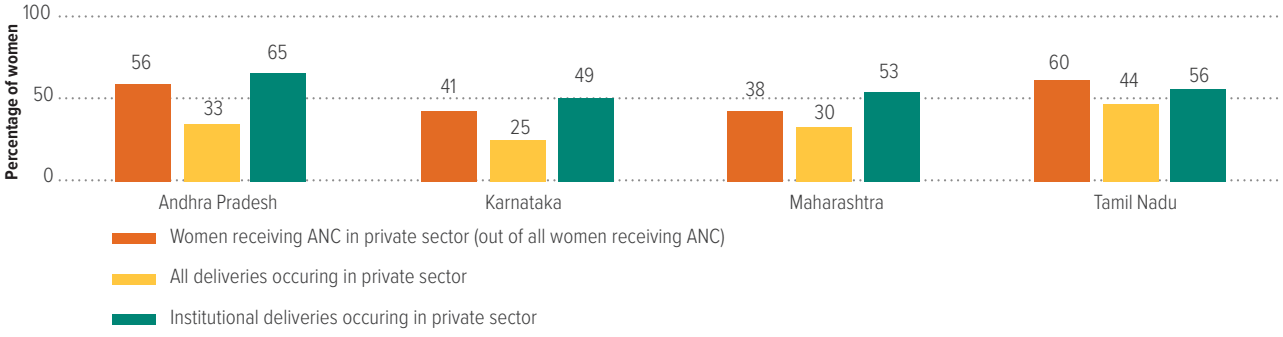


Figure 4. Private-sector ANC attendanceand deliveries, 1995-1999 (*Source*: International Institute for Population Sciences, 2001)

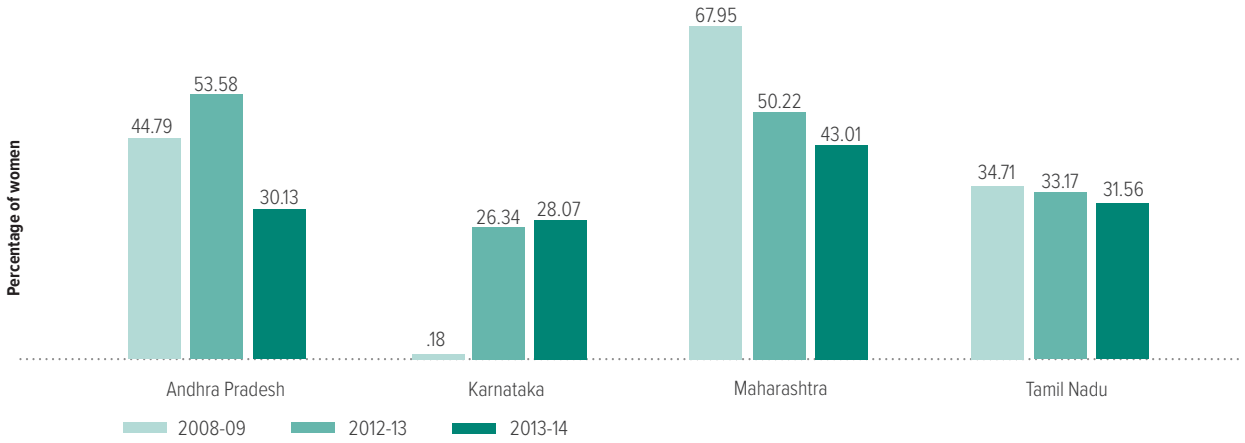
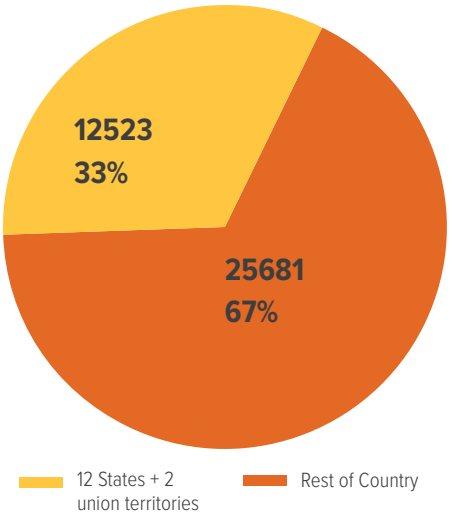
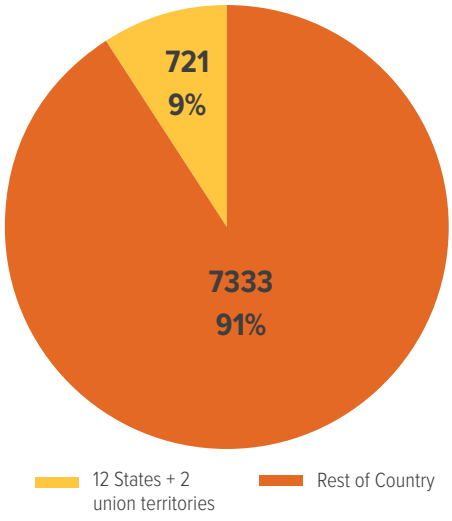


Figure 5. Percent of institutional deliveries occurring in the private sector in SAATHII Program states, 2008-2014 (*Source*: Ahuja, 2014a,b,c,d; NHSRC, 2014)

In scaling up the PMTCT program to new states in recent years, states were selected based on high HIV prevalence and/or high private-sector usage. A total of 12 states and two union territories contributed 67% of the burden of HIV-positive pregnant women in the country (NACO, 2013a), and 91% of estimated HIV-positive pregnant women in the private health sector in the country – shown in Figure 6 (NACO, 2013a; NHSRC, 2013).



6a. Contribution of Project Svetana states to estimated HIV-positive pregnant women (public + private sector). Total = 38,204



6b. Contribution of Project Svetana states to estimated HIV-positive pregnant women in the private sector. Total = 8,054

Models of Private-Sector Engagement

Implementation of SAATHII's PMTCT program has followed four distinct models: Direct Implementation (DI), Partial Support (PS), PPP, and Referral Site (RS). These models comprise a variety of smaller strategies and practices and collectively include all of SAATHII's innovations and lessons from the past 12 years. These models are suited to different situations. Currently, implementation through a mix of PPP and RSs is proving to be effective in the settings in which SAATHII works. In other contexts, however (e.g., those with different funding or infrastructure scenarios) other approaches may be appropriate.

Direct Implementation Model

The DI model was the first to be put into practice, in 2002. Under the DI model participating hospitals provided the entire cascade of PMTCT services: HIV counseling and testing, delivery, CD4 testing, provision of ARV prophylaxis and ART, early infant diagnosis, and management of opportunistic infections. These services were funded entirely by a TA agency such as SAATHII and included the necessary staff—counselors, lab technicians, and outreach workers—who were recruited by the same providers. Clients paid for services at rates set by the provider.

A TA agency (SAATHII or another consortium partner) worked to identify and enroll potential DI sites through a process that included mapping and site assessments using a standardized tool. DI sites were well-performing, large private hospitals located in high-prevalence districts that were willing and able to accept referrals from maternity facilities and provide delivery services to HIV-positive pregnant women. A bipartite memorandum of understanding (MOU) between the site and the TA agency formalized the partnership.

Under this model, the TA agency provided support to improve and sustain the quality of services provided, in-line with the national and international guidelines for PMTCT. TA provided included training; development; distribution of information, education, and communication (IEC) materials; and supportive supervision and monitoring. Sites were trained on documentation of program outputs and were expected to provide monthly data on testing and identification of HIV-positive cases to the TA agency, where they were checked and then delivered to the appropriate governmental body.

Documentation and reporting were and remain crucial elements of a private-sector PMTCT intervention in India, as poor availability and accuracy of data from the private sector has historically been a deficiency in the national PMTCT program. The ability to provide high-quality PMTCT data from the private sector is one of the greatest successes of SAATHII's program using the DI model (and others).

Nine hospitals were enrolled and functioned as DI sites at program inception in 2002. By 2011, all sites transitioned to the PPP model. DI requires significant external (non-governmental or private organization) financial support and is feasible only when such funding is available. This model is most useful when one large hospital per district can be identified and enrolled as a site for clients seeking private care. These characteristics limit the expansion of the DI model, the major benefit of which is that it requires little-to-no financial investment from the government or the individual site. The DI model allows for implementation of a PMTCT program, even in cases where the government shows little interest in supporting PMTCT activities. This is because the TA agency plays the key role in motivating the site to provide services and supporting it through capacity-building.

Partial Support Model

The PS model was introduced in 2006. It is similar to the DI model, except that hospitals agree to bear some of the salary costs. PS sites provide the full PMTCT cascade, as described in DI, though not all sites are able to offer outreach services. The PS model also requires significant external investment—though a smaller investment than the DI model—and therefore may be scaled up to a greater degree and include small and medium-size hospitals. The PS model was implemented in over 150 hospitals in Andhra Pradesh, Karnataka, and Maharashtra. The PS model is effective when sites are willing to support the program and external funding is available.

Public-Private Partnership Model

In 2009, the PPP model for PMTCT services was launched, based on an existing model to enhance HIV treatment access developed by NACO several years earlier. From 2006 to 2008, the number of enrolled sites and pregnant women tested through SAATHII's PMTCT program essentially leveled off in the focal states (Figure 8). SAATHII recognized the imperative to scale-up, but the existing models were too resource-intensive for significant expansion to be feasible. In 2008, NACO announced its intention to scale-up PMTCT services in the private sector, and in January 2009 the Andhra Pradesh State AIDS Control Society joined SAATHII and three other TA partners to introduce the PPP model to scale-up PMTCT use in India.

The PPP model involves a partnership among the government, a TA agency (SAATHII or its partners), and a private health facility. This model aims to leverage resources from the health facilities and government and the expertise and experience of the TA partner to (1) increase coverage of PMTCT services in the private sector; (2) enhance the ownership of the private sector program by the government and the private institutions; and (3) ensure the sustainability of PMTCT services. Each of the three partners plays a distinct role in the partnership (Figure 7). Sites provide counseling and testing at a subsidized rate, but refer clients to government ICTCs for confirmatory testing and government ART centers for treatment. These services are free in the public sector. Sites depute a staff member, usually a lab technician or staff nurse, to be a counselor. While this is beneficial, as additional staff need not be hired to fulfill this role, the multitasking of the chosen staff member sometimes compromises the quality of counseling and reporting. Sites are also encouraged to accept referrals and/or offer delivery services for the identified HIV-positive pregnant women. The government provides test kits, ARV prophylaxis for deliveries, trainings, and outreach, while the TA partner provides multifaceted TA and follow-up in cases in which the government does not provide outreach services. The TA partner also serves as a liaison between hospitals and the government and trains facilities in documentation and reporting as per government requirements.

