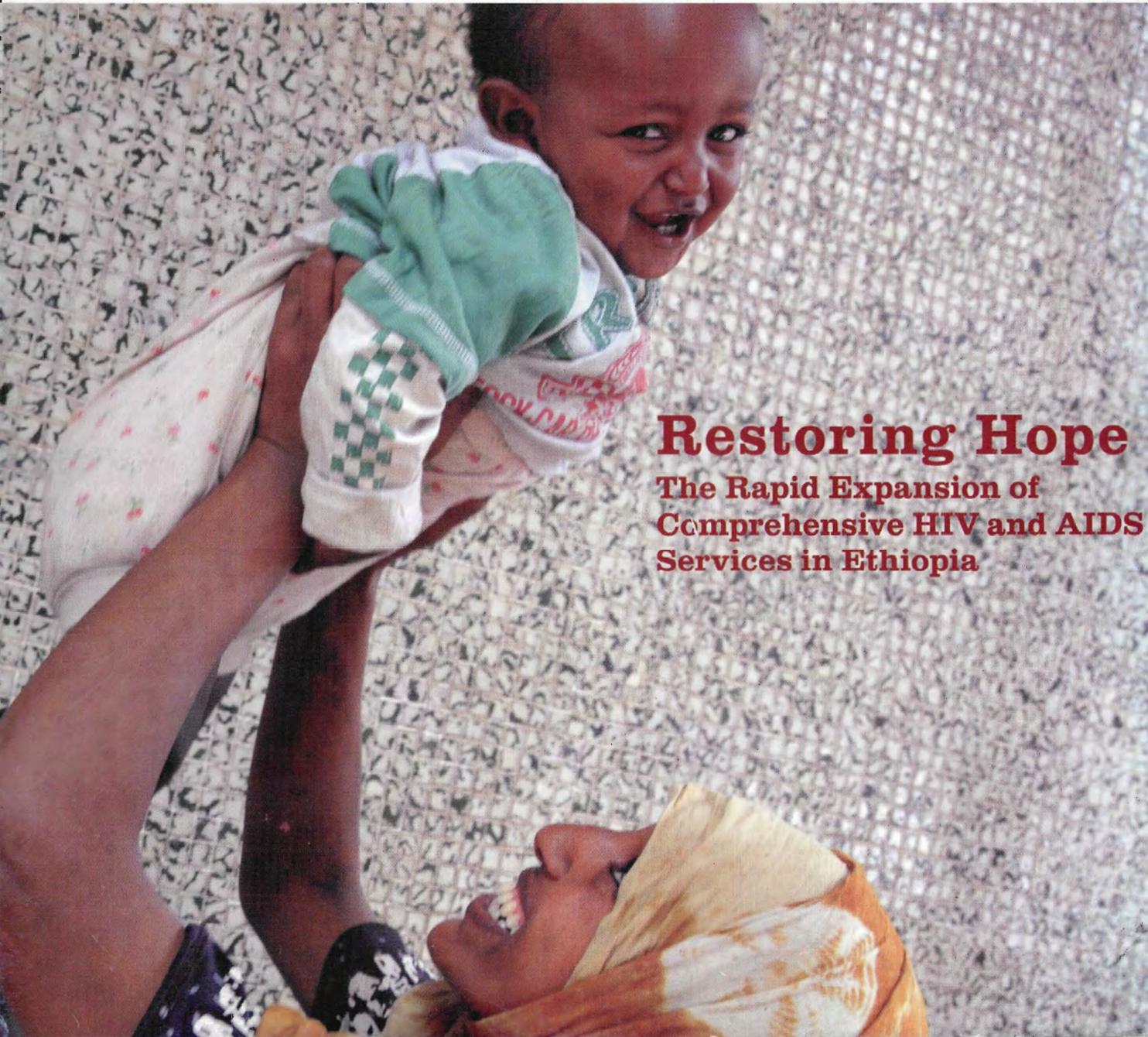


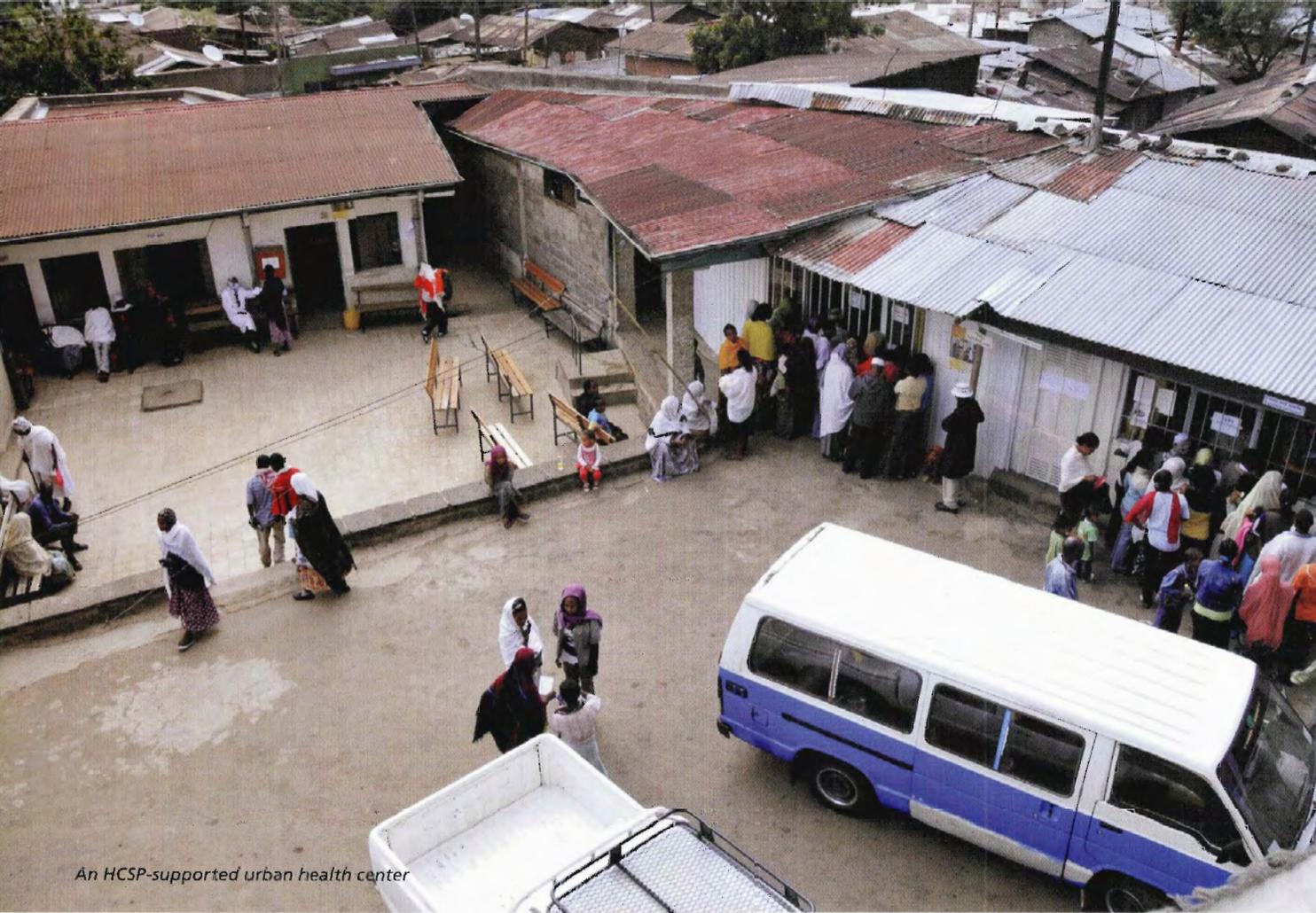


USAID
FROM THE AMERICAN PEOPLE

**HIV/AIDS Care and
Support Program**



Restoring Hope
The Rapid Expansion of
Comprehensive HIV and AIDS
Services in Ethiopia



An HCSP-supported urban health center

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Preface

“Restoring Hope: The Rapid Expansion of Comprehensive HIV and AIDS Services in Ethiopia” is the end-of-program report of the USAID HIV/AIDS Care and Support Program, which was funded by PEPFAR and implemented by Management Sciences for Health and its partners in Ethiopia from June 2007 to June 2011. Although the program started in 2007, its origins extend into the early 2000s, when the Government of Ethiopia embraced a vision of offering free and comprehensive HIV and AIDS services to all its citizens, especially the poorest and most vulnerable. To achieve this vision, the Government of Ethiopia committed to a rapid scale-up of free HIV and AIDS services, which involved transferring the prime responsibility for HIV patient care from physicians at hospitals to mid-level health workers (nurses and health officers) and lay counselors at health centers and linking health center services to community- and home-based care by community volunteers.

“Restoring Hope” describes how Ethiopia, with technical and financial support from the USAID HIV/AIDS Care and Support Program, turned its commitment into action on a scale unprecedented in Africa in terms of geographic coverage, the number of health centers involved, and the short time frame within which everything took place.

This report will be of particular interest to public health professionals and managers as it explains the methods used to achieve rapid expansion of HIV and AIDS services

with high-quality health outcomes. As such, “Restoring Hope” can serve as a guide for health managers who need to rapidly and successfully expand HIV and AIDS or other complex health services in other resource-poor countries.

