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Strengthening HIV/AIDS Response: Program Evaluation of India's Largest Public-Private Partnership Consortium for HIV/AIDS Care and Treatment

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Abstract

Recognizing the need for augmenting the private sector's response to HIV/AIDS, an initiative was started in the southern state of India. A programmatic evaluation of Andhra Pradesh AIDS Consortium (APAIDSCON), examining its impact on HIV/AIDS care and treatment service delivery was undertaken. The APAIDSCON program evaluation, based on U.S. Centers for Disease Control and Prevention's evaluation protocols, was conducted in 2013-2014 at four randomly selected private medical colleges. Mixed method approach was used, including focus group discussions, in-depth interviews, and review of program monitoring data, to ascertain impact on HIV/AIDS care and treatment service delivery. Respondents, randomly selected, included 115 clients accessing HIV testing and counseling and 115 HIV-positive inpatient clients. Patient satisfaction was assessed through descriptive analysis of median and mode scores, followed by non-parametric tests. Findings indicate increased HIV/AIDS service utilization at evaluation sites. A total of 47,260 clients availed HIV testing at evaluation sites during April 2008-March 2011. Significant increase was noted in the proportion of high-risk group individuals being tested (Z score 10.68; p-<0.01) and the proportions of HIV-positive outpatients (Z score 2.29; p <0.02) and inpatients (Z score 3.41; p <0.01). Stipulated standards for HIV treatment and care were adhered to. 118 positive pregnant women had institutional delivery; and 93.3 percent (n=10) of the women and 95% (n=112) children received Nevirapine. The overall patient satisfaction was high. Participation of private medical providers and a board basket of services may enhance institutional performance and improve access to HIV care and treatment services.

Keywords: Partnership; PPP; National AIDS Control Programme; India; Stigma and Discrimination.

Introduction

India battles a huge HIV/AIDS epidemic, shouldering the world's third-largest burden of HIV-positive population. To its credit, the Government of India's National AIDS Control Programme (NACP) has yielded results in its fight against HIV/AIDS, with the overall HIV prevalence declining from 0.37 percent in 2000 to 0.26 percent in 2015. Even so, HIV/AIDS continues to remain a major public health problem for the country, with a population of about 21.75 lakhs (2.175 million) HIV-positive individuals, as per government estimates. The private healthcare sector, which is the dominant healthcare provider in India, has so far played a limited role in combating HIV/AIDS. The mid-term evaluation report for the

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fourth phase of the national AIDS program (NACP-4), which is aimed at ensuring universal access to comprehensive HIV care services, mentions the involvement and coordination with private sector as a challenge and highlights the complementary role the private sector must play in ensuring effective coverage.

Recognizing the need for augmenting the private sector's response to HIV/AIDS, an initiative was started in the erstwhile Andhra Pradesh (AP) a southern state of India, having one of the heaviest HIV burdens in the country. A consortium of private medical colleges, named the Andhra Pradesh AIDS Consortium (APAIDSCON), was formed in 2005 to tap into the resources of private medical institutions to deliver HIV/AIDS-related services as per NACP guidelines. APAIDSCON was set up with funding support and technical assistance from the U.S. President Emergency Plan for AIDS Relief (PEPFAR) and the Centers for Disease Control and Prevention (CDC) Division of Global HIV/AIDS (DGHA) through Science Health Allied Research Education (SHARE) India. Until 2005, there were no interventions to involve private medical institutions in AP to implement NACP. APAIDSCON was initiated with an open invitation to private medical colleges in AP to create a partnership and establish an organized structure to provide HIV/AIDS care and treatment services in their hospitals. In its launch year (2005), 11 private medical colleges of AP joined the consortium, and by the end of the project's fifth year (2010), the number of partnering institutes increased to 20. These partnering private medical colleges, referred to as APAIDSCON-supported partnering institutions (APIs), were spread across 14 districts of the state.