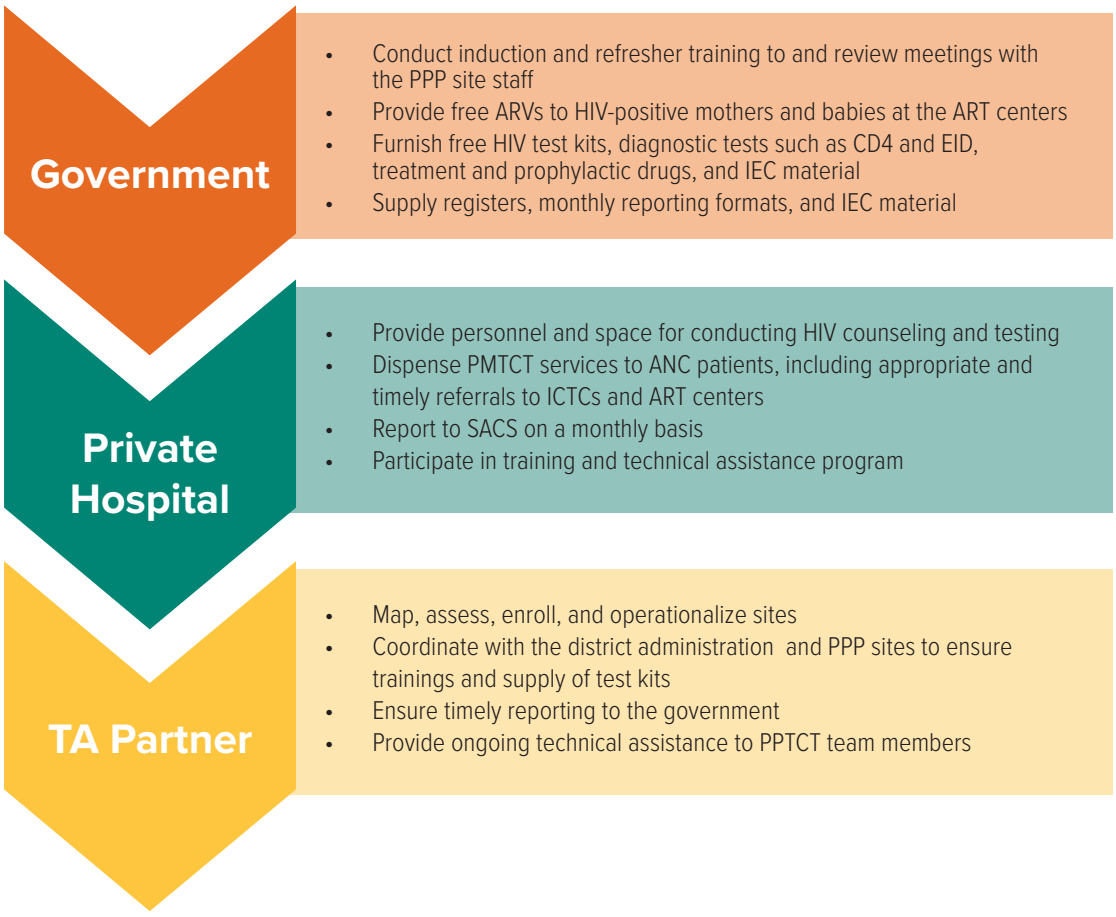


Figure 7. Roles and responsibilities of public-private partnership partners

TA, which is provided to PPP sites on an ongoing basis, includes (1) supply chain management; (2) on-site training on the PPP program and national PMTCT guidelines; (3) medical, counseling, and infant feeding mentorship; (4) program strategy development; (5) experience sharing meetings; (6) program and data review meetings with the District AIDS Prevention and Control Unit (DAPCU) and SACS; and (7) Routine Data Quality Audits (RDQAs). TA to PPP sites also includes the trainings, IEC development, and supportive supervision and monitoring that were provided in earlier DI and PS models. Ongoing TA is provided to enable the sites to ensure quality in PMTCT service provision, enhance formal referral mechanisms, and improve data quality and timely reporting to the government. Data on testing and HIV-positive identification are shared with the implementer, checked, and sent to the state and national governments and the funder(s). RDQA visits to the sites function as an additional safeguard of data quality. Box 1 briefly describes TA activities. Some of the most effective TA practices are described in more detail in the section on Lessons Learned.

Prospective PPP sites are identified through mapping. They are then assessed using a standardized tool (Appendix 2) adapted from NACO eligibility criteria for PPP. The sites are enrolled in the program through a tripartite MOU involving the site, the TA partner, and SACS. The PPP program also enlists the assistance of professional medical associations (PMAs) and the SACS to identify and enroll prospective PPP sites. As each PPP site requires a smaller investment than each DI or PS site, the requirements for participation are less strict. Apart from basic infrastructural requirements dictated by NACO, the main criterion for eligibility is willingness to participate. However, sites with a higher ANC caseload, sites in high-need areas (those with a higher HIV prevalence and/or an absence of nearby government ICTCs or PPP hospitals), and sites willing to conduct deliveries for HIV-positive pregnant women are prioritized.

Box 1. TA activities

- **Supply Chain Management:** Coordinating and integrating the flow of any consumables to be supplied to the sites by SACS/NACO
- **On-site Sensitization:** Sensitizing PPP staff on issues of HIV stigma, the need for confidentiality, and orienting them on the technical and program components of PMTCT
- **Counseling Mentoring:** One-on-one mentoring to address gaps in the skills and knowledge of staff members assigned the role of counselor at PPP sites
- **Medical Mentoring:** One-on-one mentoring of PPP site doctors, through knowledge assessments and practical training, to facilitate quality service delivery
- **Supportive Monitoring Visits:** Structured visits to review the operational and administrative aspects of program implementation at the site
- **Supportive Visit:** Visits to support all program activities, focusing particularly on addressing gaps and issues identified during supportive monitoring visits
- **Experience Sharing Meetings:** Meetings conducted at the state level to promote sharing of good practices and discussion of challenges among staff from PPP sites
- **Routine Data Quality Audit:** Process for verification of program data at all levels checking reported program data against key indicators at program sites

The lower external investment per site broadened eligibility and enrollment support from SACS and professional associations have allowed the program to expand significantly in a short period. By 2011, 364 sites were participating in the PPP program, and that number had grown to 1,530 at the close of 2015 (Figure 8).

This rapid scale-up indicates that the PPP model is capable of expanding the reach of the private sector PMTCT program in a short period of time and with relatively little external expenditure. It is useful in districts with a moderate-to-high prevalence and a high proportion of deliveries conducted in the private sector. Caveats include the necessity of having a well-functioning government program, with resources allocated for a PPP program. A longstanding challenge is convincing sites to participate. Mistrust of the government and lack of financial incentive, given the extra work required and reporting requirements which are perceived as burdensome, make it difficult to convince the sites to participate in the program. Finally, the small, but programmatically significant, technical assistance support plays a crucial role in

coordinating the PPP partnerships, buffering the interactions between private and public sectors, mitigating conflict, and ensuring smooth flow of data. In the absence of such TA support, it remains to be seen if the PPP model will continue to scale-up and sustain in the long term.

Referral Site Model

The final private-sector PMTCT intervention model implemented by SAATHII is the RS model. This model was introduced following the development of the PPP model in 2009. It is based on prior experience with patient in-referrals to implementation sites from HIV-positive network sites and other private sites not involved in the program. In-referrals include HIV-positive pregnant women with confirmed HIV-positive result from either a non-partnering private site or a government ICTC. The first RS sites were established in 2012. In the RS model, sites test for HIV using test kits that they source themselves and refer single test-positive cases to either government ICTCs or PPP hospitals. This is exactly what private hospitals are expected to do, even without the involvement of SAATHII. A few important differences are that the hospital reports the number of tests and positive cases to SAATHII, SAATHII program officers (POs) confirm that referred clients have reached their destination, and SAATHII provides basic TA to the sites. This TA includes technical and programmatic orientations, dissemination of referral tools and posters, and follow-up and updates given by phone. No external funding is required, except to pay the salaries of the POs who recruit sites and follow up with referred clients. In SAATHII's program, these are the same POs as those that recruit sites for the PPP model. There is one PO for every three or four districts.

Identification of prospective RS is done using the same mapping technique that identifies prospective PPP sites. Willingness to test, refer, and report cases are the only criteria for participation. However, priority is given to those sites that have identified HIV-positive cases in the past and are ready to conduct HIV-positive deliveries. A simple assurance replaces the formal MOU as the enrollment mechanism. Sites that decline to participate in the PPP program are encouraged to enroll as an RS.

The RS model is flexible in that it requires very little external funding or investment from the hospital. Therefore, the program has been able to scale-up referral sites rapidly (Figure 8). This is, however, dependent on the availability of absorbing sites capable of accepting referrals, and on the presence of an external agency for enlisting sites and confirming referrals. When those conditions are met, this model is useful in areas with moderate-to-high HIV prevalence, a high proportion of private deliveries, and low availability of funding. The RS model is also useful in lower prevalence areas as there is greater efficiency in the "hub and spoke" approach. An overview of the models of implementation over the years is presented in Table 1.

Table 1. Models of implementation, 2002-2015

Model	DI Model (2002-2011)	PS Model (2006-2011)	PPP Model (2009-Present)	RS Model (2012-Present)
Enrollment Criteria	Well-performing, large private hospitals located in high-prevalence districts, willing and able to accept referrals and provide delivery services to HIV-positive women	Small and medium-size hospitals with good infrastructure that are willing to bear partial costs	Small and medium-size hospitals willing to partner with the government and TA agency	Hospitals that are not willing to partner in the PPP program but willing to test for, refer, and report HIV cases
Type of Partnership	Bipartite agreement between the TA provider and sites	Bipartite agreement between the TA provider and sites	Tripartite agreement among the government, sites, and the TA provider	No formal agreement
Funding for Human Resources	Salary of staff: counselor, lab technician, and outreach worker are funded by the TA provider	Hospitals agree to bear some of the costs involved—namely, salaries of counselors and outreach workers	Existing nurses and lab technicians at the sites are trained by the government and TA provider in counseling and testing services	Sensitization of the staff to refer clients for care, support, and treatment services is provided by the TA provider
Service Offered	Entire cascade of PMTCT services	Entire cascade of PMTCT services	Counseling, testing, ANC, delivery, and referral services	HIV testing, done with sites own test kits
Funding for Care, Support, and Treatment Services	Funding support for CD4 testing, provision of ARV prophylaxis and ART, early infant diagnosis, and management of opportunistic infections is given by the TA provider or another external source	Funding support for CD4 testing, provision of ARV prophylaxis and ART, early infant diagnosis, and management of opportunistic infections is shared by the TA provider and sites	Government conducts CD4 testing, provision of ARV prophylaxis and ART, early infant diagnosis, and management of opportunistic infections, as per the National Guidelines for PMTCT at the ART centers	HIV-positive pregnant women identified at these sites are referred to either the PPP site or the government sector for confirmation of HIV test results—as per national testing protocol—and then referred to the ART center for continuum of services
Client Costs	Clients pay for ANC and delivery services at rates set by the provider			
Reporting	Quarterly through EGPAF GLASER database reporting format	Quarterly through EGPAF GLASER reporting format	Monthly through government reporting format	Monthly through mobile-based reporting to the TA provider