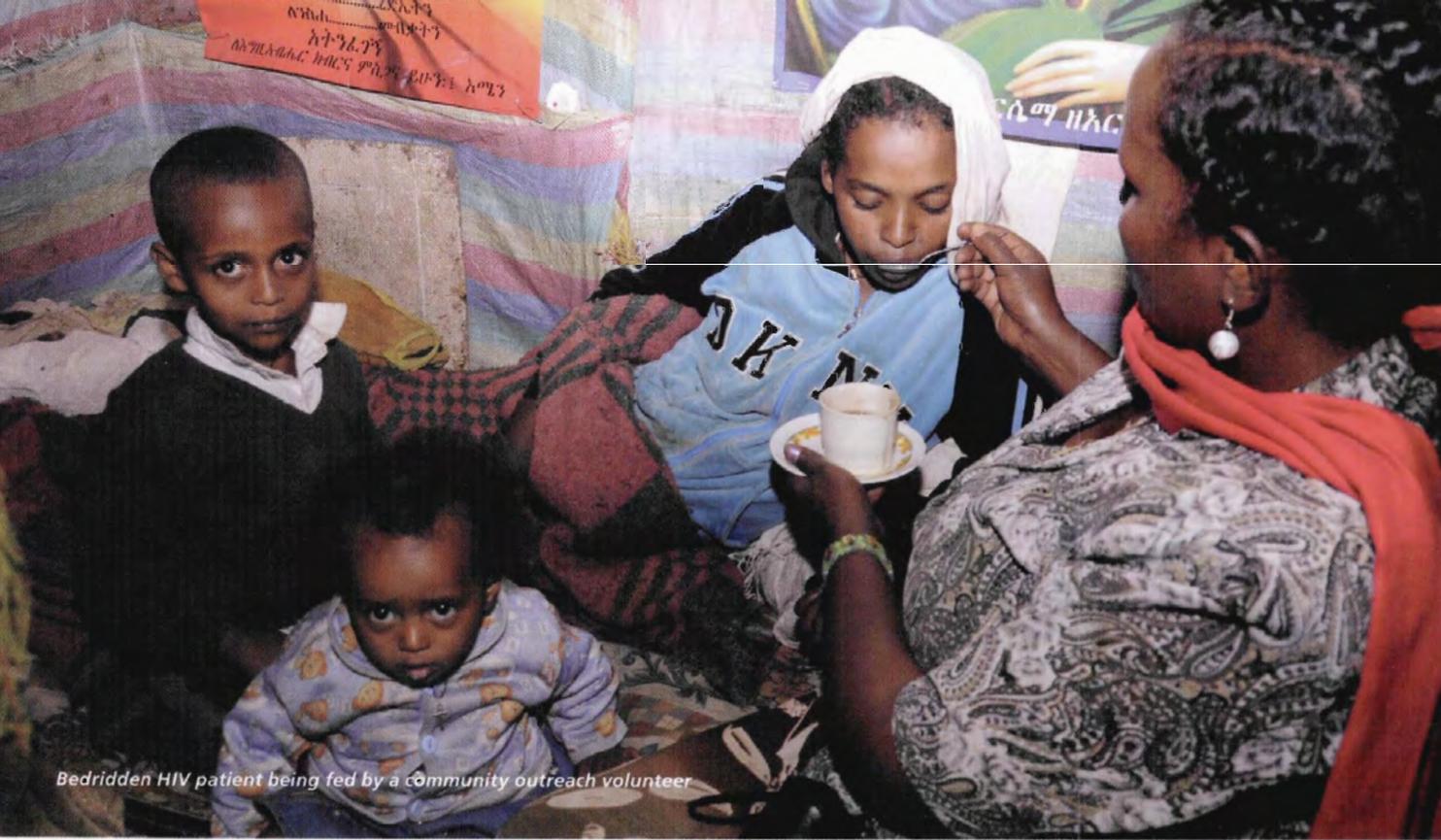
Following a brief introduction that describes the context within which the HIV/AIDS Care and Support Program began operations in 2007, the report provides an overview of the key principles underpinning the program’s design, strategies, and activities. The next four sections form the bulk of the report and describe the program’s activities and achievements in the following areas:

1. Integration of HIV and AIDS services at health centers;
2. Deployment of case managers in health centers;
3. Deployment of community-based volunteers;
4. Prevention of HIV infection.

The report also includes a section on how the HIV/AIDS Care and Support Program developed the capacity of the human resources required for rapid HIV and AIDS service expansion to health centers and their surrounding communities. The report then continues with an overview of the challenges encountered and how the HIV/AIDS Care and Support Program addressed them. The report concludes with the lessons learned. For those interested in more information, the report’s appendices include a list of the extensive materials and tools provided through the HIV/AIDS Care and Support Program and the program’s performance monitoring plan, which shows all program indicators, targets, and actual achievements.

Acknowledgments

This end-of-program report, "Restoring Hope: The Rapid Expansion of Comprehensive HIV and AIDS Services in Ethiopia," describes HCSP's achievements, which are the direct result of the commitment, dedication, and contributions of HCSP's central and regional staff. The report is based on invaluable input from numerous HCSP staff and was prepared by Dr. Elke Konings, HCSP's director for quality management and health systems strengthening; Mr. Tesfaye Arega, HCSP's director of strategic information, and his team; and Mr. Bud Crandall, HCSP's chief of party. The HCSP team is grateful to Ms. Tempe Goodhue, who edited the report, and the Ethiopian firm, Cactus Communication, which designed and produced it.



Bedridden HIV patient being fed by a community outreach volunteer

Introduction

The Federal Democratic Republic of Ethiopia's remarkable determination to respond to Ethiopia's generalized HIV and AIDS epidemic has brought about dramatic improvements in the lives of millions of HIV-infected and -affected Ethiopians. As recently as 2005, being infected with HIV meant, for almost every such Ethiopian, imminent wasting and certain death. The decision of the Government of Ethiopia (GOE) in 2005 to make comprehensive HIV and AIDS services, including antiretroviral therapy (ART), widely available and free of charge to its population of almost 80 million has turned previously bedridden AIDS patients back into healthy,

productive members of society; it has offered HIV-infected women and couples a way to become nurturing parents without passing HIV on to their babies. Today, with comprehensive HIV and AIDS services, including ART, available and accessible at 402 public health centers throughout Ethiopia, HIV infected people and their families and communities have regained hope and can envision the previously unthinkable—a generation of Ethiopians free of HIV.

Ethiopia's success in making HIV and AIDS services widely available not only restored hope, especially to the poorest and most vulnerable people infected and affected by HIV,

but it also offers a model of rapid service expansion despite limited resources and weak health systems for Africa as a whole.

This report describes the strategies, activities, and outcomes that have dramatically moved the GOE closer to its vision of all its people, no matter how poor and vulnerable, having free access to comprehensive HIV and AIDS services and shows the role of the USAID HIV/AIDS Care and Support Program (HCSP) in this endeavor. HCSP was funded by the President's Emergency Response to HIV/AIDS (PEPFAR) and implemented by Management Sciences for Health (MSH) and its subcontractors from June 2007 to June 2011.

In 2007, as today, Ethiopia was the second most populous nation in Africa. Its population was also among the world's poorest: according to the UNDP Human Development Index (HDI 2007), Ethiopia ranked 105th among 108 developing countries. Despite this level of poverty, Ethiopia has had a fairly stable, generalized HIV epidemic, with a relatively low overall prevalence, which today is 2.1 percent. Nevertheless, Ethiopia has one of the largest HIV-infected populations in Africa, estimated at 1.2 million people.

While Ethiopia's vast geographic area, mountainous terrain, poor infrastructure, and its large, extremely poor population presented huge obstacles to the GOE's ambitious plan to expand comprehensive HIV and AIDS services nationally, the GOE's boldest move was both a potential solution and perhaps an even greater challenge—its decision to give thousands of nurses, health officers, lay counselors, and community volunteers the responsibility for providing ART and follow-up services,

also known as "task shifting." Although a few smaller scale efforts in other countries suggested that this strategy could succeed, no one at the time knew if task shifting to non-physicians in resource-poor settings, on the scale needed in Ethiopia could work.

Although the GOE had launched its national expansion plan in 2005, the big push for making comprehensive HIV and AIDS services available at public health centers and their surrounding communities came in 2007, when USAID began providing financial and technical support to the GOE through HCSP.

HCSP became the GOE's main partner in making comprehensive HIV and AIDS services available at public health centers in Addis Ababa and the four regions of Amhara; Oromia; Southern Nations, Nationalities, and People's Region (SNNPR); and Tigray. Covering less than 50 percent of Ethiopia's land, Addis Ababa and the four regions are home to more than 80 percent of Ethiopia's population and more than 90 percent of its estimated 1.2 million people living with HIV. At the start of HCSP, ART services in these areas were available at 115 health centers. None of them offered the full continuum of care mandated by national policy, which links health center services to referral hospitals and community-based follow-up care and support services.

HCSP's main objectives were to:

- Provide quality integrated HIV and AIDS prevention, care, and treatment services at health centers;
- Deploy case managers to personalize care and strengthen referrals between health centers, hospitals, and community services;

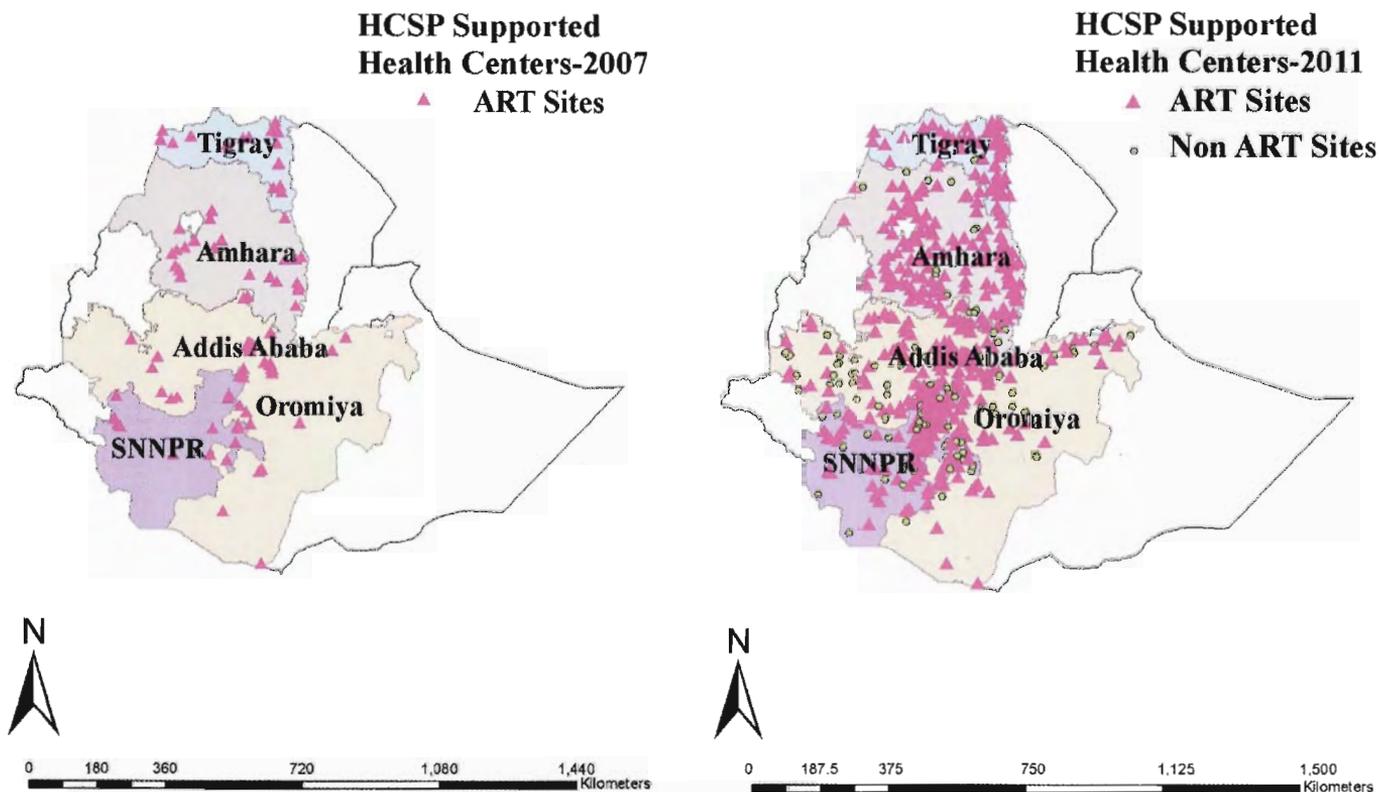


Figure 1. Maps of Ethiopia showing HCSP-supported health centers in 2007 and 2011

- Deploy outreach workers to support family-focused prevention, care, and treatment in communities;
- Implement HIV prevention activities using abstinence be faithful, and condom use (ABC) best practice interventions incorporating stigma, discrimination, and gender concerns.