The overarching objective of the consortium was to provide standard HIV/AIDS services through private medical colleges in AP, while addressing the issue of stigma and discrimination. Encouraging private medical colleges to open their doors to HIV/AIDS patients without fear, stigma, and discrimination is a crucial imperative for improved care of people living with HIV (PLHIV). Several studies have identified stigma and discrimination by healthcare providers as a major obstacle to an effective HIV/AIDS response. Studies from India have also noted HIV/AIDS-related stigma and discrimination in healthcare settings. Addressing the problem of stigma and discrimination takes on a particular significance in the context of the largely unregulated and unmonitored private health sector in India, which, as the dominant healthcare provider, extends about 82 percent of the outpatient and 58 percent of the inpatient services in the country. A significant number of physicians in the sector have been found to hesitate in providing care and treatment to HIV-infected patients, largely due to lack of opportunities, absence of professional training, and/or other barriers. Constructive interventions and strategies are, therefore, required to overcome these barriers, both for increasing private sector participation and improving the standard of patient care in the private sector. Importantly, private medical colleges are largely located in the semi-urban and rural areas of AP, where the prevalence of HIV is high. Tapping into these private sector resources to deliver HIV/AIDS related services was the driving goal of forming the APAIDSCON consortium.

A programmatic evaluation of the APAIDSCON project was undertaken in 2013–2014 to understand how the project had been implemented to provide standard HIV/AIDS services through the partnering private medical colleges (APIs). The evaluation also sought to enable a review of the project against its specific objectives, key among which was provision of HIV/AIDS prevention, care, and treatment services at APIs as per NACP guidelines. This paper presents the methodology and results of the programmatic evaluation of APAIDSCON-India's largest public-private partnership consortium for HIV/AIDS care and treatment. The findings and evidence generated from the evaluation is expected to inform the National AIDS Control Organisation (NACO) and the State AIDS Control Societies (SACSs) in their efforts to strengthen the country's responseto HIV/AIDS, a strategic imperative for which is greater involvement of the private sector in provision of HIV/AIDS services as per national guidelines.

Methods

Evaluation Design

The scope of the evaluation was determined based on the availability of pre-existing information (Management Information System [MIS] data) and the feasibility of obtaining information from a range of stakeholders, including beneficiaries, implementers, the technical assistance agency, and the government. The evaluation employed a non-experimental mixed method approach and explored different data sources to answer the stated evaluation questions and secure information on the indicator measures. The decision to use a mixed method approach, comprising both qualitative and quantitative methods, was driven by the advantages this approach offers, important among which are a more comprehensive exploration of research questions and access to additional

perspectives and insights.

Quantitative methods were adopted to assess the utilization of HIV/AIDS services and standards of care at APIs. The quantitative methods included review of program monitoring data, data abstraction, facility assessments using a checklist, and interviews using a structured questionnaire. Qualitative methods, including focus group discussions (FGDs) and in-depth interviews (IDIs), were used to answer questions related to stigma and discrimination among healthcare providers and APAIDSCON's contribution in improving the healthcare management systems for delivering HIV/AIDS services within APIs.

Sampling and Sample Size

Of the 20 APIs that were part of APAIDSCON at the time of evaluation, 14 met the inclusion criteria of having at least 80 percent of the project monitoring data available for the period of 2008 to 2010. The 14 APIs were categorized across four strata, based on their differing package of services for providing HIV/AIDS services. For the evaluation, one API was randomly selected from each stratum, using random numbers generated from MS-Excel. The evaluation took place at the four selected APIs.

The participants interviewed for the evaluation included beneficiaries; service providers, including management representatives, faculty from the Obstetrics and Gynecology department and peer counselors from APIs; and key informants, including APAIDSCON staff and state and district level functionaries. The beneficiaries were categorized as clients at Integrated Testing and Counseling Centers (ICTCs), PLHIV admitted to APIs as inpatient clients, and pregnant women admitted in labor rooms at APIs.

Data Collection

A third-party agency identified by CDC was contracted for the collection, management, and analysis of data. CDC monitored the quality of data collection, analysis, interpretation, and reporting. Prior to data collection, qualitative and quantitative data collection field teams were provided training on quantitative and qualitative methods, interview techniques, and data abstraction into Excel spread sheets. Likewise, data analysts were trained on qualitative and quantitative methodologies for interpreting and analyzing data. The entire data collection process was pre-tested at a non-evaluation API.