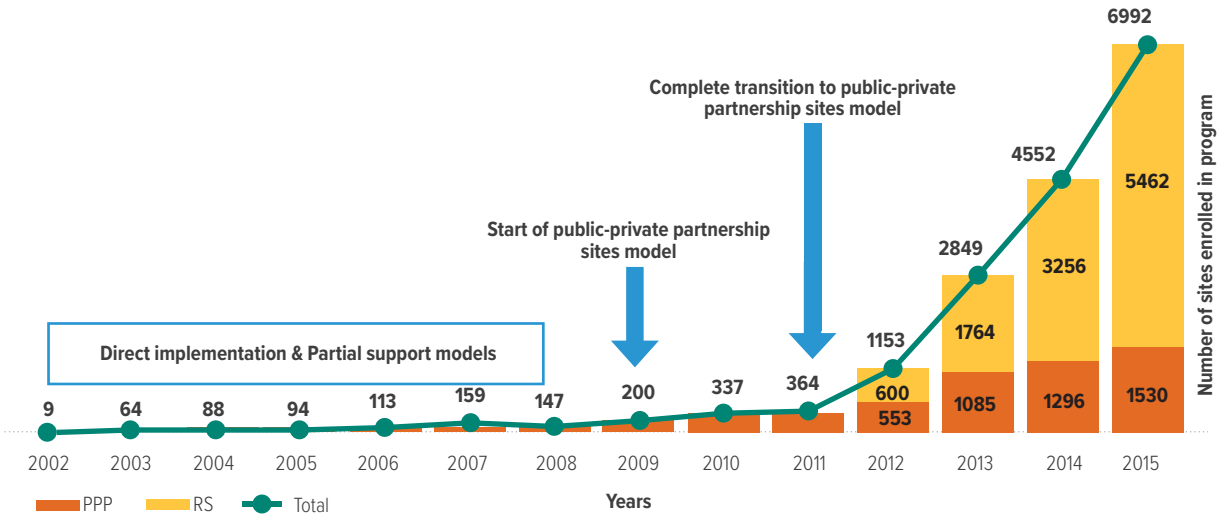


Figure 8. Implementation models and site scale-up in the India private-sector PMTCT program, 2002-2015

Program Outcomes

Improved Access to HIV Counseling and Testing Services in the Private Sector

As previously discussed, the transition from the DI and PS models to the PPP and RS models in 2009 allowed the number of sites participating in the program to increase. This, in turn, led to a rapid increase in the number of pregnant women counseled and tested for HIV, particularly in 2014 and 2015, when the program started collecting data on testing at RS sites (Figure 10). More than 1.2 million pregnant women were reached with HIV counseling and testing services through the program in 2015, a greater than 10-fold increase over the past decade. These results are in line with the NACPs' mandated scale-up of HIV counseling and testing in the private sector.

Increased Identification and Coverage of HIV-Positive Pregnant Women

Based on 2012-2013 estimates, there were 4,685 total infected pregnant women in the private sector in the five high-prevalence states (NACO 2013a; NHSRC, 2013). As counseling and testing numbers have increased, the program has been able to identify more HIV-positive pregnant women, which has increased the proportion of estimated HIV-positive pregnant women identified each year (Figures 9 and 10). In recent years, the number of HIV-positive women identified in the program includes HIV-positive pregnant women "in-referred" after being diagnosed at non-partnering private sites. These in-referrals have been important for HIV-positive pregnant women to maintain coverage of PMTCT services, even though the number of women identified and confirmed positive at PPP sites has decreased over time as the entire country's HIV prevalence declined (Figure 11).

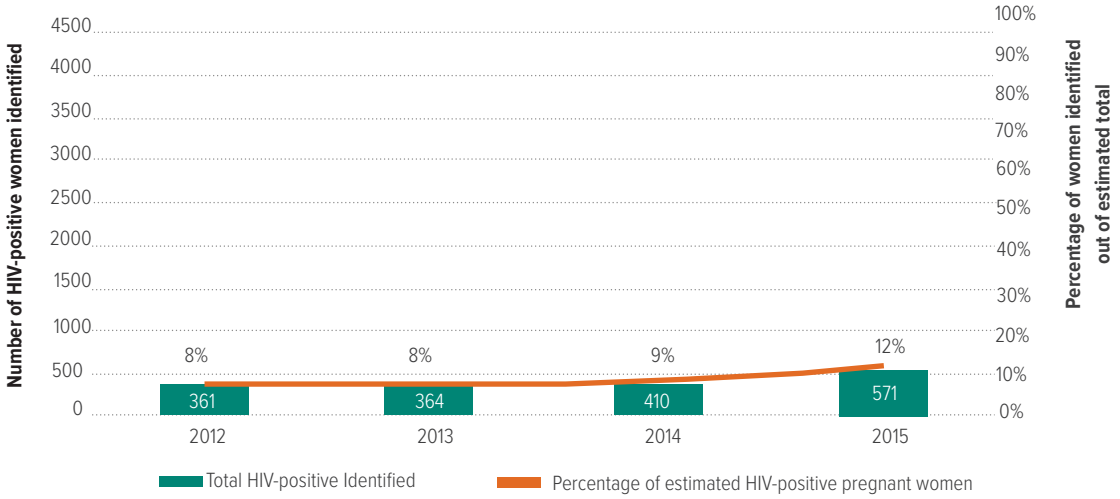


Figure 9. Program contribution to identification of HIV-positive pregnant women in the focal states, 2012-2015*

*Data from 2014 and 2015 include single test HIV positives from RS and PPP

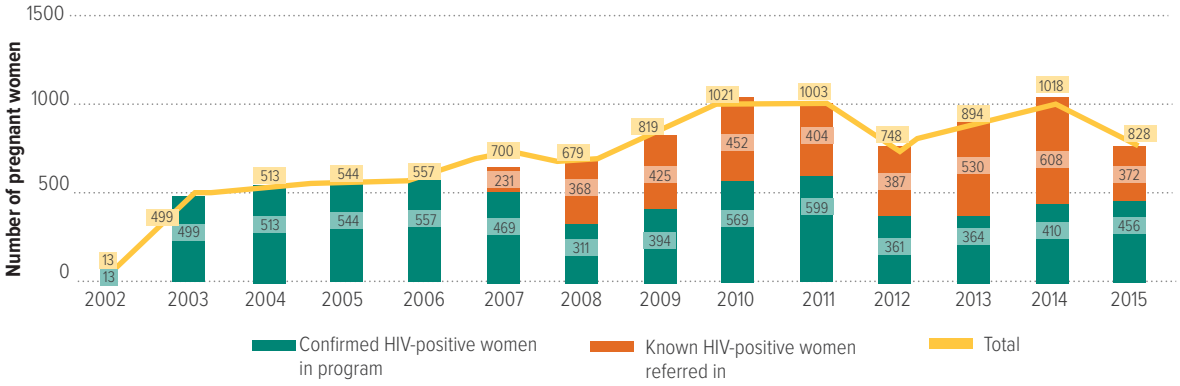


Figure 10. Program coverage of confirmatory HIV-positive pregnant women testing, 2002-2015

Enhanced Reach to ARV/ART at Government ART Centers

ART plays an important role in PMTCT. Until September 2012, a critical part of the PMTCT cascade was providing ARV prophylaxis in the form of single-dose Nevirapine to HIV-positive pregnant women at the time of delivery. At the end of 2012, NACO adopted Option B (ART during pregnancy, delivery, and breastfeeding) and then Option B+ (lifelong ART for HIV-positive pregnant women regardless of CD4 count or clinical stage) beginning in January 2014 (NACO, 2013a). The program saw high coverage (90%) in ARV prophylaxis (pre-2013) or lifelong ART, as per the revised guidelines for PMTCT (2013-2015), among pregnant HIV-positive women (Figure 13). The program ensured that all HIV-positive pregnant women accessing the private sector reached ART centers for care, support, and treatment services. The majority of these women accessed free services through government ART centers.

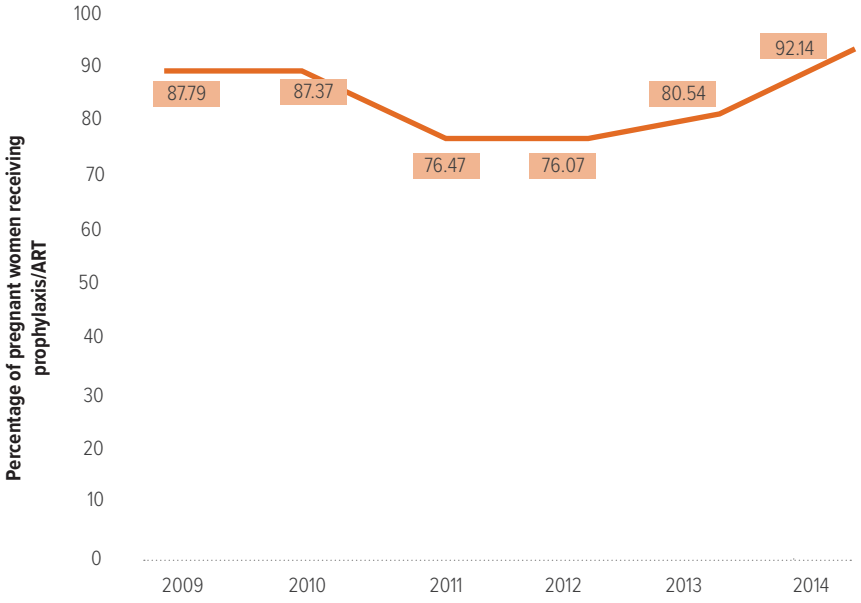


Figure 11. Proportion of eligible HIV-positive pregnant women receiving ARV prophylaxis/ART, 2009-2014

Choice of Infant Feeding Among HIV-Positive Pregnant Women

Safe infant feeding practices are critical in successful PMTCT. Exclusive breast feeding (EBF) for the first six months, while active on treatment is the recommended practice for PMTCT in India. Over the years, the program has seen increasing percentages of women opting for EBF from below 40% in 2009 to nearly 80% in 2015.