The results of the collaboration between the GOE and HCSP affirmed the government's ambitions and trust in its people and exceeded expectations, especially given the nature of the obstacles, the short time frame in which it achieved them, and the absence of a proven path to success.



Figure 2. The continuum of care in the district (woreda) primary health network

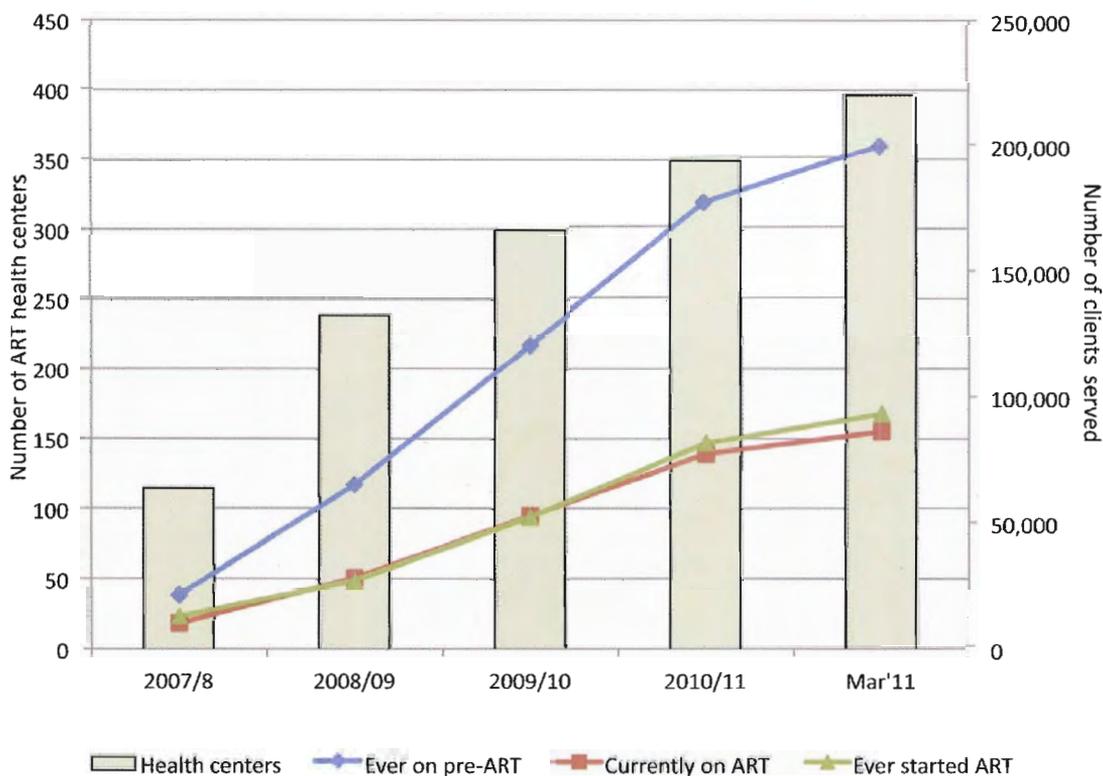


Figure 3. HCSP's expansion of ART health centers and clients enrolled on care and support

Major Achievements of the HIV/AIDS Care and Support Program, 2007–2011

- The number of health centers providing comprehensive HIV and AIDS services through mid-level health providers and lay counselors increased 5 fold, to 550, up from 115 in 2007.
- The number of people tested annually for HIV increased almost 6 fold; 3,457,469 people were tested for HIV in 2010 alone, up from 582,198 in 2007.
- Training was provided to more than 22,000 clinical health professionals and over 11,000 paraprofessional health workers.
- More than 7,000 trained community volunteers were deployed in 1,265 communities to provide follow-up care and support services.
- Among tested individuals, HIV prevalence was 2 percent in 2010, down from 8 percent in 2007.
- A cumulative total of 198,882 HIV-positive patients enrolled on care and support.
- The number of HIV-positive patients currently receiving ART increased 9 fold, from 9,994 in 2007 to 86,005 by March 2011.
- Among the HIV-positive patients who ever started ART, only 9.9 percent were lost to follow-up, and 81 percent were alive and still using ART at the health center where they started 12 months earlier.
- The results confirmed, beyond doubt, the validity of the GOE visionary strategy of entrusting non-physicians at public health centers with the responsibility of providing ART and the GOE's faith in its people, though poor and little educated, to adhere to highly active antiretroviral therapy (HAART).

Program Principles

HCSP was guided by the GOE's *Road Map for Accelerated Access to HIV/AIDS Prevention, Care and Treatment*; the PEPFAR Partnership Agreement with the GOE; the HIV service expansion plans of each of the four regional health bureaus (RHBs) and the Addis Ababa City Administration; and the GOE mandate to integrate HIV and AIDS into primary health services, strengthen the entire health system, and promote equitable access to services. In accordance with this guidance, HCSP's strategy for scaling up HIV and AIDS prevention, care, and treatment services to health centers involved the integration of a comprehensive HIV and AIDS service package at public health centers and their surrounding communities. This service package was founded on a family-focused, whole systems approach that addressed gender issues and relied on close partnership, collaboration, and coordination with the GOE at all levels.

Partnering with the Government of Ethiopia

HCSP partnered with the GOE at all levels to ensure full alignment with GOE policy and plans and to meet national targets for HIV and AIDS service expansion. The Federal Ministry of Health (FMOH), the Federal HIV/AIDS Prevention and Control Office (FHAPCO), RHBs, and regional HIV/AIDS Prevention and Control Offices (RHAPCOs) identified the health centers with which HCSP was to work. At the level of the district, called *woreda* in Ethiopia, the key collaborative partner was the *woreda* health office.

HCSP worked with *woreda* health offices and their health centers to implement GOE strategies and interventions and, through them, connected with their

communities, locally called *kebeles*, to mobilize their grassroots population and their local leadership to identify and support kebele-oriented outreach workers (KOOWs) and NGO community volunteers for HIV and AIDS prevention and home-based care.

HCSP's government partners looked to HCSP to help them implement their ambitious HIV and AIDS service expansion plans. At program start-up, initial meetings between HCSP and the FMOH, FHAPCO, and respective RHBs were critical for building their trust and support as well as tailoring HCSP's organization, implementing strategies, and operations to each RHB and the Addis Ababa City Administration.

At the health centers that already offered ART, HCSP quickly initiated health center mentorship, including the training and deployment of data clerks and case managers. At the other health centers, HCSP began with ART readiness assessments to identify and address the gaps and needs for ART service integration at those facilities. The swiftness with which HCSP started its operations resulted in the full support of, and an effective partnership with, the GOE in all four regions and Addis Ababa. This rapid start-up and the subsequent ongoing close collaboration, consultation, and coordination with the GOE at all levels enabled HCSP to achieve all its end-of-program targets.

The HCSP collaboration with the GOE resulted in 550 health centers routinely offering integrated HIV and AIDS services, with 397 of them also offering ART services. At the end of HCSP, three of the ART health centers were upgraded to zonal hospitals. Between 2007 and 2011, access to HIV prevention, care, and treatment services in Addis Ababa and the four regions had increased dramatically,

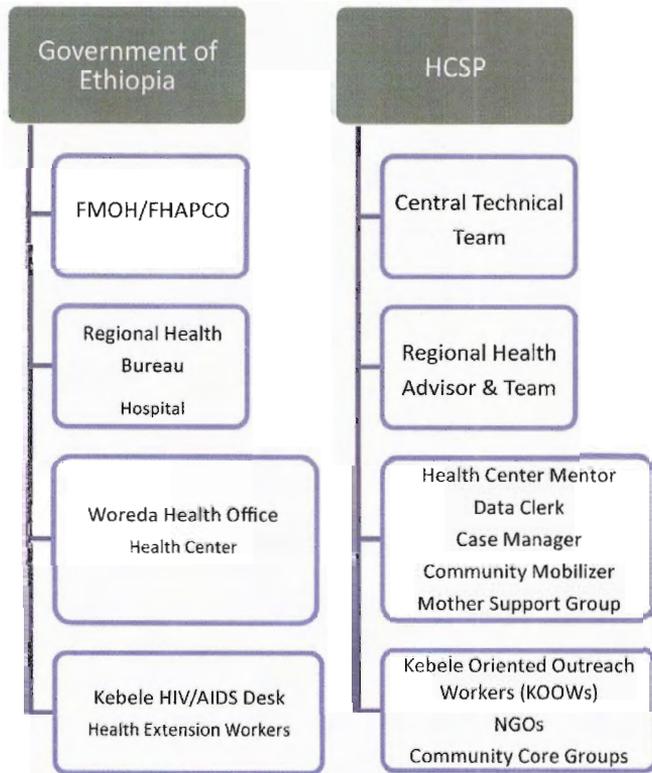


Figure 4. HCSP multilevel partnership with the Government of Ethiopia

and the quality of life of hundreds of thousands of Ethiopians who were infected and affected by HIV greatly improved.

Using a Family-Focused Approach

The GOE’s mandate to integrate HIV and AIDS services into basic health services at the health center and community level necessitated an approach to scaling up HIV and AIDS services that extended beyond the individual. HCSP’s strategy addressed health in a holistic manner by

identifying and helping individuals infected and affected by HIV and their families through a wide variety of community-based organizations (CBOs); faith-based organizations (FBOs); NGOs; women, religious, business, and traditional informal leaders; and government officials at woreda and kebele levels.

Together, these partners now act as a “safety net” that enables poor and highly vulnerable infected and affected individuals and their families to access not only the services provided at health centers but also in the community, including basic palliative care; social, nutrition and economic support; prevention services; and community-based TB/HIV services, such as support for adherence to treatment regimens.

Employing a Whole Systems Approach

In line with the GOE mandate to strengthen the entire health system rather than focus narrowly on HIV and AIDS services, HCSP used a whole systems approach in scaling up comprehensive HIV and AIDS services to health centers.