The fieldwork was carried out during July 14–August 24, 2013. The qualitative team conducted FGDs and IDIs with beneficiaries and key informants. The quantitative team conducted interviews using a structured questionnaire, facility assessments, and retrieval of data from records using abstraction forms. The service utilization data came from 47,260 clients who had visited the study sites during April 2008–March 2011. The estimates for standard of care for pregnant women came from a sample of 129 HIV-positive pregnant women. An important aspect the evaluation explored was the level of patient satisfaction, which was assessed by asking questions about counseling and testing services, waiting time, privacy, accessibility, availability of healthcare providers, and quality of services received at APIs.

Data Analysis

Trend analysis was conducted to ascertain any significant change in service utilization over time.Trend estimates indicate an average annual rate of increase or decrease assuming an underlying linear relationship between service utilization and time. To obtain reliable confidence intervals, the evaluation team used the bootstrap method, a resampling technique that allows statistical inferences. The same method was used to obtain yearly trend estimates for standard of care.To assess patient satisfaction, the team first undertook a descriptive analysis of median and mode scores, following which non-parametric tests wereused to see if the overall satisfaction score deviated significantly from a known average of 3.

Results

The evaluation exercise produced interesting results and insights on APAIDSCON implementation and its impact on some key aspects of HIV/AIDS service delivery: utilization of HIV/AIDS services, standard of care, and patient satisfaction. The results in each of these areas are briefly discussed below.

Utilization of HIV/AIDS services: A key finding of the evaluation was the increase in utilization of HIV/AIDS services by PLHIV during April 2008–March 2011. Of the 47,260 clients who availed HIV testing at the evaluation API sites, 57 percent were women, 43 percent were men, and 0.04 percent were transgender persons. Around 3.5 percent (1,674) of the clients were from high-risk groups. Importantly, trend analysis of demographic profiles (Table 1) indicated a significant increase in service utilization by women ($p=0.01$).

A total of 12,724 pregnant women received HIV post-test counseling at evaluation sites, of which 0.79

percent (n=108) were found HIV positive. Deliveries were conducted for 129 HIV-positive women at API evaluation sites; 58.14 percent (n=54) had a normal delivery and 41.86 percent (n=75) had a Caesarean section. From April 2008–March 2011, 0.36 percent PLHIVs received outpatient services (2,844 PLHIVs/ 7,69,200 total outpatient cases) and 3.06 percent PLHIVs received inpatient services (2,778 PLHIVs/ 90,808 total inpatient cases) at evaluation sites. There was a significant increase in the proportion of PLHIV outpatient load (Z score 2.29 and p-value <0.02) as well as inpatient load (Z score 3.41 and p-value <0.01) at the APIs.

Standard of care:The findings also provided insights on the partnering medical colleges' service deliveryas per the standard of care guidelines stipulated by NACP. Table 2 presents the trends in indicators related to standard of care. The significant trends include testing of spouses of sero-positive pregnant women and decrease in HIV-positive spouses of infected women. Of the total 108 pregnant women diagnosed at evaluation sites, 50.9 percent (n=55) of the spouses of HIV sero-positive mothers were tested at API ICTCs; among these, 69 percent (n=38) of the spouses of sero-positive mothers were tested HIV sero-positive. With regards other services, 90 percent (n=109) of the eligible PLHIV identified at the ICTCs of API sites during April 2008–March 2011 were initiated on antiretroviral therapy (ART). A total of 118 HIV-positive pregnant women had institutional deliveries at API evaluation sites; of these, 93.3 percent women (n=110) and 95 percent infants (n=112) received Nevirapine for prevention of parent-to-child transmission (PPTCT). During the same period, 65 infants born to HIV-positive mothers were followed up at 18 months and tested for HIV. Notably, although 1,698 high-risk group personswere referred for follow-up HIV testing, only 2 percent (n=34) underwent follow-up testing.