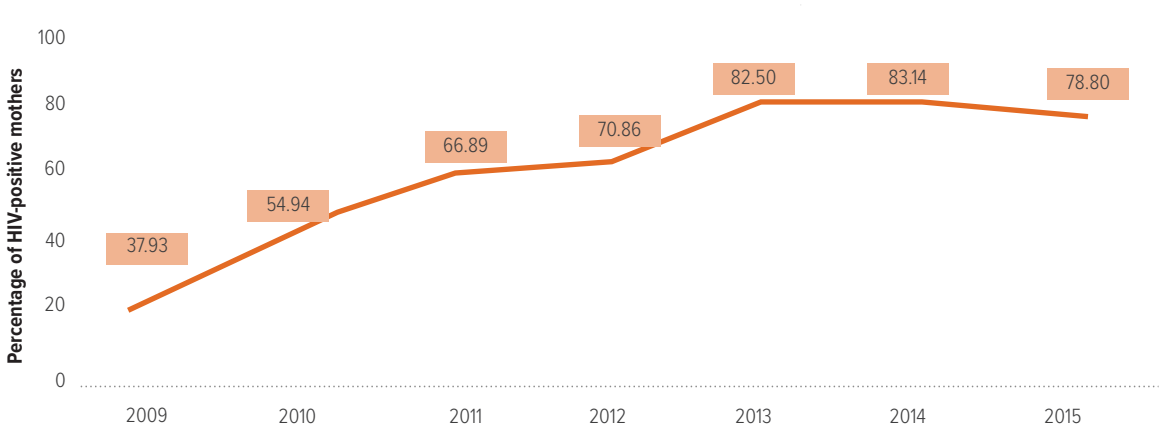


Figure 12. Percentage of HIV-positive mothers who breastfed their infants exclusively, 2009-2015

Counselors have been supported in promoting EBF. This has been accomplished through development and dissemination of IEC material (provided by SAATHII), through culturally appropriate flip charts, posters, and other counseling tools in local languages. SAATHII adapted EGPAF-Rwanda's infant and young child feeding (both within and outside the context of HIV) counseling cards, which helped counselors relay consistent messages to HIV-positive and HIV-negative mothers accessing the private sector across all implementation states. Additionally, handouts on revised guidelines for PMTCT and EBF were developed and distributed widely to all key stakeholders, including PPP site doctors, professional medical associations, and SACS.

Launch of infant and young child feeding IEC materials on World AIDS Day 2012. *From left to right: principal secretary, Health, Medical, and Family Welfare Department; project manager, Minister of the State, Ministry of Health, and Family Welfare; project director, AP State AIDS Control Society, past Government of Andhra Pradesh*

Reduced HIV Positivity among Children Tested at 18 Months

Program data indicate that the PMTCT services provided had the intended impact to substantially reduce HIV positivity rates among children in the program: In 2015, only 16 (2.67%) of 600 HIV-exposed infants tested at 18 months of life were found to be HIV-positive.

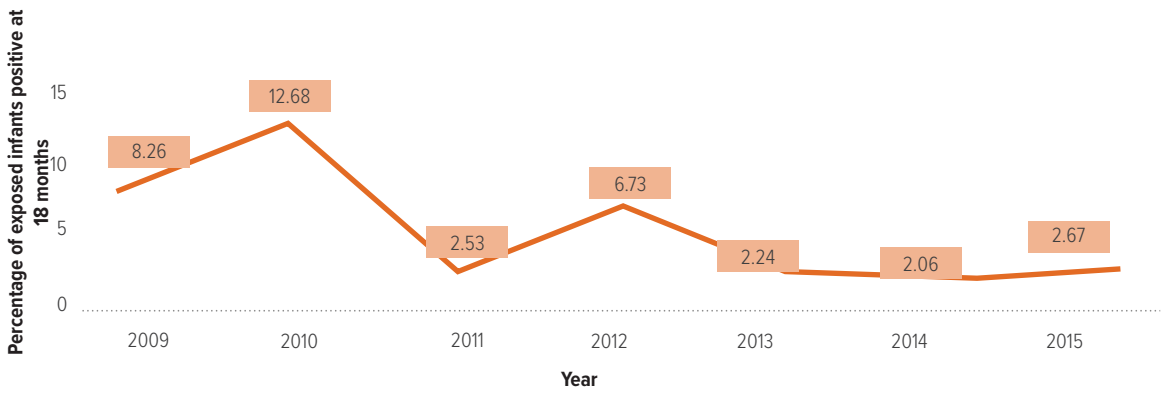


Figure 13. HIV-positivity percentage among HIV-exposed children tested for HIV at 18 months of life

Lessons Learned

Throughout these 15 years, SAATHII has been implementing its private-sector PMTCT program, a number of strategies were developed, carried out and improved, or abandoned. These included approaches to gap analyses, site identification and enrollment, mentorship programs, and M&E practices. Some of SAATHII's more efficacious strategies were mentioned briefly in the previous sections. The program approaches discussed below stood out as promising practices, which may be applied to other settings with similar contexts. These approaches helped the rapid scale-up of implementation sites—from 147 in 2008 to 1,530 in 2015—and improved HIV-related service practices among health care providers and facilities.

Saturation Approach Helps Increase PMTCT Services Access among HIV-positive Pregnant Women

The gap in the PMTCT coverage in India is compounded by limited human and financial resources, and necessitates innovative strategies of saturation coverage with these services for HIV-positive pregnant women. In the PPP context, saturation is defined as sufficient coverage to identify the total number of HIV-positive pregnant women estimated to access health services in the private sector of implementation states, so that they can be provided with or linked to necessary follow-up services.

> **"We are able to reach the people, the higher middle class people for HIV test. [The PPP model] is good for creating awareness among the general population on the importance of HIV testing."**
>
> *— Interview with health worker*

The saturation approach involved engagement of all private hospitals and some private clinics and maternity homes by bundling strategies—namely, enrolling sites under the PPP and RS models – and sensitization of professional bodies. This combination ensured that HIV-positive pregnant women in the private sector were identified, either at a PPP or RS sites, and connected to comprehensive PMTCT services, regardless of where they were identified.

> **"The support letter from DMHO helped me to overcome all barriers in my districts. Within two months I was able to establish 56 sites with the help of this letter. It enabled us to visit hospitals, assess their eligibility, and include sites in PPP programs."**
>
> *— Interview with partner FGD*

To move toward saturation, SAATHII facilitated:

1. A gap analysis to determine how to reach the intended number of pregnant women (Box 2)

2. Selection of towns in a district, based on the gap analysis; additional information on high-burden pockets from Computerized Management Information Systems (CMIS) block-wise data, ICTCs, ART centers, targeted intervention (TI) nonprofit organizations, and positive networks; and cooperation from the private health system

3. Mapping of private maternity homes by obtaining lists of such from secondary sources, including the Indian Medical Association, Federation of Obstetric and Gynaecological Services of India, positive networks, ART centers, Community Care Centers, ICTCs, TI nonprofits, PMTCT nonprofit organizations, and other private facilities, and by collecting primary data through field visits

4. Work with the district medical and health officer and professional medical associations to obtain a letter of support for involvement of private facilities in the PMTCT program

5. Enrollment of sites as PPP, and as RS for those not interested in partnering under PPP

6. Sensitizing professional medical association (Federation of Obstetric and Gynaecological Services of India, Indian Academy of Pediatrics, and Indian Medical Association) members on PMTCT services and the PPP program, and increasing referrals

7. Working with district health services to involve Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) to enhance referrals and follow-up of HIV-positive women

8. Tracking and monitoring of HIV-positive pregnant women for PMTCT on a monthly basis

9. Strengthening linkages with parent ICTC for follow-up of HIV-positive pregnant women identified in the PPP sites.

Box 2. Gap Analysis

SAATHII and its partners, as providers of technical assistance, National Health Systems Resource Centre data on institutional delivery, and NACO estimates of positivity to identify

(1) geographical gaps and targets in HIV counseling and testing, and

(2) positive cases for pregnant women seeking ANC care in the private sector.

Each of these steps played an important role in growing access to PMTCT services. A gap analysis and district selection ensured that the resources available for engaging private-sector facilities in PMTCT service provision were targeted at the areas in which they could have the most effect. The mapping process helped identify all private sites that could be enrolled in the program, and the letters of support from District AIDS Prevention and Control Unit and PMAs helped convince sites to enroll. These strategies were vital in increasing the number of private-sector sites providing HIV counseling and testing services. The decrease in ANC prevalence in India over the years has made it increasingly difficult to find HIV-positive pregnant women. Many women must be tested to identify fewer positive cases, which are required to reach saturation. This is why the very low-cost RS model is particularly important: it greatly increases the number of women who are tested in the program (Figure 14).

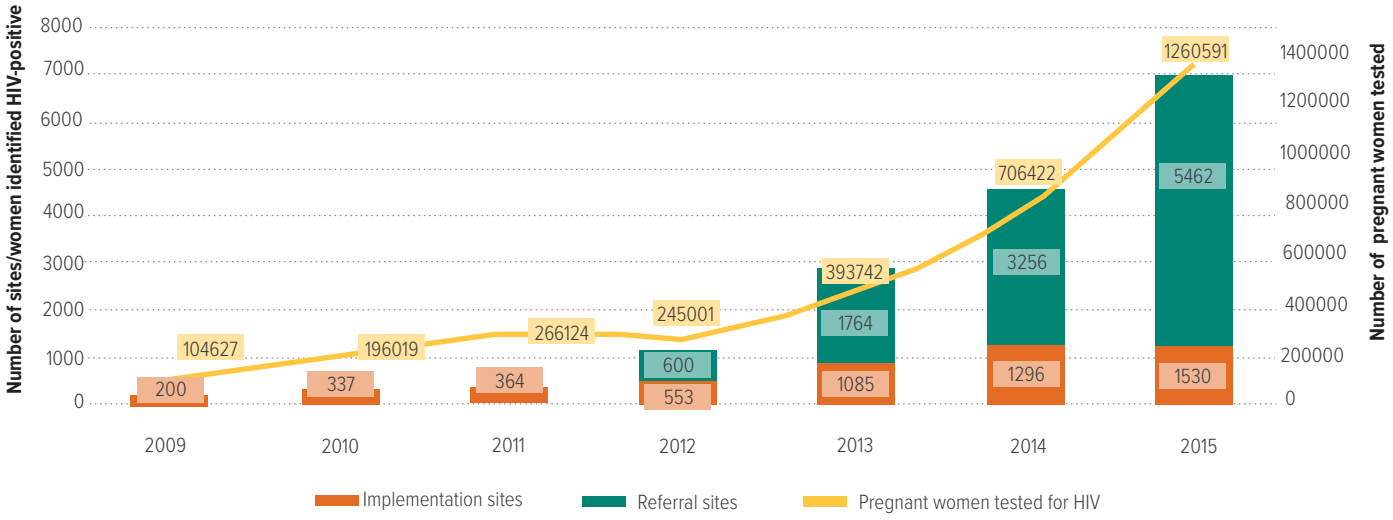


Figure 14. Trends in program coverage, 2009-2015*

*RS testing and identification data included for 2014 and 2015 only

The RS model helped newly diagnosed HIV-positive women to PPP sites or government ICTC. Thus, even though RS sites did not have the formal institutional arrangements with the program that PPP sites did, referral sites were able to contribute significantly to detection of HIV-positive pregnant women. Additionally, engaging PMAs through sensitization sessions helped bring in more sites, both PPP and RS. As a result of these strategies, the program saw an increase in in-referrals of known HIV-positive pregnant women to PPP sites, where they could receive services for PMTCT. In-referrals to the PPP sites increased by 70% to a high of 608 in-referrals between 2008 (prior to implementation of the saturation techniques) and 2014 (Figure 15).