HCSP’s approach was anchored in the concept of a “fully functional service delivery point” (FFSDP). An FFSDP is a place where clients obtain and health providers deliver health services of defined quality. The conceptual model assumes that the quality of services drives both demand and supply. To enable clients to seek—and providers to deliver—comprehensive services, a number of elements that meet defined quality standards must be in place at the same time. These elements include the simultaneous and adequate presence of trained and motivated health staff, medical equipment and supplies, medicines and

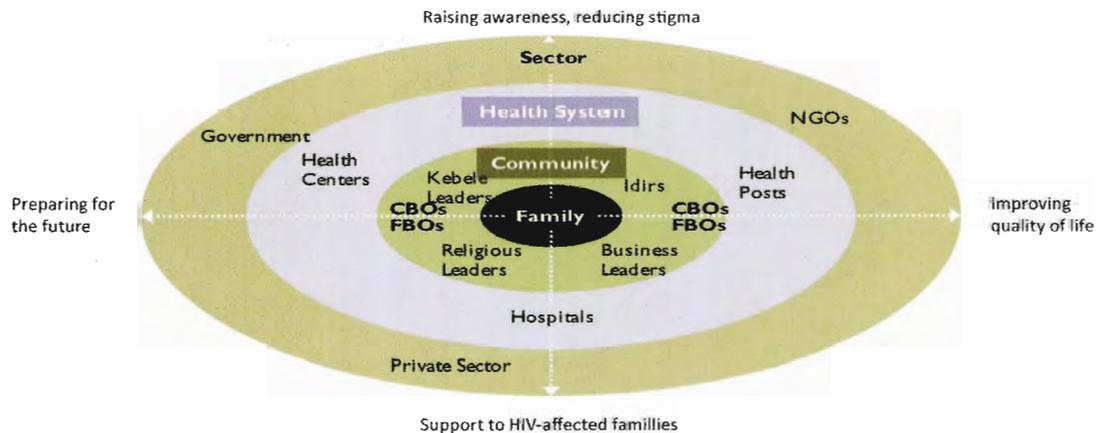


Figure 5. The family-focused approach

commodities, up-to-date information, a functioning referral mechanism, an infrastructure appropriate for the health facility, and active community participation and support.

HCSP worked with the GOE to rationalize technical and material support to enhance each of these elements and thereby improve the entire health system. HCSP focused on strengthening human resources, referrals, quality assurance, and laboratory services while other partners were strengthening the systems for drug and commodity management, health finance, health information management, and infrastructure. HCSP also provided small medical equipment, laboratory equipment, and consumables as stop-gap measures; some furniture for the ART clinic and counseling rooms; health management information systems (HMIS) tools and forms; computers and printers; essential laboratory supplies; and job aids for delivery of comprehensive HIV and AIDS services.

Mainstreaming Gender

Understanding gender roles and related power dynamics was not an option but a necessity to ensure equitable HIV and AIDS service expansion. The GOE has enshrined the rights of women in its constitution and laws, which protect the political and civil rights of women, including property rights, rights to safe working conditions, prohibition of harmful traditional practices, prohibition of early marriage, and equal access to education and health services. The GOE promotes gender mainstreaming in all its development policies. Its vision to create equitable access while scaling up HIV services particularly aimed at meeting the needs of women.

HCSP incorporated gender issues into the program's very design by addressing the root causes of gender inequality found in Ethiopia's social structures, institutions, values, and belief systems.

A key element was the decentralization to health centers, bringing services much closer to where people live. This was especially significant for impoverished women, whose family responsibilities and limited disposable income greatly limit their ability to travel to more distant health facilities. HCSP's gender-sensitive approach promoted the active participation of women, men, and HIV-positive people in communities and at health centers. As a result, HCSP succeeded not only in making comprehensive HIV and AIDS services available throughout Ethiopia, but also in creating equitable access for HIV-infected and -affected men, women, boys, and girls alike.

By mainstreaming gender into its very design and implementation, HCSP enabled women to readily access comprehensive HIV and AIDS services for themselves and their families. Today, many more women than had been possible before are tested for HIV and enrolled on care and support services. Furthermore, with every HCSP-supported health center now providing PMTCT services at ANC and labor and delivery, HIV-positive pregnant women are able to access services that not only improve their own health and chances of survival but also greatly reduce the risk of their children becoming HIV positive.

Gender is a social construct referring to the relationship between the sexes. Gender roles are culturally constructed around power, control, and social values.

“Mainstreaming gender” means identifying the contribution of gender roles to inequalities and taking them into account to ensure equitable service delivery.



Provision of quality integrated HIV and AIDS prevention, care, and treatment services at health centers (Result 1)

HCSP's primary mandate was to integrate comprehensive HIV and AIDS services at public health centers. These services included HIV counseling and testing (HCT), prevention of mother-to-child transmission of HIV (PMTCT), follow-up of HIV-exposed infants (HEI) and early infant diagnosis (EID), pediatric HIV management, adult HIV case management and treatment, and integration of TB and HIV services, complemented by strengthened laboratory services and service quality assurance.

HCSP supported the expansion of these services through in-service training of health providers, including nurses and health officers, and pre-service training of HIV case managers and data clerks. Following the trainings, HCSP continued support through monthly on-site mentorship of health center staff by program mentors (medical doctors, health officers, and nurses); quarterly supportive supervision by HCSP advisors (public health and medical experts); and maintenance of a sufficient supply of all necessary HMIS forms and registers, job aids, and educational materials.

HIV Counseling and Testing

During the first decade of the global HIV crisis, HIV testing was seen as a matter of personal choice and, therefore, had to be entirely voluntary. As highly active antiretroviral therapy (HAART) became available, the essential first step for HIV-positive people to stay alive and healthy was to know that they were HIV positive. A sole reliance on VCT was no longer in the interest of individuals or the public. Rather, health providers now had an ethical obligation to actively encourage clients, especially those at risk of being infected, to take a voluntary HIV test. Provider-initiated testing and counseling (PITC) became the strategy promoted by the World Health Organization (WHO) as a crucial intervention not only for treatment, care, and support but also for prevention. PITC aims at maximizing

the number of people getting tested for HIV, thereby extending case detection well beyond those who actively seek to be tested.

Ethiopia adopted PITC, in addition to VCT, as part of the basic package of services offered by health facilities. As the number of health facilities nationwide almost doubled from 1,336 in 2007/08 to well over 2,000 in 2010, the number of people tested for HIV likewise rose from 4,559,954 in 2007/08 to 9,445,618 in 2010. The dramatic increase in the number of people tested for HIV was, however, not only due to service expansion. Other reasons included greater awareness of and demand for HIV testing and, possibly, reduced fear of being HIV positive as treatment became more available.

Number of:	National results*		HCSP results				
	2007/08	2009/10	2007/08	% of 2007/08 national result	2009/10	% of 2009/10 national result	End-of-program target
Health centers offering PITC and VCT	1,336	2,184	389	30%	550	25%	550
Clients tested for HIV	4,559,954	9,445,618	934,275	20%	3,457,469	37%	2,700,000
Clients tested for HIV per health center	3,413	4,325	2,347	69%	6,286	145%	No target
Clients testing HIV-positive (%)	159,598 (3.5%)	141,684 (1.5%)	NA	NA	66,965 (1.9%)	47%	No target
HIV-positive clients newly enrolled in the ART clinic (% of HIV-positive clients identified at PITC and VCT)	NA	NA	NA	NA	55,657 (83%)	NA	NA

* Source: FHAPCO. Annual Performance Report of Multisectoral HIV/AIDS Response, August 2010

Table 1. Health centers offering PITC and VCT, clients tested for HIV, and HIV prevalence in Ethiopia, 2007–2010

HCSP supported the expansion of VCT and PITC in health centers by training health workers in both VCT and PITC, monthly on-site mentorship on the national opt-out approach of PITC, and use of PITC throughout health center clinics. HCSP developed and provided job aids and educational materials for VCT and PITC providers and also supported HCT through outreach, especially at religious festivals and other public events.

Consistent with the national trend, the number of people tested for HIV at HCSP-supported health centers dramatically increased between 2007 and 2010 (Table 1). HCSP-supported health centers tested 3,457,469 million people for HIV in fiscal year (FY) 2010 and 1,722,036 in

the first half of FY 2011 (128% of HCSP's target for each year), up from 582,198 in 2007. Those tested in FY 2010 included:

- 1,519,660 males and 1,937,809 females (56% of the total);
- 324,274 children under the age of 18 years;
- 24,896 HIV-exposed infants;
- 339,687 pregnant women or 93 percent of all pregnant women seen at HCSP-supported health centers;
- 46,964 TB patients at the health centers.

The dramatic overall increase was, of course, in part related to the increased number of health centers supported by HCSP. However, the number of people tested per health center more than doubled, rising

from 2,347 per health center in 2007/08 to 6,286 in 2010 (Table 1). While HCSP supported 25 percent of Ethiopia's health facilities offering PITC and VCT, newly identified HIV-positive clients at those health centers represented 47 percent of all clients testing HIV positive nationwide in 2009/10.