Patient Satisfaction

To ascertain the level of patient satisfaction, the patients/clients were asked a range of questions, including on counseling and testing services, accessibility, availability of healthcare providers, and service quality at APIs. The overall satisfaction on all these parameters was graded as high by beneficiaries (n=115). As seen in Figure 1 below, variables such as ease of admission for treatment, satisfaction with medical facilities, freedom to express doubts and ask questions about health, convenient consultation hours, and friendly and accessible doctors received high satisfaction scores. The variables that received low scores were negative questions such as long waiting times, expensive treatments, and healthcare

Table 1: Trend analysis of client characteristics from evaluation sites

Characteristics	Yearly Trend (SE)	95% CI; p-value
Male	1693 (617.5)	(-6153.3, 9538.3); 0.223
Female	1475.5 (21.1)	(1207.7,1743.2); 0.009
Transgender	-0.5 (8.94)	(-114.2,113.2); 0.964
High-risk groups (HRGs)	238 (166.3)	(-1874.8,2350.8); 0.388

Table 2: Standard of HIV/AIDS prevention, care, and treatment services at APIs

Indicator	Yearly Trend	95% CI; p-value
Pregnant women diagnosed HIV positive#	-11	(-23.52,-1.52); 0.085
Spouses of HIV sero-positive mothers tested at ICTC#	-10	(-15.61,-4.391); <0.0001
Spouses of HIV sero-positive mothers tested sero-positive at ICTC#	-6.5	(-7.18,-5.815); <0.0001
High-risk individuals referred for follow-up test@	231	(-156.85, 618.8); 0.243
High-risk individuals underwent follow-up HIV testing@	-5	(-6.38, -3.62); <0.0001
Deliveries*	-3.5	(-31.44, 24.44); 0.806
Mother received NVP*	-4	(-31.49, 23.4); 0.776
Children received NVP*	-3.5	(-31.48,24.47); 0.806
Follow up at 18 months*	-4	(-23.48,15.48); 0.687
HIV test result at 18 months age of child*	-4	(-23.50,15.50); 0.637

*Source: Line list register of positive pregnant women and post-natal follow-up register (same cohort); excluded home deliveries (5) and MTP (3); missing data (3).
#Source: ICTC CMIS report and counseling register for pregnant women
@Source: ICTC counseling register (pregnant women and non-pregnant women counseling register)
** In two cases, the mother died after the delivery.
Note: Few indicators of the above table are not related to the same cohort. Thus, the indicators of non-similar cohort shall be interpreted ir isolation.

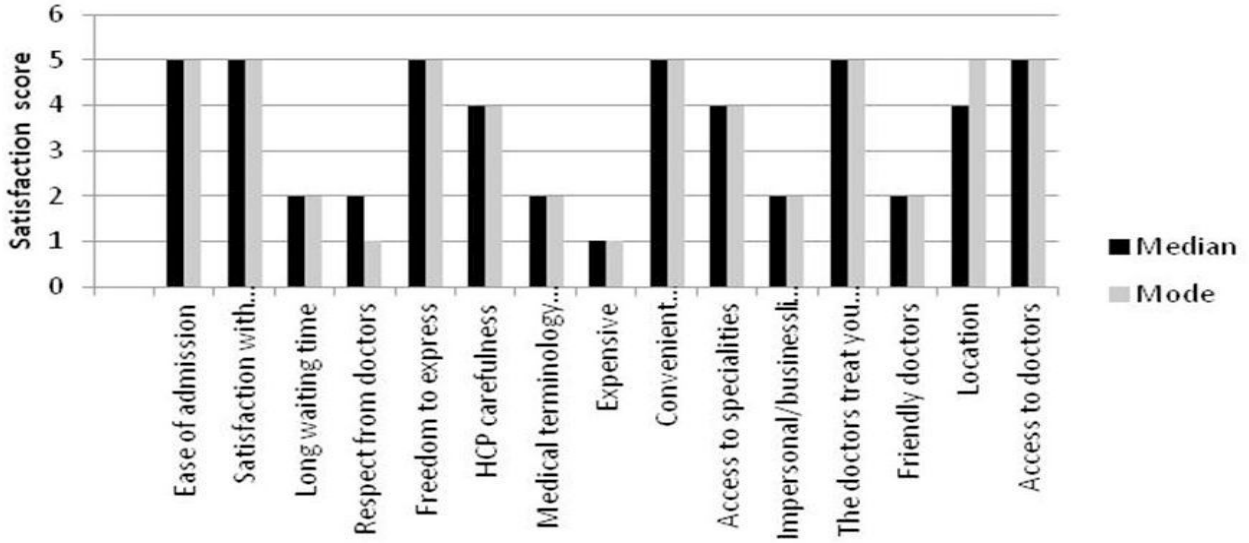

Fig. 1: Patient satisfaction with the ICTC and inpatient services provided at APIs