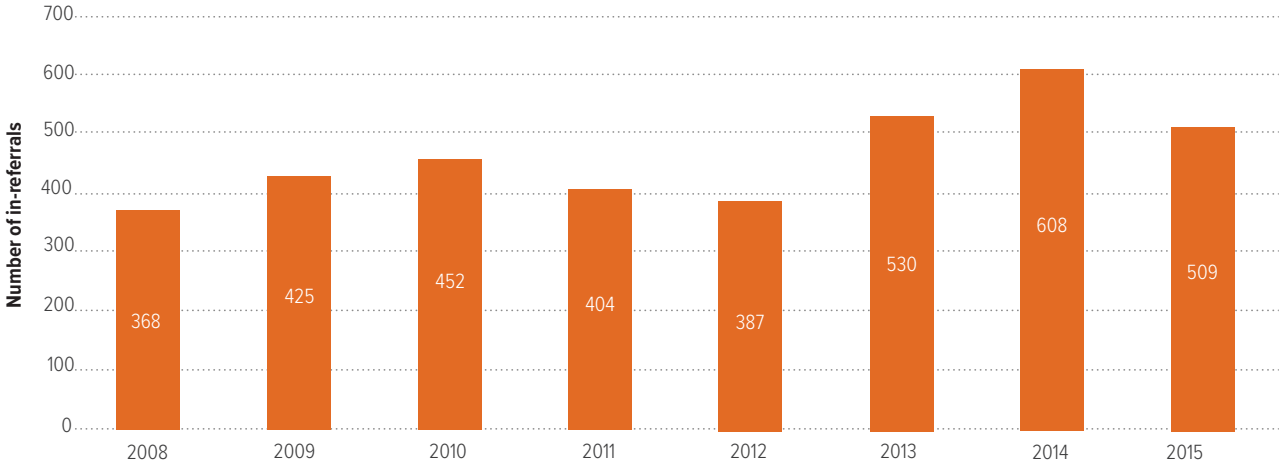


Figure 15. In-referrals of known HIV-positive pregnant women, 2008-2015

In Andhra Pradesh and Telangana, in which the PPP program has been implemented the longest and where SAATHI originated the RS model, the experienced PPP team pursued the saturation model aggressively—particularly in regard to RS site participation (Figure 16). In addition, the team succeeded in reaching more private hospitals than the total reported to exist by the state government. In June 2015, the governments of the two states reported 2,391 private-sector sites; by the close of 2015, SAATHII had 2,673 PPP and RS sites participating in its program in Andhra Pradesh and Telangana. These rigorous efforts to enroll sites, and increase counseling and testing, strengthened identification of HIV-positive pregnant women (Figure 18).

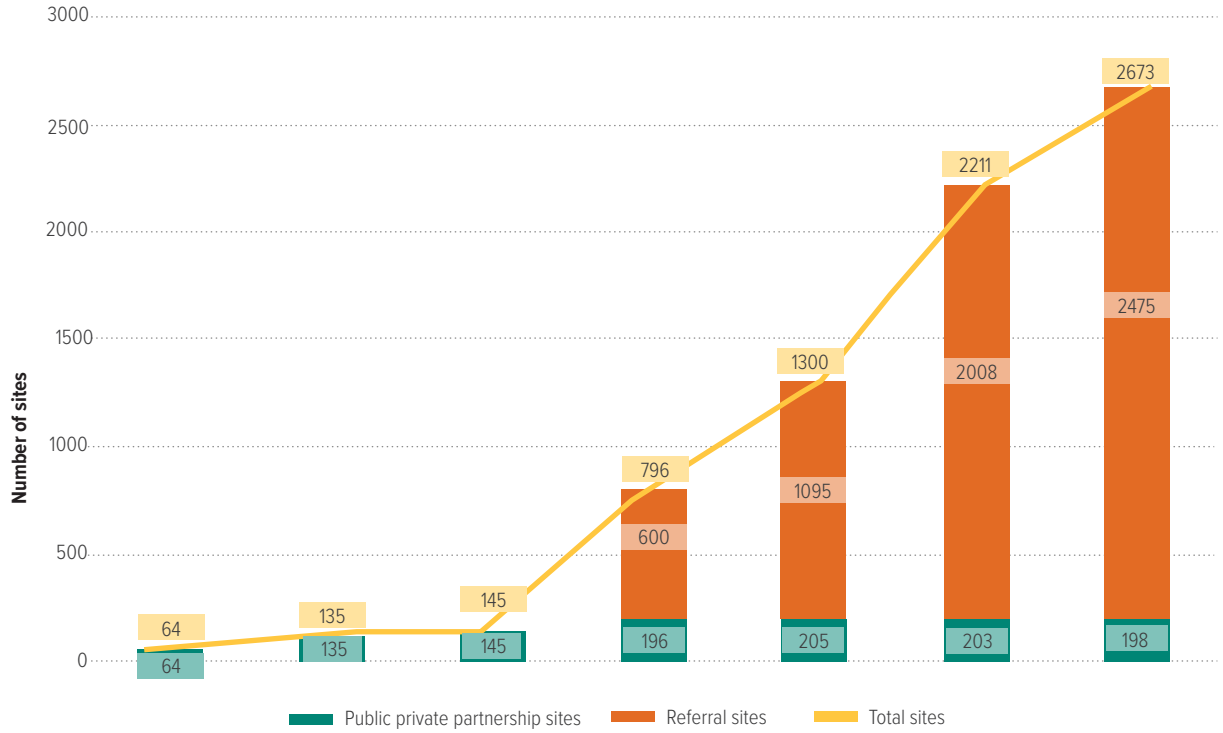


Figure 16. Increase in coverage of private sites through scale-up of RS model in Andhra Pradesh and Telangana, 2009-2015

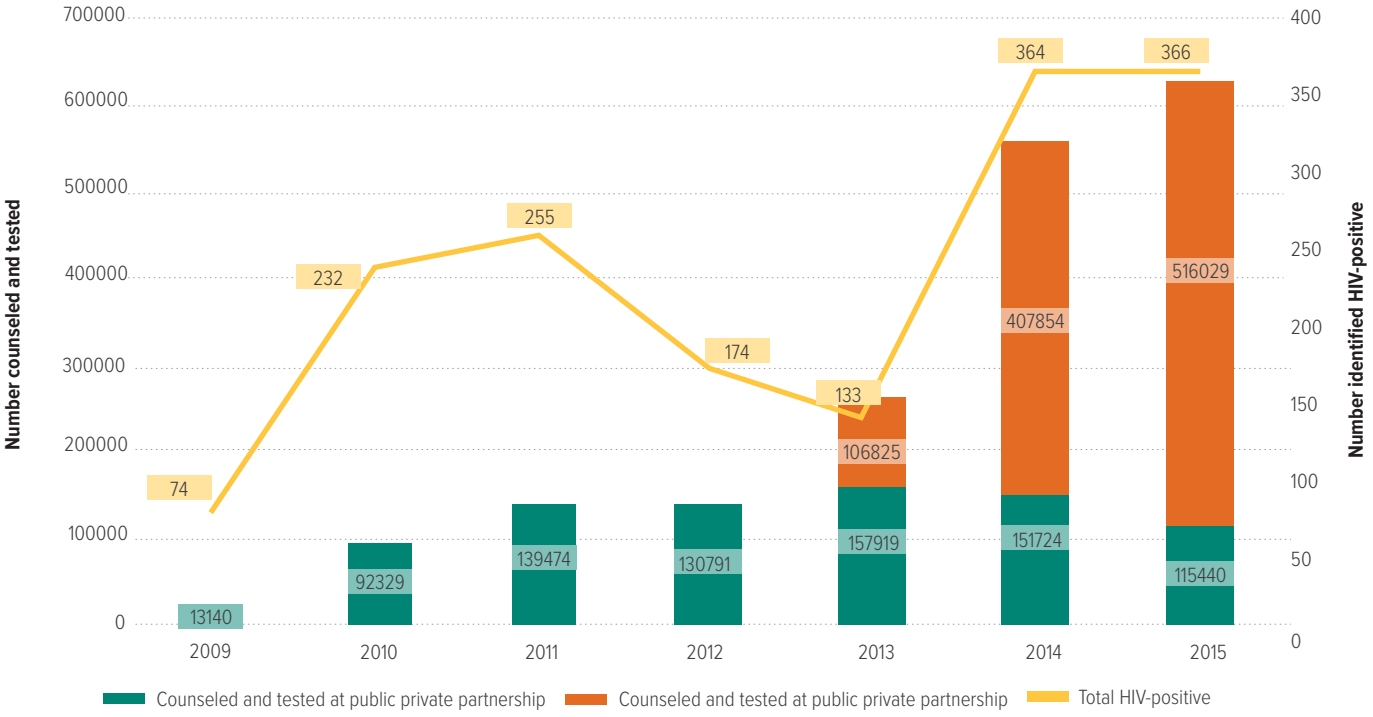


Figure 17. HIV-testing of pregnant women and identification of HIV-positive pregnant women in Andhra Pradesh and Telangana, 2009-2015*