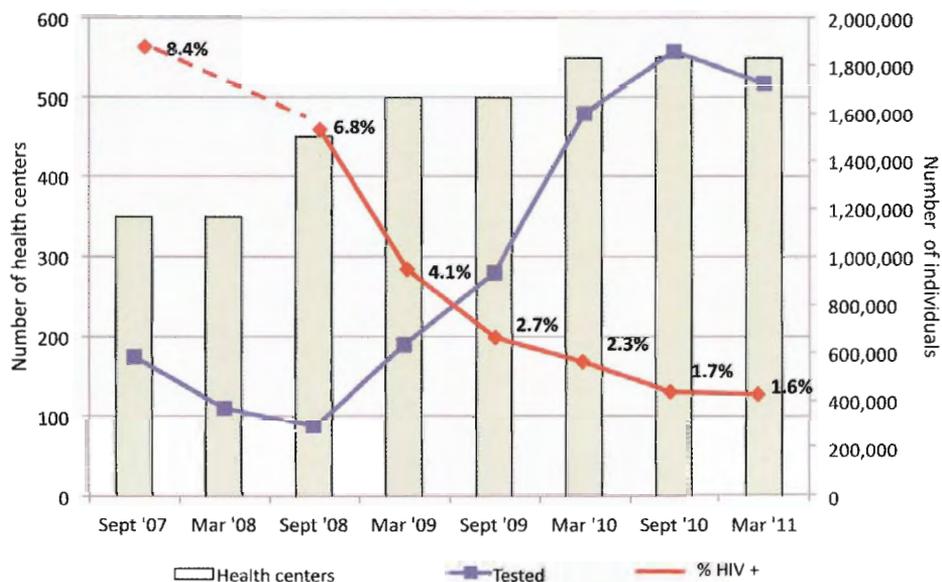


Figure 6. Number of HCSP-supported health centers, clients tested for HIV, and percentage testing HIV positive, 2007-2011

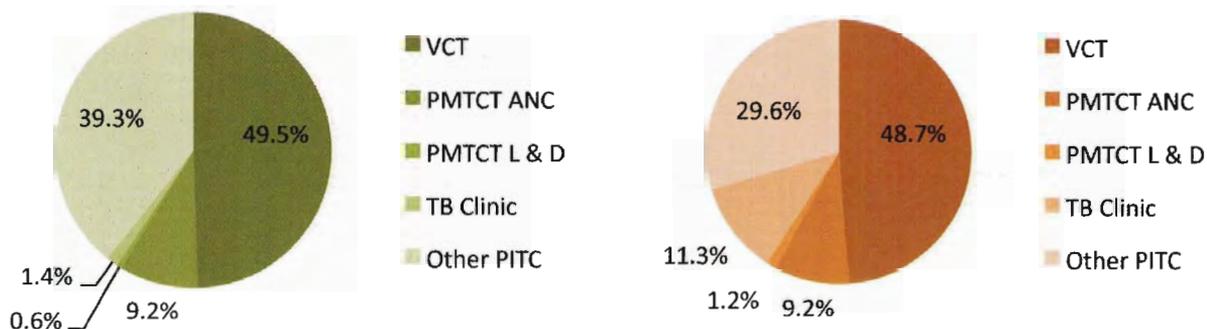


Figure 7. Percentage distribution of HIV tests conducted (left) and HIV cases detected (right), by clinic, 2010 (n=550 health centers)

At 1.9 percent, the overall HIV prevalence among those tested at HCSP-supported sites in 2009/10 was slightly higher than the national figure of 1.5 percent, probably because HCSP worked in the most affected areas. HIV infection rates were highest in the TB clinics (16.2%), followed by labor and delivery (L&D) wards (4%). HIV rates at all other clinics ranged from 1.5 to 2 percent.

During this same period (2009/10), the number of HIV-positive patients newly enrolled on comprehensive HIV and AIDS services at the 350 HCSP-supported health centers offering ART was 55,657, equivalent to 83 percent of the number of clients newly identified as HIV positive at the same health centers. This proportion suggests that HCT at health centers is an effective strategy for linking newly found HIV-positive people to care and support.

The results were achieved almost equally through PITC and VCT (Figure 7). In contrast, program-supported and costly HCT outreach efforts by health centers yielded less than 1 percent case detection. Therefore, HCSP abandoned its support for outreach testing by health centers as PITC proved to be much more effective in

increasing both the number of people tested and new HIV cases detected.

As Figure 7 demonstrates, slightly more than half of all testing and detection of HIV cases at HCSP-supported health centers was the result of PITC at TB, ANC, L&D, under 5 clinics, expanded program for immunization (EPI) clinics, and outpatient departments (OPDs), with the balance of HIV testing and case detection at VCT clinics.

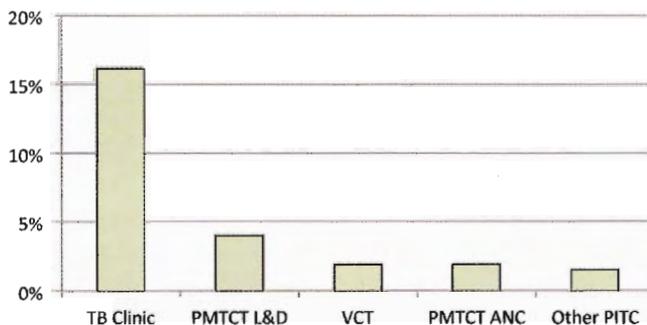


Figure 8. HIV prevalence among newly tested clients, by clinic, 2010 (n=550 health centers)

As expected, health centers offering ART identified the majority (90%) of new HIV-positive clients. These ART health centers are located in urban and peri-urban (and thus more populated) areas where HIV prevalence is known to be higher than in rural areas. The higher case detection rate at ART health centers was probably also the effect of HCSP's family-focused approach. Family members of HIV patients tend to be at higher risk for HIV infection, but they often do not know their status. HCSP's family-focused approach included a family matrix that case managers and VCT counselors used to identify family members and invite them to the health center for individual, couple, or family counseling and testing.

At VCT clinics, not surprisingly, the acceptance rate was 99 percent. At the TB, ANC, and L&D clinics, almost all clients were offered testing and almost all accepted (100%, 96%, and 89%, respectively). However, at other clinics (OPD, under 5, EPI, and family planning clinics), only 20 percent of patients were offered testing, and among them, acceptance ranged from 73 percent at ART health centers to 83 percent at non-ART health centers. Acceptance rates at the other clinics were similar at ART and non-ART health centers and among high- and low-patient-load health centers, with the exception of clients seen at TB clinics. High-patient-load health centers had a test acceptance rate of 84 percent at their TB clinics, compared to 91 percent at low-patient-load health centers.

The reason for higher acceptance rates at TB, ANC, and L&D clinics was probably related to health providers at those clinics being more experienced and willing to routinely offer HIV tests because of the type of clients they see. At the other clinics, particularly at the OPD,

health providers tend to face higher patient loads and may therefore offer an HIV test only to those clients who present higher HIV risk. In addition, clients at the TB, ANC, and L&D clinics tend to have greater awareness of HIV and the benefits of knowing one's status; they better recognize that getting tested is in their interest.

One possible way to increase HIV testing at other clinics may be to modify the current PITC approach to shorten the counseling time needed with each patient, especially at high-patient-load health centers. For example, group counseling in the waiting area and the creation of testing corners within high-patient-load health centers might make it possible to reach more clients.

In contrast to outreach for HCT, HCSP's experience demonstrated that VCT and PITC at health centers were effective strategies for testing high numbers of people for HIV and detecting new HIV cases. A good HIV and AIDS program should therefore ensure both VCT and PITC as routine practices throughout health centers.



Prevention of Mother-to-Child Transmission of HIV

Ethiopia currently promotes the use of ARVs for prevention of mother-to-child transmission (PMTCT) of HIV for pregnant women with a gestational age of 28 weeks onward. Initially, the regimen included single dose niverapine, but as multiple ARVs became increasingly available, the GOE shifted to combined, multidrug ARV prophylaxis for all pregnant mothers not eligible for ART. For pregnant women already on ART, HAART serves as PMTCT.

The GOE provides PMTCT services through the four-pronged (PMTCT) strategy developed by WHO, UNICEF, and UNAIDS. This strategy includes (1) static and outreach HIV testing and counseling services for pregnant women, (2) screening for and syndromic management of sexually transmitted diseases (STDs), (3) provision of family planning services, and (4) provision of ARVs for PMTCT purposes at the ANC clinic. The four services are integrated and linked with care and support for the mother, her child, and her family.

HCSP integrated PMTCT at ANC and L&D clinics through provider training, supportive supervision, quality improvement, and monthly mentorship at the health centers. HCSP also enabled 134 high-patient-load health centers to make mother support groups available to newly identified HIV-positive pregnant women.

HIV counseling and testing for pregnant women

By the end of 2008, PMTCT services were provided by 300 HCSP-supported health centers. Half a year later, 500 health centers were providing PMTCT services, and by

early 2010, PMTCT had been integrated in all 550 HCSP-supported health centers. Based on a fertility rate of 5.4 (EDHS, 2005), Ethiopia's age and sex distribution (USAID Country Health Statistical Report, 2009), and an estimated population coverage of the 550 HCSP-supported health centers of around 33 million people (i.e., people within 5 to 10 km of an HCSP-supported public health center), almost 1,500,000 women in the HCSP catchment area would have been pregnant during 2010. Consistent with DHS data, 25 percent (371,022) of these women attended ANC services.

While modest, reaching 371,022 pregnant women with PMTCT at HCSP-supported health centers in 2010 was a huge improvement over the 56,505 seen at the end of 2008. The proportion among them who were counseled and offered testing for HIV went up from 86 percent in 2008 to 97 percent in 2010, and those who accepted to be tested and received their result rose from 83 percent to 96 percent. This represented 339,687 pregnant women, or 108 percent of HCSP's FY 2010 target. In other words, by the end of 2010, 93 percent of all ANC clients took an HIV test, up from 71 percent in December 2008. These improvements hold true even when controlling for the number of health centers (Figure 9) and are an indication of the quality of services provided during consultations for ANC and L&D. It is encouraging that the percentage testing positive for HIV dropped from 4.7 percent in 2008 to 1.2 percent by the first quarter of 2011.