Note: The questionnaire included positive and negative questions. If the client scored high (4 or 5) for positive questions, the client was satisfied. If the client scored high (4 or 5) for negative questions, the client was dissatisfied.

practitioners'conduct, such as excessive use of medical terminology, lack of respect, and hurried business-like behavior; these low scores indicate a high level of satisfaction. Non-parametric tests carried out separately for positive and negative questions showed significantly high scores for positive questions (p=0.032) and significantly low scores for negative questions (p=0.04).

Discussion

The evident increase in utilization of HIV/AIDS services at APIs is a significant result. Expansion of access to HIV treatment and care is a crucial objectivefor all HIV/AIDS programming, given the need for addressing vulnerable populations that are often most in need of treatment and care services. As India's public health system strives to address competing healthcare priorities, the need for private sector participation to supplement the public sector's HIV/AIDS efforts is an imperative, especially as the focus shifts from prevention to treatment. Given the public sector's capacity constraints and the global commitment to "universal access to comprehensive HIV prevention, treatment, care and support" (United Nations General Assembly, 2006), increased participation of private healthcare providers is widely recognized as an effective approach to address resource-related bottlenecks and expand access to HIV/AIDS services. Several studies have pointed to the role the private sector can play in effective and efficient delivery of HIV care, and may, in fact, be more preferable to some clients.

The increase in HIV/AIDS service uptake by women at APIs is a particularly crucial result, as women who belong to marginalized and underserved groups are known to face greater access barriers to appropriate healthcare services. Factors like socio-cultural norms, stereotypes, stigma, financial constraints, transportation, and gender roles have been found to adversely affect women's access to HIV/AIDS prevention and treatment services. Linking vulnerable women of childbearing age with HIV testing, treatment (ART), and care is critical to not only achieve positive personal health outcomes but also as a potent strategy for secondary HIV prevention. The project also did well on couple testing and follow-up for pregnant women. Notably, almost 100 percent of the children were followed up on.

A defining thrust of the APAIDSCON project was roping in private sector players for provision of HIV/AIDS services as per the standards of HIV/AIDS prevention, care, and treatment services defined by NACP guidelines. As the evaluation results show, the API sites fared well on this front, attesting to both the utility and feasibility of leveraging private medical colleges for implementing NACP. The consortium of private medical colleges established in AP under the APAIDSCON project in the state could serve as a model for creating an organized structure to streamline and standardize care and treatment of PLHIV in private hospitals.

Another important finding from the programmatic standpoint pertains to patient satisfaction. The overall satisfaction in availing services at API sites was graded as high by beneficiaries. This is critical as patient satisfaction is a determinant of treatment uptake, adherence, and retention, and an important health systems outcome. The patients interviewed as part of the evaluation scored HIV/AIDS service delivery at APIs as satisfactory on a range of factors, including convenience, medical facilities, and interaction with healthcare providers. The particularly encouraging results on ease of access to hospital services and attitude of healthcare practitioners are evidence of satisfactory service provision at APIs. Although the small sample size surveyed for patient satisfaction (n=115) is a possible limitation that could limit the representativeness of results, the findings do help identify aspects in both private and public sector delivery that require strengthening.

Perhaps, one of the most crucial finding of the evaluation pertains to the APAIDSCON consortium's sustainability. The evaluation was done after the project period concluded, and no financial support was provided to the APIs since close of the project. This is an important result that can inform the sustainability design of public-private partnership interventions.

Conclusion

The findings of the programmatic evaluation of APAIDSCON makes a strong case for enhancing the participation of private medical colleges and healthcare providers in India's fight against AIDS. Given the Indian government's increasing emphasis on public-private partnerships, insights from the project could inform such programs in the future. Importantly, for this model to succeed, the partner institutes should be equipped for a large basket of services, which would have a positive bearing on both institutional performance and access to services. Alongside, of course, there is a need to, apart from process evaluation, also examine the outcomes and impact of such projects through experimental and quasi-experimental methods.

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