*Data from 2014 and 2015 include single test positives from RS and PPP

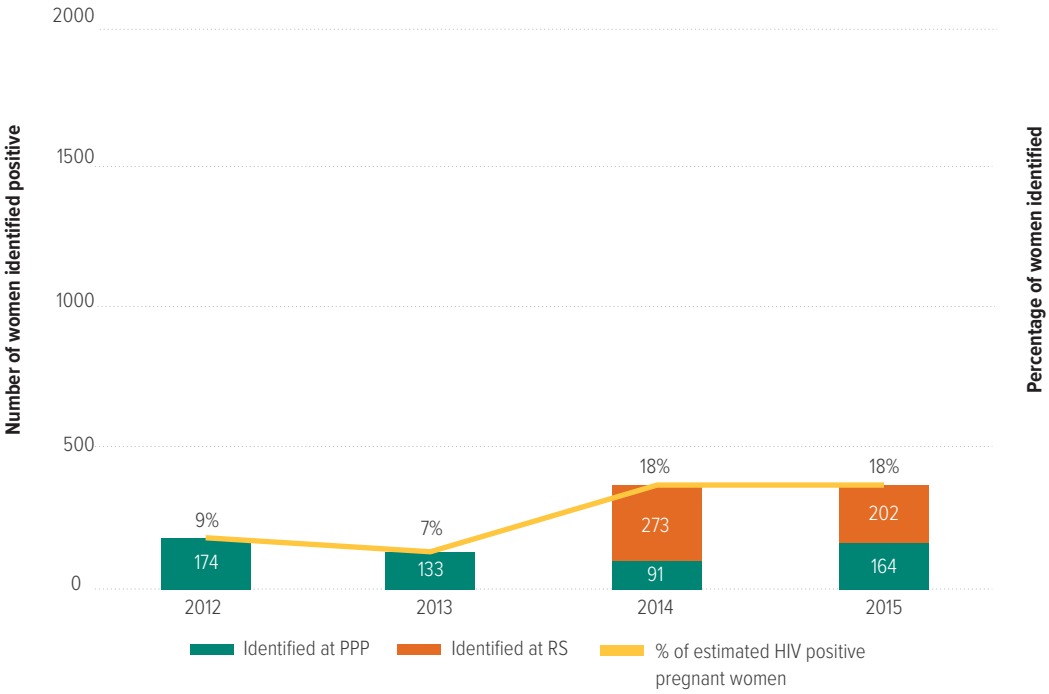


Figure 18. Coverage of estimated HIV-positive pregnant women, 2012-2015*

*Data from 2014 and 2015 include single test positives from RS and PPP (2015 only)

Though the program faced challenges in ensuring retention of HIV-positive pregnant women throughout the PMTCT cascade (the pathway of services needed for succesful PMTCT beginning with all pregnant women and ending with the detection of a final HIV status in HIV-exposed infant at breastfeeding cessation), this saturation model includes strategies that can help with follow-up in a resource-limited setting. This follow-up is important to make sure that once women are identified, they actually receive PMTCT services and help achieve HIV-free survival of their children. The POs track and monitor HIV-positive pregnant women on a monthly basis, using names and phone numbers provided by site staff after the women have consented to being contacted and followed up; additional support is drawn from the government sector when available, and through the involvement of PMTCT outreach workers and frontline health workers such as ASHAs and ANMs. The POs also communicate with staff at government ICTCs and ART centers to determine if HIV-positive pregnant women referred to public sector facilities have been successfully linked to PMTCT and/or HIV care services.

Targeting resources, developing low-cost models for private-sector engagement, and spreading awareness of PMTCT services among private practitioners within and outside the program have substantially expanded the availability of these services in the private sector and increased the likelihood that HIV-positive pregnant women will receive them

Counseling Mentoring Improves Quality at PPP sites

The technical support offered by SAATHII through its central office, state teams, and partner NGOs helped to strengthen PMTCT services in private-sector sites, ensuring their integration into pre- and postnatal care. TA that has been found to be particularly efficacious is counseling mentoring.

Counseling mentoring involves identification of gaps in counseling skills and knowledge of staff members assigned the role of counselor at PPP sites, and assistance to improve their counseling skills and knowledge based on the needs identified. A counseling mentoring tool was used to conduct a baseline assessment of the counseling practices at a site, and from that assessment a site-specific mentoring plan was prepared. During follow-up visits, mentoring methods such as mock sessions or case discussions were used to improve the counseling skills of the site's counselor. Sites were periodically reassessed with the same counseling mentoring tool to determine if counseling practices had improved and what gaps remained. Overall, SAATHII and its partners conducted 776 counseling mentoring visits among the 1,530 PPP sites in 2015.

This practice supported sites in achieving and/or maintaining quality standards of counseling. Data from 133 sites indicated an improvement in the quality of counseling at many sites from baseline assessment in April 2013 to follow-up assessment in March 2015 (Figure 19). Sites were initially categorized as poor, average, good, or excellent and then re-categorized after the end-line assessment. No sites experienced a decline in counseling quality between the baseline and follow-up assessment. Conversely, 69% of sites with potential for improvement from baseline (i.e., not already rated "excellent") experienced an increase in the counseling quality by the follow-up assessment. Among sites initially categorized as "poor", 69% improved their rating, as did 75% of "average" sites and 38% of "good" sites. Furthermore, all six "excellent" sites retained their baseline rating. Thus, tailored intervention through counseling mentorship can be helpful in improving the skills and knowledge levels of health care providers with limited prior training in providing quality HIV counseling services.

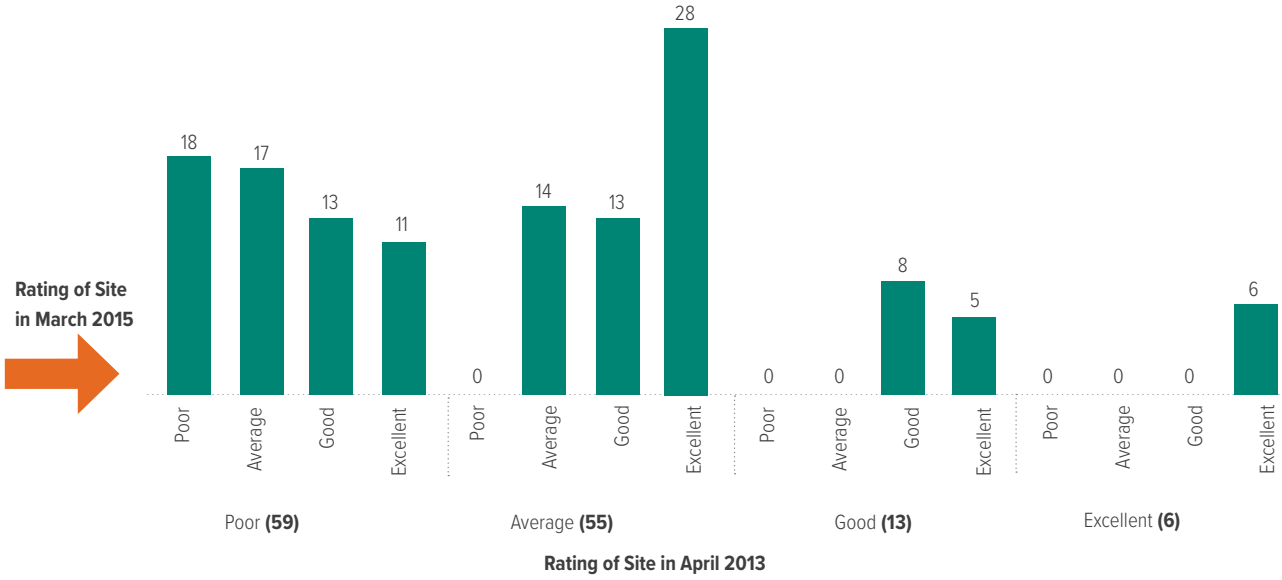


Figure 19: Impact of mentoring on counseling practices in the private sector (n=133)

TA Assures Quality Program Data and Reporting

Some of the TA to PPP sites is for the purpose of improving PMTCT service provision. Other aspects of TA focus on improving documentation and reporting practices at the sites, which is equally important for successful implementation of the program and for tracking program outputs and progress. The combination of two techniques, Routine Data Quality Audits (RDQAs) and SMVs, have been shown to be important for understanding the strengths and weaknesses of program data and addressing identified weaknesses.

Routine Data Quality Audits

SAATHII instituted RDQAs as part of its PPP program to maintain the integrity and accuracy of the data collected throughout its program life cycle. The objectives of RDQAs were:

• To assess the quality of data from key program indicators at selected sites

• To strengthen data management and reporting systems at three levels (central M&E unit, implementing partner, and site)

• To develop action plans for issues identified in data management and reporting systems, based on discussion with staff members at sites

Three primary indicators of the program audited include (1) ANC patients counseled and tested for HIV, (2) pregnant women identified as HIV-positive, and (3) HIV-positive pregnant women provided with ARV prophylaxis / ART.

These, five ancillary indicators are also included for data validation:

• Number of deliveries among HIV-positive women

• Number of HIV-exposed infants initiated on ARV prophylaxis

• Number of spouses of HIV-positive women counseled

• Number of spouses of HIV-positive women tested

• Number of spouses found HIV-positive

Sites that have served HIV-positive pregnant women (including identification, referred-in, and deliveries) are prioritized for undergoing the RDQA process. In general, RDQAs involve verifying the completeness of client registers and reporting formats at sites, assessing the practices of reporting test-positive cases, and addressing issues with respect to data reporting (if any) at the PO / site level.

Figure 20 depicts results from a qualitative and quantitative assessment review of five functional areas of data management and reporting systems, based on 563 RDQA visits across five partners in the PPP program in 2015. The shading represents the average capacity of the 563 sites in the functional areas, with "0" representing no capacity and "3" representing high capacity. As the figure shows, through the RDQAs the program was able to identify that understanding of indicator definitions and availability of reporting guidelines at sites were weak points in the data management systems. The program then mentored sites on indicator definitions and provided the latest reporting guidelines to address these respective gaps.

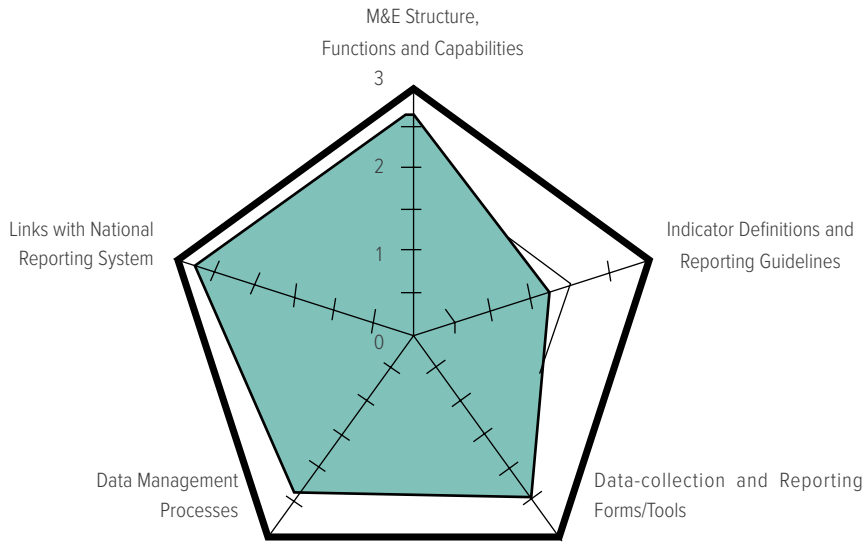


Figure 20: Data Management Assessment (n=563)

Following the RDQA, site-level staff were informed about the common errors that had been identified. They were oriented on the importance of documentation as well as key indicator definitions. An observation report, with recommendation for further action, was given to the respective PO and the Program Manager. RDQA outcomes are used to prioritize future supportive monitoring visits. This helps to assist the site staff in rectifying the observed issues. The program field staff can then communicate the results of actions taken to resolve errors back to the M&E team.