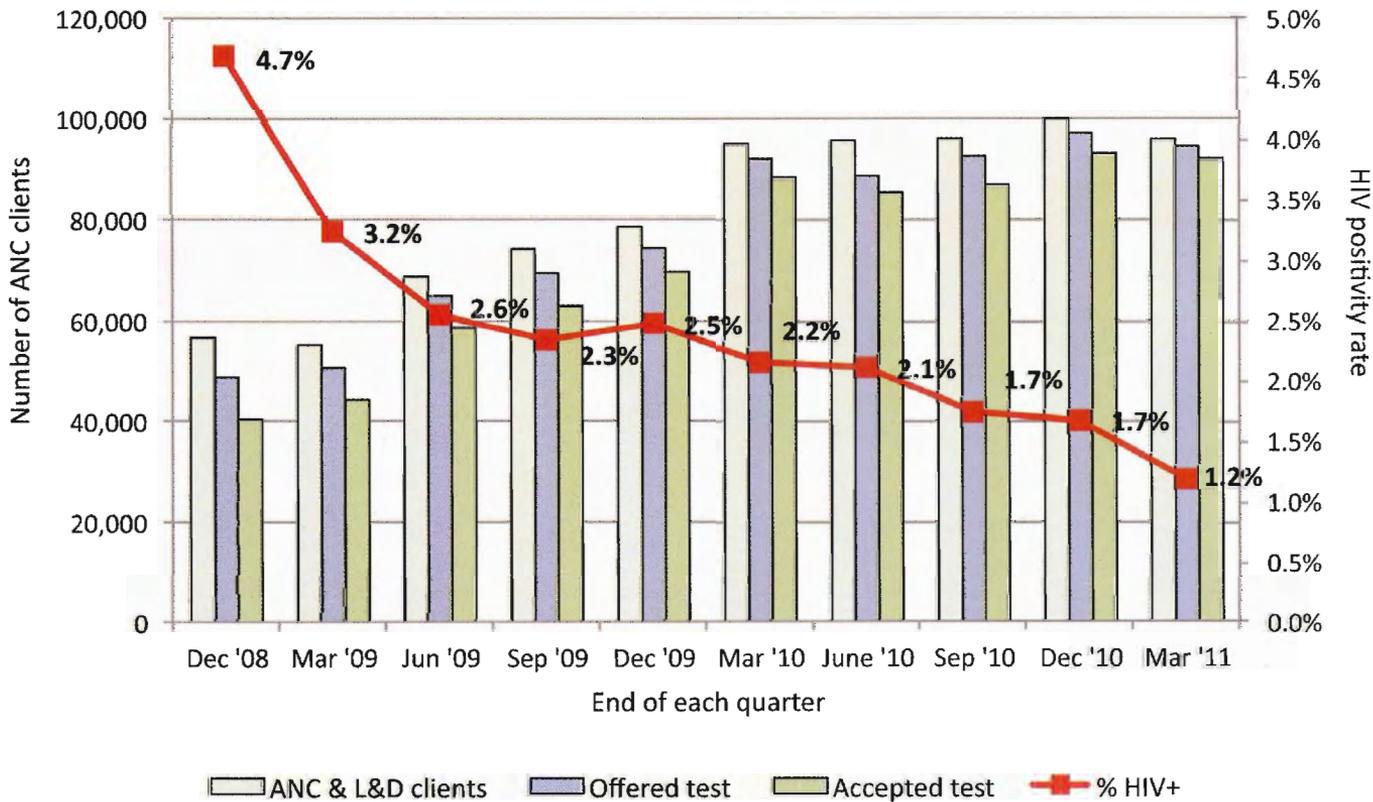


Figure 9. Number of clients counseled and tested for HIV, with HIV prevalence, at 550 HCSP-supported health centers, 2008–2011

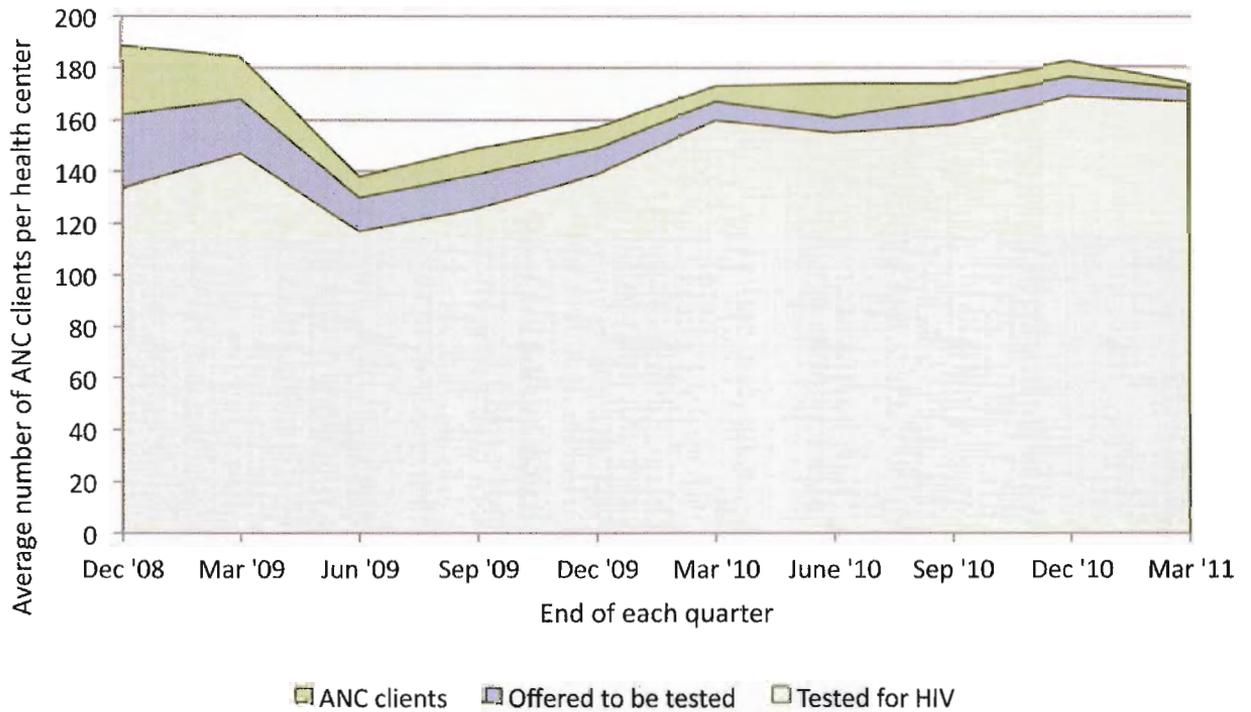


Figure 10. Average number of ANC clients per health center, December 2008–March 2011

ARV uptake among HIV-positive pregnant women

According to GOE guidelines at the time of program implementation, prophylaxis for otherwise healthy HIV-positive pregnant women began in the 28th week of pregnancy, continued during and after labor and delivery, and was completed within 72 hours postpartum with prophylaxis for the baby.

In 2010, HCSP's routine data showed that 3,762, or 44.7 percent, of the 8,423 HIV-positive pregnant women received ARV for PMTCT (Figure 11). Although the ARV uptake reported by HCSP-supported health centers was within the range noted in many other sub-Saharan African countries, the annual uptake remained low. For FY 2010 and the first half of FY 2011, HCSP achieved 78 percent and 90 percent, respectively, of its target for ARV uptake.

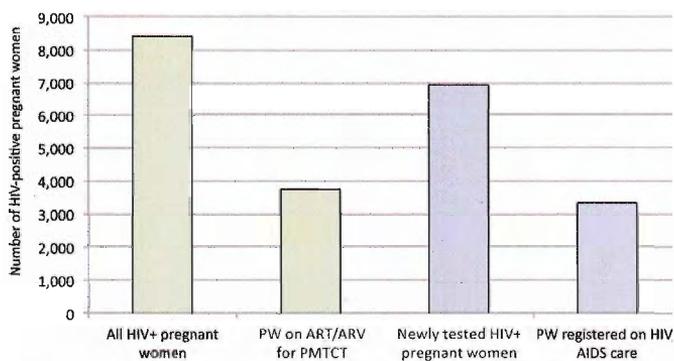


Figure 11. Number of HIV-positive pregnant women (PW) taking ARV for PMTCT and number of newly identified HIV-positive pregnant women enrolled on HIV care, 2010

To understand the reasons for the low ARV uptake, HCSP conducted a retrospective study of HIV-positive pregnant women at a subset of 23 health centers. Preliminary

findings suggested that reported (27.2%) and actual (33.2%) uptake of ARV prophylaxis excluding ART were significantly different ($p < 0.01$). The data showed that a significant number (78) of HIV-positive pregnant women were already enrolled on ART at a different health facility. Data recording errors also accounted for a small proportion of the difference. In addition, the number of HIV-positive pregnant women taking ARV appeared to be under-reported because the indicator only counted the HIV-positive pregnant women newly enrolled on ART. When taking into consideration the number of pregnant women already on ART in the first quarter of the year and adding the newly enrolled ones in subsequent quarters, the total number on ART more than tripled, from 66 to 222, resulting in an overall ARV uptake of 65 percent.

The results of this operations research (OR) were similar to the findings of assessments of the standard of care. HCSP assessed the SOC at 30 health centers in Amhara and Tigray. At these, the ARV uptake rate was 63 percent among eligible ANC clients and 84 percent among women seen at L&D.

Both the OR and SOC results were significantly better than what was shown by the routinely reported data. Nevertheless, the data continued to show a high number of missed opportunities (around 35%) among HIV-positive pregnant women seen at HCSP-supported health centers, thus calling for more research into the causes and reasons for this result.

Enrollment in care and support

In 2010, 3,342 (48.1%) of newly tested HIV-positive pregnant women (6,945) were assessed for ART eligibility

and enrolled on care and support at HCSP-supported health centers. As with ARV uptake, this is a low number compared to the number of newly tested HIV-positive pregnant women, although some improvement was noted from one quarter to the next in 2010 (Q1=45%; Q2=45%; Q3=52%; Q4= 51%). This increase reflected a stronger emphasis on follow-up of all HIV-positive pregnant women in the health centers and the community.

To improve the linkage of pregnant women with family-focused comprehensive HIV and AIDS services, HCSP mentors encouraged ANC/PMTCT and L&D health workers to escort HIV-positive women to the ART clinic and register their pre-ART number on the ANC or L&D registers. In addition, HCSP supported mother support groups at 134 high HIV-patient-load health centers.

Mother support groups (MSGs) are made up of “mother mentors”—HIV-positive women who have gone through PMTCT services at the health center. They volunteer to support other HIV-positive pregnant women seen for antenatal care by providing peer counseling; walking them over to the ART clinic; helping them take full advantage of the safety net of care and support services; and mentoring them about healthy living, ARV adherence, and PMTCT. MSGs ensure that at least two mother mentors are present at the health center at any one time, ready to support newly identified HIV-positive pregnant women as well as other HIV-positive clients who have become pregnant.

Despite HCSP’s intense efforts to improve enrollment on care and support, the number of pregnant women linked to the ART clinic remained low compared to the number of new HIV-positive women identified at ANC. One reason might be that data on the number assessed

for ART eligibility and the number of newly tested HIV-positive pregnant women was derived from two different clinics within the health center, and comparing them as if they represent the same women is not fully accurate.

To better understand the causes of the low enrollment rates and thus introduce interventions to address the problem, the above-mentioned OR study also addressed ANC/PMTCT linkage to care and support and the causes of the apparent dropout between testing HIV-positive at ANC and enrollment on care and support.

Preliminary results suggest that the true linkage of HIV-positive pregnant women to ART was much better (73.9%) than what the program’s routinely reported data showed (49%). The apparent low linkage from ANC/PMTCT to ART was, in part, the result of under-reporting. It was also related to the fact that a significant number of HIV-positive women sought ANC services at a different health facility from where they were enrolled in HIV and AIDS care and support, and several of them ended up being tested for HIV as if their status were unknown at ANC entry. Nevertheless, the OR still suggested that around a quarter of HIV-positive pregnant women were not linked to HIV and AIDS care and support services.

The difficulty in locating HIV-positive pregnant women during the OR who had visited the assessed health centers at least once (170 out of 206 who appeared to be unlinked could not be located) and the high numbers who refused to be interviewed (23 out of 36 for whom contact information was available refused) also suggest that stigma or denial of HIV-positive status may lead many women to not access care and support services, and therefore to remain at risk of delivering an HIV-positive baby.