Supportive Monitoring Visits

During structured SMVs, the partners and sites use a specialized tool to review the operational and administrative aspects of program implementation (Appendix 2). This helped to categorize sites for prioritization of other TA activities, and to design site-specific TA plans (Appendix 3). As mentioned in the section on RDQA, sites with documentation and reporting errors were prioritized for SMV. As a result, during the SMVs, staff gathered more complete documentation at sites and reported to the government. As such, the program provided 84% (1,205 out of 1,428 PPP sites) of private-sector reporting to NACO in the implementation states supported by SAATHII (NACO, 2014).

Challenges

Service Delivery

• As many of the PPP sites are only capable of performing standard rapid HIV tests, they must refer HIV-positive women for confirmatory testing at government ICTCs. This leads to loss of follow-up, as women will often not go for their confirmatory tests for fear of stigma and discrimination. **For instance, in 2015, of the 467 women identified as HIV-positive with a single rapid test at such sites, only 412 (88%) reached an ICTC for confirmatory testing.**

• The necessity for accessing services at multiple health facilities makes HIV-positive women fearful of requiring chronic care over an extended period of time. Most hospitals are not multispecialty and, therefore, the need to visit many health facilities arises. HIV-positive women must visit a government ICTC or a comprehensive care PPP site for HIV confirmatory testing. In addition, they must make periodic visits to a separate care, support, and treatment center for medications, checkups, CD4 testing, and treatment for opportunistic infections, if present. They then must go back to the original PPP facility where they received their first ANC check-up or to another facility for further ANC services and delivery services. Finally, they must visit a pediatric specialty hospital for infant follow-up, growth monitoring, and immunization. Many HIV-positive women are lost to follow-up during this complex mix of sites and services along the continuum of care.

• The limited acceptance of need for follow-up or continuity of care services when relatively asymptomatic and fear of having a child diagnosed with HIV creates significant challenges for program retention and completion of the cascade of PMTCT services. These perceptions and fears were identified from informal feedback given to the program team by female clients.

Health Workforce

• Quality of counseling and documentation is sometimes compromised because the staff member who serves as the counselor in the PPP site has many responsibilities in addition to counseling.

• Trainings have been an area of concern at many PPP sites. Attending trainings at the state- or district-level is burdensome for private hospital employees. Government trainings can take five days or more. It has been a challenge for staff nurses and lab technicians who require training to be gone from the hospital for three or more days at a time. Moreover, high staff attrition and turnover in private hospitals requires frequent induction trainings for new staff. As of December 2015, from the 1,530 PPP sites, 3,060 people still required formal training.

• Some doctors are afraid of treating HIV cases because of the perceived risk of occupational exposure. Some also worry that if their hospital is known to serve HIV-positive clients, other patients may not want to be treated there because of the stigma linked to HIV.

• Absence of a dedicated community outreach program creates a substantial challenge for tracking all lost-to-follow-up cases, especially women who present directly in labor and those found to be HIV-positive at sites that cannot perform confirmatory tests.

• Accomplishing the workload within time and travel constraints can be a challenge for POs, who are usually in charge of up to three districts each. This commonly requires POs to monitor and provide assistance to 30–40 PPP sites and oversee 80–100 RS.

> **"Some doctors are afraid of treating HIV cases as they may feel that they may lose their regular patients if they come to know that their hospitals is treating HIV infected patients."**
>
> *— Doctor, PPP site*

Health Information and Research

• The lag time in the availability of government surveillance and program data in the public domain makes it challenging to conduct an effective gap analysis and implement midcourse corrections.

• Delays in the issuing of unique identifiers for the PPP sites by the government following the signing of the program MOU prevent sites from entering program data (number of women screened, diagnosed HIV-positive, etc.) into the government reporting system. This delay can range from one month to a year, depending on the leadership at the relevant SACS.

• The requirement of cumbersome documentation and reporting as mandated by the government is a challenge for retaining sites in the program.

• Lack of adequate data from the private sector limits building appropriate evidence-based strategies to engage, guide, and monitor the private sector.

Medical Products and Technology

• Lack of regular supply of kits, including HIV and early infant HIV diagnosis test kits, from the government to the PPP sites has not only hampered the ability to test all clients but has also taken away the sites' motivation to continue in the program. In instances where the supply of kits has been inconsistent, some PPP sites have ceased to function. Others have had to resort back to charging for tests, which make patients less likely to get tested. Furthermore, the test kits provided by the government were not as satisfactory to some private sites, since the time required to produce a test result is longer than other standard rapid tests

• The delay in receiving test results for confirmatory or more complex HIV tests, particularly infant DNA PCR results, was another factor for loss to follow-up of mother-baby pairs in the PMTCT program. Most important, a delay in the results for a HIV-infected child means a delay in initiation of necessary care and lifesaving treatment.

> **"Government sometimes falls behind in supplying enough kits, training, and reporting formats to all hospitals"**
>
> *—Government official*

> **"Government is not providing all resources they promised they would"**
>
> *—Lab Technician, PPP site*

Health Care Financing

• Lack of financial incentives to the service providers for PMTCT services—and lack of dedicated human resources for follow-up—has negative implications for retaining clients in the program. For instance, it is common for families to change their mobile phone provider and to move their home location. In the absence of dedicated outreach workers who can visit clients once a month, track changes, and update information, it is likely clients may be lost to follow up.

• The additional burden of travel expenses incurred by the PPP site staff to attend review meetings or collect test kits at the DAPCU office is another factor that detracts from the sites' motivation to be part of the PPP-PMTCT program.

Leadership and Governance

• As there is no written policy requiring private-sector facilities to report HIV counseling, testing and identification data to the government, convincing them to partner with the government is challenging, and the expectation for reporting to the government voluntarily is far from realistic. Further, there is no cap on the user charges levied for HIV tests and HIV-positive deliveries, making services inaccessible or increasing out-of-pocket expenses for some clients. Moreover, there is no regulation on the ART prescription practices for an HIV-positive clients in the private sector, potentially increasing the risks for HIV drug resistance and poor treatment adherence, if inappropriate, unsafe, or ineffective drug regimens are prescribed.

• Mutual mistrust between the private and public sectors—and lack of complete ownership of the program by both—is a challenge in sustaining the program. This mistrust is due to certain past or current experiences, such as (1) interruption in supply of test kits and consumables, (2) undue delays in settlement of accounts in some public-sector schemes carried out by the private sector, (3) cumbersome documentation and reporting systems, and (4) underreporting by the private sector to the government.

• Frequent changes in the leadership of SACS in most of the implementing states, and bifurcation of one state into two in the context of Andhra Pradesh and Telangana, led to delays in signing MOUs and initiating services at the PPP facilities.

Recommendations

Reducing Loss to Follow-up

There were several factors contributing to loss to follow-up of clients along the PMTCT cascade. These included the need to go to government ICTC for confirmatory testing, the need to access services from many different facilities, the lack of outreach workers to track cases, and clients' lack of perceived need for the continuum of care.

Bringing confirmatory testing and treatment services to the private sector is one way to reduce number of clients lost to follow-up who do not wish to access services in the public sector. It also has the potential to minimize the number of facilities that HIV-positive clients must visit for services. Similarly, consulting with pediatricians on integrating HIV care with routine child-care practices can also reduce the number of facilities that the HIV-positive mother must visit. For the most part, ART is available only in the public sector. Yet, the continuous advocacy efforts of SAATHII have benefited the program by identifying private sector sites with high client loads and converting them to sites capable of doing confirmatory testing.

Another way to address loss to follow-up is by improving post-test counseling to more strongly emphasize the importance of completing all steps of the PMTCT cascade. Sensitizing gynecologists and pediatricians to the importance of emphasizing follow-up care to their HIV-positive clients and of making appropriate referrals for needed services is also important. Also, reiterating messages to the clients for availing care, treatment, and support services is crucial. To move toward this goal, the program has strengthened post-test counseling through counseling mentoring and developing IEC materials on the importance of follow-up services. Furthermore, by engaging with professional medical associations through continuing medical education sessions, gynecologists and pediatricians—even those otherwise unaffiliated with SAATHII's program—were sensitized to the PMTCT program and have the knowledge to tell their clients about the important steps of the PMTCT cascade.

Finally, having a dedicated outreach program, with community workers who can track HIV-positive pregnant women through the PMTCT cascade is an important mechanism for reducing loss to follow-up. This could be done by involving community health workers such as ASHAs and ANMs. Even when there are no dedicated outreach workers, it is important to do as much outreach as possible. SAATHII's program experimented with various approaches to retain HIV-positive pregnant women in the program. These included supporting accompanied referrals to care and treatment centers, and involving frontline health workers and PMTCT outreach workers from the public sector in the follow-up of mothers and exposed babies.

Managing Heavy Workloads and Time Constraints

The PPP program is very demanding both on PPP site employees and the staff of SAATHII and its partners. Resource allocations, such as additional site staff and SAATHII POs, may be considered in districts with higher HIV burden.

Reducing the Burden of Trainings

The time and expense associated with trainings for site staff was identified as a challenge. Reducing the length of trainings can reduce the burden on health-care staff. Advocacy by SAATHII, as well as three-day trainings conducted for staff nurses from the general health system in Andhra Pradesh and Maharashtra, resulted in condensing the training duration for PPP staff to two or three days. In fact, SACS allowed SAATHII and its partners to conduct these 2-3 day trainings on their own, and facilitated follow-up at the nearest ICTC to supplement the trainings. Changing the structure and location of staff training is also helpful for reducing the burden on staff. On-site training has helped in dealing with the issue of releasing and covering staff for trainings, avoiding travel expenses, and reducing missed days from work.

Furthermore, by doing the training on-site, there is the potential to reach a greater number of hospital staff and the opportunity to more easily do repeat training. This is important when there is a high staff turnover rate and, therefore, a frequent need to train new staff.

Addressing Multitasking of Counselors

Counselors' quality of work is often compromised due to their responsibility to fulfill many duties beyond that of a counselor. Counselors' capacities in regard to counseling and documentation needs to be improved. To achieve this goal, SAATHII and its partners have adopted counseling mentoring as a TA approach to build the capacities of these site staff. Bringing in additional people to support overburdened counselors, where possible, is another option. With the advocacy efforts of SAATHII, the counselors from the nearest standalone ICTCs have started supporting the counseling of HIV-positive pregnant women at PPP sites, especially in facilities where the caseload is high.