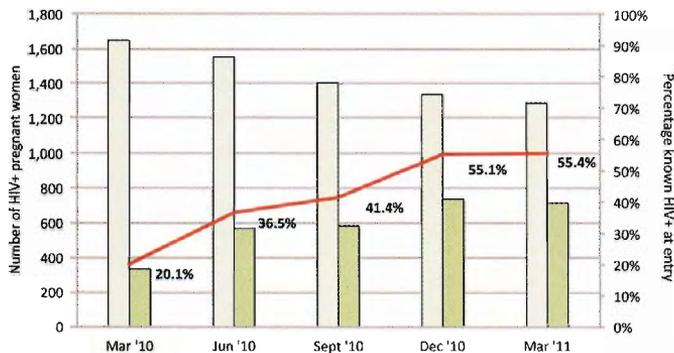


Figure 12. Number and percentage of known HIV-positive pregnant women seen at HCSP-supported health centers, by quarter, January 2010–March 2011

Pregnancy in HIV-positive women

Although the HIV prevalence among pregnant women declined from over 4 percent in 2008 to less than 2 percent in 2011, the proportion reported as HIV positive at entry into ANC more than doubled, from 17 percent at the end of 2009 to 36 percent in March 2011. This big increase in known HIV-positive pregnant women seen at ANC may reflect the success of keeping HIV-positive women in the health system when they get pregnant rather than an actual increase in the number of women known to be HIV positive getting pregnant. Furthermore, the program’s success in stigma reduction may have led more pregnant women to disclose their HIV-positive status at entry into ANC, and they would therefore not be tested, as might have been the case before.

However, it is also possible that the trend is real and reflects greater awareness among an increasing number of HIV-positive women that they can have healthy, HIV-free babies and that good health is possible thanks to

ART. Another possibility is that the increase in known HIV-positive pregnant women indicates an unmet need for FP among these women, or as some anecdotal reports suggest, that an increasing number of HIV-positive women are intentionally getting pregnant in order to become eligible to receive food that is distributed free of charge to pregnant HIV-positive women. If the trend is real, this finding has policy implications.

To further explore this possibility, HCSP began a special assessment at four health centers in Addis Ababa where the proportion of women known to be HIV positive at entry into ANC had steadily increased since 2009. Preliminary findings based on two cohorts of HIV-positive pregnant women initiating ART show that the pregnancy rate in HIV-positive women who newly started ART increased. However, once on ART, pregnancy rates within each cohort decreased.

Of the 167 pregnant women who started ART in 2008/09, 4.2 percent (7 women) were pregnant; of 165 in 2009/10, 9.1 percent (15) were pregnant; and of 161 in 2010/11, 13.7 percent (15) were pregnant. Among the first cohort, the pregnancy rate dropped from 4.2 percent in 2008/09 to 4.1 and 3.8 percent, respectively, after one and two years on ART. Among the second cohort, the pregnancy rate dropped from 9.1 percent in 2009/10 to 7.5 percent after one year on ART.

These results suggest that pregnancy rates increased for women on pre-ART but declined once they started on ART. These findings may, in part, reflect the frequency of counseling on dual protection and family planning, which is once every three months for pre-ART patients but once a month for ART patients. However, there are many

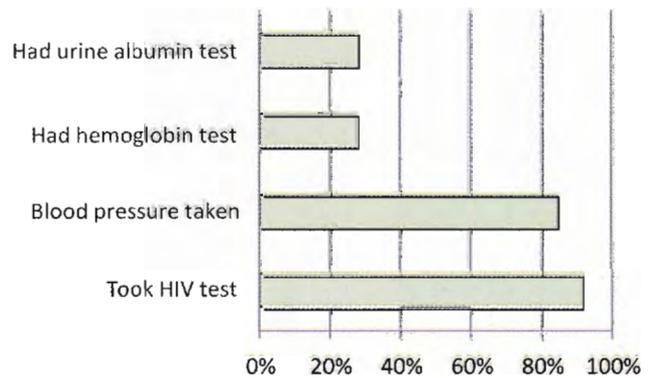
other reasons that might explain this trend and, therefore, more and larger studies are needed.

Spillover effect of PMTCT integration on other ANC services

The intent of both the GOE and PEPFAR has always been to strengthen the entire health system while scaling up comprehensive HIV and AIDS services, thereby improving health outcomes across the board. To determine the impact of HCSP's efforts to integrate PMTCT at ANC clinics on other essential ANC services, HCSP analyzed standards of care data collected over a two-year period during supportive supervision visits for 16,034 ANC client records at 185 (34%) of the 550 HCSP-supported health centers. The assessment showed that 92 percent of all ANC clients had been tested for HIV and 85 percent of ANC clients had their blood pressure taken, but only 28 percent received urine albumin and hemoglobin tests.

The most obvious explanation is that quite a few health centers charge a fee for laboratory work other than HIV tests, and most women who use the HCSP-supported health centers are often not able or willing to pay these fees, however small they may be. In addition, HIV tests can be performed by most health center providers, but urine albumin and hemoglobin tests—although relatively simple and routine—use a laboratory technician and, therefore, require patient referral to another clinic. Poor compliance may also be due to shortages of urine albumin and hemoglobin tests because health centers are required to purchase them and may not always have the funds available to do so. In contrast, HIV tests are heavily subsidized by PEPFAR and other donors and are available to health centers free of charge. Finally, health

centers must report the number of ANC clients tested for HIV to the FMOH and to HCSP for USAID/PEPFAR reports but do not need to routinely track and report on other components of the ANC service package. As a result, health providers, managers, mentors, and other advisors may tend to consider activities that will increase reported performance a priority and neglect activities whose results are not reported or recognized.



n = 16,034 ANC clients at 185 health centers, 2010

Figure 13. Percentages of ANC clients receiving basic ANC services, 2010

PEPFAR has been a major contributor to Ethiopia's rapid scale-up of HIV and AIDS services and to its impressive improvements in associated health outcomes. One of these successes is the dramatic increase in the number of pregnant women tested for HIV and accessing PMTCT services when needed. However, the singular focus on HIV services and related health outcomes has not resulted in similarly good outcomes for other routine ANC services. In this regard, the GOE's unwavering commitment to service integration should benefit from changes in reporting requirements imposed by donors such as the Global Health Initiative (GHI), which mandates that fund recipients broaden their current focus on PEPFAR goals and also set ambitious targets for, and report on, other maternal, neonatal, and child health services and outcomes.



Early Infant Diagnosis

According to national guidelines, all HIV-exposed newborns and infants must be enrolled in follow-up care. This includes preventive treatment with ARVs within 72 hours of birth and with cotrimoxazole beginning in week 6 of life. HEIs are also tested for HIV at 2, 12, and 18 months unless viral testing confirms their status earlier. The child is either confirmed as HIV free and discharged from HEI follow-up or is HIV positive and enrolled as a pediatric HIV patient on comprehensive care and support at the ART clinic.

Ethiopia's national HEI program started in 2007. At that time, the FMOH had developed HEI management guidelines as a component of its pediatric ART guidelines. HCSP helped the GOE develop and distribute these guidelines as well as pediatric ART dosing charts, growth charts, follow-up forms, exposed infant forms, intake forms, HEI follow-up cards and registers, and laboratory registers for viral tests (DBS). To integrate HEI and EID services at health centers, HCSP trained 350 health care providers and, in 2009, began intensive mentorship on pediatric HIV services through close collaboration with the USAID-supported African Network for Care of Children Affected by HIV/AIDS (ANECCA).

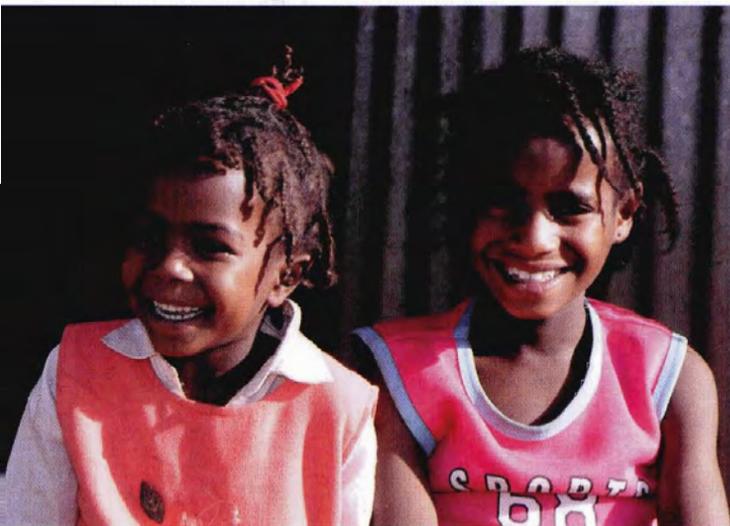
HCSP successfully integrated HEI services at 350 ART health centers. By March 2011, these health centers had enrolled a total of 30,369 HEIs in follow-up care and EID services. Because HEI enrollment started in late 2009, 81 percent of HEIs (24,555) were still under follow-up care by the time that HCSP ended. Among the HEIs discharged from HEI follow-up care, 2,324 (12%) of the 19,161

virologically tested babies were HIV positive. However, the HCSP-supported health centers ever enrolled only 360 HIV-positive infants on ART. The low enrollment may be an artifact of data recording and reporting errors, a reflection of early infant deaths, or an indication of a high lost-to-follow-up rate. It is more likely, however, that infant HIV cases were referred to hospitals for follow-up. Despite HCSP's many efforts to improve HEI services at health centers through mentorship, supportive

supervision, partnership with ANECCA, training, and refresher training on pediatric ART for both mentors and health workers, health center providers at times remained reluctant to manage infant HIV cases because of the complexity of infant HIV and possible side effects. Instead, they referred the infants to hospitals for follow-up. As a result, the program only achieved 55 percent of its end-of-program target of children less than one year of age currently on ART.

Indicator	EOP Results
# HEIs ever registered on EID/HEI follow-up	30,369
# (%) of ever registered HEIs currently under follow-up	24,555 (81%)
# (%) of ever registered HEIs initiated CPT within two months of birth	19,984 (81%)
# (%) of ever registered HEIs tested with DBS	24,896 (82%)
# (%) of whom within the first two months of birth	11,376 (46%)
# (%) of all HEIs who received a DBS test result	19,161 (77%)
# (%) of whom tested HIV-positive	2,324 (12%)
# (%) HIV-positive HEIs who ever started ART	360 (15%)
# (%) HIV-positive HEIs currently on ART	286 (79%)
# (%) of HEIs ever released from EID/HEI follow-up	5,814 (19%)

Table 2. Performance of HCSP-supported EID/HEI program



134 in 2007 to 3,763 in 2011, representing 85 percent of the end-of-program target. At HCSP-supported health centers, 3,594 had ever started on ART, and among children on ART by the end of HCSP, 3,337 (89%) had received cotrimoxazole. The upward trend in the number of children enrolled on ART may be a sign of improving pediatric case detection and greater access to services. However, there is still a major gap in reaching children requiring treatment. Stigma and discrimination, ignorance, and poverty are some of the key factors that discourage some parents from seeking services. At the same time, as already noted, health center providers continued to be hesitant to treat pediatric HIV patients and referred them to hospitals.