Reducing Workload of POs

POs have many sites under their jurisdiction. Given the number of private sites that need to be engaged, TA can be prioritized based on current and past experience in diagnosing HIV, deliveries among HIV-positive pregnant women, HIV caseloads, and so forth. Such prioritization will help optimize TA support to improve quality of services where it matters most. New technologies can also reduce workload. For example, giving referral sites the option to use a mobile-based system to update POs on HIV-positive cases they've identified has reduced the frequency of visits they must make to the RS.

Maintaining Private-Sector Engagement in PPP program

A number of issues, such as interruption of the supply of test kits, which are supposed to be provided to the PPP sites by the government, contribute to the hesitancy of the private sector to enter into the program. These issues have also made it difficult for sites in the program to function effectively. Sustaining the private sector interest in the PPP program requires that the government and SAATHII hold up both sides of the partnership.

Keeping this in mind, the government needs to be ready with a sufficient supply of kits before any PPP program is initiated or expanded. The government should institutionalize a robust supply chain management system for proper analysis of the site and district-level needs for high-quality test kits, drugs, and other consumables, and to maintain an uninterrupted supply. These processes are essential to keeping up the "public" side of the PPP agreement. SAATHII or its partners may need to step in at certain points to ensure that the supply chain is maintained.

In addition to improving supply chain management, NACO and the Ministry of Health and Family Welfare must develop national policies that enable systematic engagement with the private sector. These should include terms of partnership, modalities for private-sector reporting, and compliance with treatment guidelines and notification of HIV diagnoses similar to current policies that exist for TB. These policies are essential for the government to be able to provide stewardship of private health sector facilities, and to encourage widespread private-sector engagement in the national program.

Lastly, finding ways to recognize and show appreciation for the work that PPP sites are doing is important for retaining sites. In SAATHII's experience, recommending the sites with the best performance for bestowing awards on World AIDS Day, and providing certificates of appreciation to all sites, has contributed to their retention in the program.

Ensuring Sustainability through Government Ownership

Ownership of the program by the government is important for the long-term sustainability of private-sector involvement in the national program; the government should ultimately oversee the partnership so that it is not reliant on the availability of a third party. The ideal model for sustainability is for the TA agency to provide support for a site for two to three years (five years for high-volume sites). The TA agency would enroll the site in the program and bridge any gaps between the private site and the public sector, but ultimately phase out its support as the program becomes well established. In order for this to work, government personnel and PPP site personnel must build a rapport so that communication regarding monitoring and data reporting occurs directly between the two.

The program has been working toward this model of sustainability by involving DAPCUs in the joint monitoring of PPP sites. DAPCU and TA personnel visit the sites to better understand the PPP program and assessment process. PPP site personnel then attend DAPCU monthly meetings so that rapport is between the two parties grows and DAPCU feels ownership over the PPP sites. Eventually, DAPCU and ICTC personnel will visit the sites on their own, and sites will report directly to DAPCUs and ICTCs. There is evidence that this evolution toward sustainability is already happening in the program: approximately 90% of PPP sites across the implementing states are preparing CMIS reports and sharing them with DAPCUs without any help from the TA agency. Though this would not have been possible without the strong TA of SAATHII and its partners, it suggests that the partnerships can be sustained without third-party involvement in the long-run.

Way Forward

The program is currently in the process of expanding under Project Śvetana, an initiative sponsored by the Global Fight to Fund AIDS, TB and Malaria. In addition to further scaling up the program in the original states of Andhra Pradesh, Telangana, Maharashtra, Karnataka, and Tamil Nadu, Project Śvetana is expanding the program to nine other states and union territories (Delhi, Jharkhand, Odisha, Goa, Gujarat, Kerala, Pondicherry, Rajasthan, and West Bengal). Based on its prior experience with private sector PMTCT, SAATHII has been able to use many existing strategies to enroll sites with minimal start-up time in new states. SAATHII's experiences have helped the government formulate diverse models of PPP engagement, such as models that rely on government supply of test kits and others in which the facilities use their own kits. SAATHII is also working to further simplify reporting from RS sites, based on the learning that many private facilities hesitate to partner with the government due to the burdensome requirements to maintain extensive documentation and reporting.

SAATHII is also in the process of piloting a new program among some of its PPP sites in the original implementation states. This program aims to integrate services for other infectious diseases that affect maternal and child health—namely, hepatitis B, syphilis, and tuberculosis—into the PMTCT program. In 2015, SAATHII conducted a study across 301 PPP sites that looked at the knowledge and practices regarding these and other infectious diseases. A total of 138 of the sites that took part in the study have been selected for participation in the pilot program based on their current practices relating to hepatitis B, syphilis, and tuberculosis and their willingness to expand services for those diseases.

Building off its long history of working with the private sector, facilitating public-private partnerships to engage the private sector in the national PMTCT program, and enhancing PMTCT services in the private sector, SAATHII is developing methods to engage the private sector in MCH beyond HIV.

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Appendix 1: Past and Present Partners in Private Sector PMTCT Programming

Partner	Stakeholder/Partner Description	Region/ Geographical Coverage	Years of Involvement in the Program
Asha Foundation	Action, Service, and Hope for AIDS, non-profit organization established in 1998	Missionary hospitals in selected districts of Andhra Pradesh and Karnataka	2002-2008
Asha Kirana	Non-profit organization working in four districts in Karnataka	Karnataka	2002-2014
Bapuji Child Health Institute (BCHI)	Hospital and research center based in Davangere, Karnataka	Karnataka	2002-to date
Children's Aid and Research Trust (CART)	Non-profit, non-religious, developmental organization working in the areas of health and community development	Karnataka	2004-2010
Freedom Foundation	Bangalore-based non-profit organization with operations in Karnataka and Telangana States	Karnataka and Telangana	2002-2014
Tamil Nadu Dr. MGR Medical University (Dept. of Experimental Medicine [DEM])	The DEM was established in 1992. Its focus is on infectious diseases, mainly HIV/ AIDS, and certain re-emerging infectious diseases	Tamil Nadu	2002-2007
Prayas	Non-profit organization working in energy, education, and governance, as well as HIV/AIDS services, based in Pune, Maharashtra	Maharashtra	2002-to date
Swami Vivekananda Youth Movement	Non-profit organization based in Mysore, Karnataka	Karnataka	2002-to date
SAATHII	National non-profit organization working to strengthen and expand HIV/AIDS services in India in pursuit of its vision of universal access to health care	State units in: Andhra Pradesh Maharashtra Tamil Nadu Telangana	2008 in a phased manner-to date

Appendix 2: Categorization of Sites

Implementation sites are categorized based on their caseload, infrastructure, and type of cascade of services provided to HIV-positive women.

• **A+ Category:** These are high-volume sites and named as champion sites. They are large hospitals possessing adequate infrastructure, capacity, and motivation to provide the complete cascade of PMTCT services to a large number of positive women. These hospitals are willing to accept referrals, provide follow-up, and serve as nodal delivery points to other hospitals. Moreover, they have in-house care, support, and treatment facilities. They also serve as demonstration sites and are capable of hosting exposure visits for other sites. These sites conduct both standard rapid HIV tests and confirmatory HIV tests, maintain registers equivalent to standalone ICTCs, and participate in External Quality Assurance Scheme (EQAS).

• **A Category:** These provide basic ANC and delivery services to HIV-positive women identified at their own sites, and may or may not be willing to serve referral cases. These sites are willing to conduct both standard rapid HIV tests and confirmatory HIV tests, maintain registers equivalent to standalone ICTCs, and participate in EQAS.

• **B Category:** These sites are willing to provide counseling and testing services to pregnant women but not PMTCT services, including positive deliveries. These sites help to saturate coverage of ANC women with counseling and testing services. They will be mandated to refer all identified HIV-positive cases to the A+, A, or C category sites or to government ICTCs for completion of the PMTCT cascade. They conduct only standard rapid HIV tests and follow single-page reporting.

• **C Category:** These sites provide counseling and testing services to pregnant women but have not identified a single case until now. They conduct deliveries by accepting referrals for HIV-positive pregnant women from other sites or through outreach. They also conduct only standard rapid HIV tests and follow single-page reporting.

• **D Category:** These sites provide counseling and testing services to pregnant women but have neither identified HIV-positive women nor conducted deliveries for HIV-positive women during the entire program period. These hospitals are retained in the program, as they have the potential and history of identifying positive cases. They also conduct only standard rapid HIV tests and follow single-page reporting.

Source: Godbole and Mehendale, 2005

SOLIDARITY AND ACTION AGAINST THE HIV INFECTION IN INDIA (SAATHII)

Solidarity and Action Against the HIV Infection in India (SAATHII) is a nongovernmental organization working in India to expand access to quality HIV prevention, care, and treatment and to sexual and reproductive health services. Headquartered in Chennai, SAATHII operates in 19 states, with offices in Ahmedabad, Bhubaneswar, Delhi, Hyderabad, Kolkata, Jaipur, Imphal, Mumbai, Nagpur, Ranchi, and Thiruvananthapuram. SAATHII implements India's largest prevention of parent-to-child HIV transmission (PPTCT) initiative by enabling public-private partnerships between private facilities and the National AIDS Control Organization.

THE ELIZABETH GLASER PEDIATRIC AIDS FOUNDATION (EGPAF)

The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) is a proven leader in the global fight to prevent pediatric HIV infections, end pediatric AIDS, and create a generation free of HIV. As part of its efforts, EGPAF is committed to supporting country ownership and works to strengthen national capacity to enable ministries of health, local health authorities, and civil society organizations to gradually assume full ownership of their HIV/AIDS response.

GILEAD FOUNDATION

The Gilead Foundation, a nonprofit organization established by Gilead Sciences in 2005, seeks to improve the health and well-being of underserved communities around the world. Their giving focuses on expanding access to HIV and hepatitis education, outreach, prevention, and health services. The SAATHII/EGPAF partnership thanks the Gilead Foundation for their continued support of our work to end AIDS in children.

SOLIDARITY AND ACTION AGAINST THE HIV INFECTION IN INDIA (SAATHII)

34 (old 46), MG Ramachandran Road
Kalakshetra Colony, Besant Nagar
Chennai 600 090

P +91 44 2440 3947/3663

E info@saathii.org

WWW.SAATHII.ORG

ELIZABETH GLASER PEDIATRIC AIDS FOUNDATION (EGPAF)

1140 Connecticut Avenue NW, Suite 200
Washington, DC 20036

P +1 202 296 9165
F +1 202 296 9185

WWW.PEDAIDS.ORG