Pediatric HIV Treatment, Care, and Support

Working with ANECCA, HCSP trained 350 providers on pediatric patient management and integrated management of newborn and childhood illnesses (IMNCI). Following the training, HCSP and ANECCA pediatricians conducted monthly mentorship and supported comprehensive ART and pediatric refresher trainings for 350 ART sites. HCSP also developed and provided job aids and other materials for pediatric HIV case management to all ART health centers. Almost all (97%) of these health centers began to enroll pediatric patients, and 90 percent had DBS tests available.

Overall, 9.4 percent of clients tested through PITC were children under 15 years of age. However, as was the case nationally, only 6 percent of all patients registered on care and support at HCSP-supported health centers were children. Despite intensive case finding efforts, this result was well below the 9 percent national target.

Nevertheless, during the life of HCSP, the number of children under 15 years of age on ART rose rapidly from

The lower-than-expected pediatric HIV case detection and linkage to ART services has stimulated much debate in Ethiopia about whether pediatric HIV services should be integrated with other child health services at the IMNCI clinic. Service integration could reduce the number of lost opportunities, make universal access more affordable, and improve data recording. However, the complexity of managing pediatric HIV patients goes well beyond the normal capacity of IMNCI clinics, which only see children up to five years of age and already have a high patient load. It may be more advisable to strengthen pediatric HIV services by strengthening referrals and documentation between IMNCI and ART clinics, in addition to further educating both clients and providers, and developing on-site capacity for DBS testing and patient management.

There certainly was a continued need for educating and mobilizing communities around pediatric HIV services at health centers. In response, HCSP developed a video for health center parents and caregivers that promoted PITC

for children and showed the benefits of pediatric ART. Nevertheless, more OR is needed to fully understand how the provision and use of pediatric HIV services may be improved at health centers in Ethiopia.

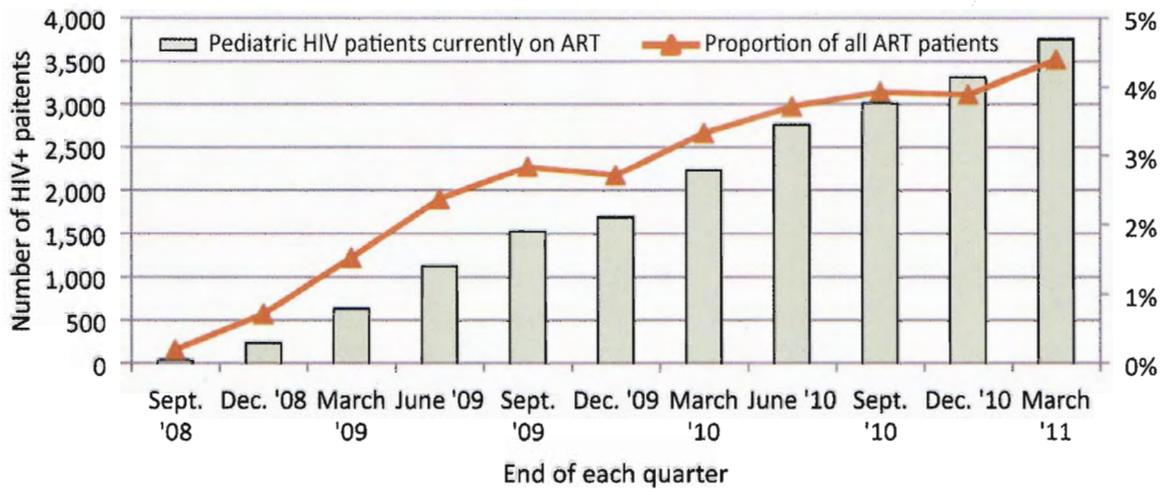


Figure 14. Number of HIV+ children under 15 years enrolled on pediatric ART at 350 HCSP-supported ART health centers, 2008–2011

HIV Case Management and Treatment

In June 2007, HCSP began its operations in 115 ART health centers, representing 75 percent of all public health facilities providing ART in Ethiopia at the time. HCSP's target to support ART services at 350 health centers was achieved by 2009, and by early 2011, HCSP was supporting 397 (99%) of the 402 public health centers in the country providing ART.

When HCSP began its operations in 2007, Ethiopia followed WHO guidelines for initiating ART, which were based on two categories of health services: those with access to CD4 services and those without. In facilities with access to CD4 tests, ART was initiated based on clinical and immunological criteria. Initially, patients with a CD4 count less than 200 and those in WHO clinical Stage 4, regardless of CD4 count, were started on ART. Currently, WHO Stage 3 patients, pregnant mothers, and patients with TB are started on treatment with CD4 counts below 350. In facilities where CD4 count is not available, all clinical Stage 3 and 4 patients are initiated on ART.

To integrate ART and other comprehensive services at health centers, HCSP's technical assistance included in-service training, health center mentorship, support to and participation in quarterly catchment area meetings, supportive supervision, and the development and supply of job aids, guidelines, and equipment. Importantly, HCSP also trained, deployed, and mentored HIV case managers and data clerks at the ART health centers and provided them with all necessary job aids, furniture for their consultation rooms, data forms, computers, and printers.

By March 2011, the HCSP-supported ART health centers had enrolled a total of 162,260 patients (100,874 female;



ART adherence with support from a case manager

61,386 male) on pre-ART care comprised of 93,012 (56,756 female; 36,256 male) who had ever started ART, and 86,005 (53,530 female; 32,475 male) currently on ART, representing 104 percent of the end-of-program target. As noted in the earlier pediatric ART section, of these, 3,763 (4.4%) were children below 15 years of age.

Survival of ART patients

In March 2011, 81 percent of ART patients at HCSP-supported health centers were still on treatment after 12 months since starting ART at the health center. In comparison, the survival rate after 12 months among hospital patients, who in general are sicker or even terminally ill, was 72 percent. This data measure can be used as a conservative estimate of the survival rate among these ART health center patients, as it does not include

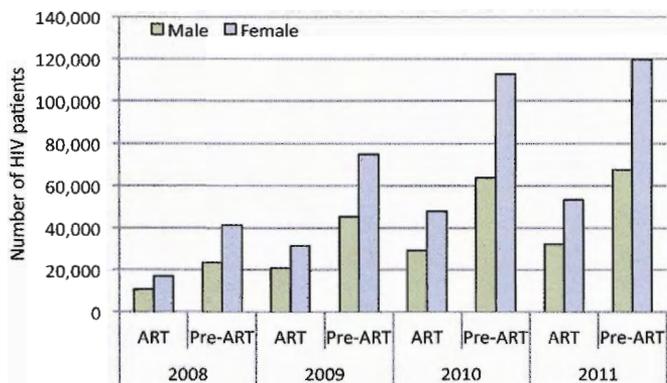


Figure 15. Number of patients currently on ART and number ever enrolled on pre-ART, by sex, 2008–2011

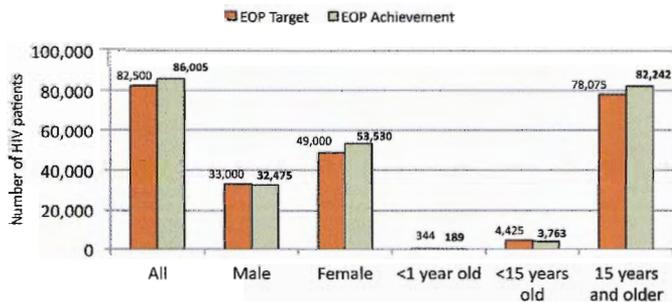


Figure 16. End-of-program (EOP) targets and achievements of the number of patients currently on ART, FY11

patients who transferred to another facility or who are lost-to-follow-up (LTFU) but might still be alive. Survival of ART patients at HCSP-supported health centers was found to be somewhat better among women (82%) than men (78%). This is consistent with mortality patterns in general and with findings that women tend to take fewer risks and adhere to treatment and other health care better than men.

Lost-to-follow-up rate among ART patients

In March 2011, the proportion of ART patients at HCSP-supported health centers who were lost-to-follow-up after 12 months on ART was almost 10 percent, up from 8 percent at the start of the program. While significantly lower than the LTFU rate at hospitals, which ranges between 23 percent and 28 percent, the LTFU rate at HCSP-supported health centers has increased over time. The longer patients are on ART, the higher the LTFU will be, simply because more time has elapsed. In addition, as patients begin to feel healthy, some will stop treatment, and some will move away as they become mobile again. All these factors may explain the increase in LTFU rate over the life of HCSP, especially in urban and peri-urban areas. In Addis Ababa, for instance, the LTFU rate was similar to that of other regions in Program Year 1 but rose rapidly to more than 13 percent by the end of 2010.

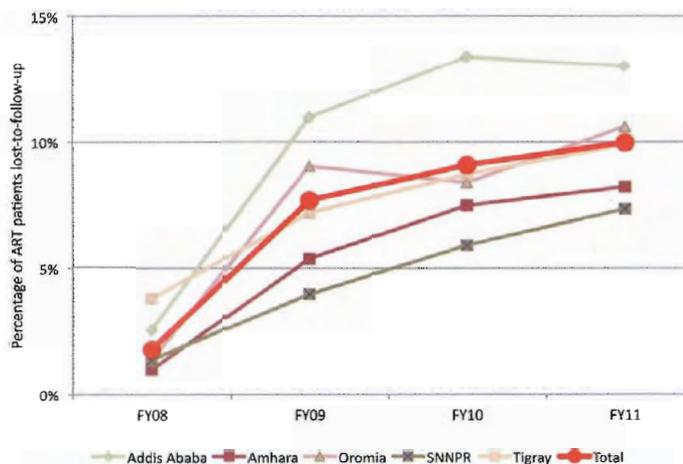


Figure 17. Annual lost-to-follow-up rate at HCSP-supported health centers, by region, FY 2008 to mid-FY 2011

One reason the HCSP LTFU rate has been lower than the national rate is certainly the success of decentralization of services to health centers, which brings the services closer to where people live, and thereby greatly increases access. The quality of adherence counseling by, and refresher training for, case managers also contributes. Case managers make community volunteers aware of missed appointments, and the volunteers can trace these patients and escort them to the health center. Nevertheless, future HIV and AIDS programs in Ethiopia will need to monitor whether the LTFU rate at health centers increases to levels seen at hospitals or eventually stabilizes around current levels.

ART patients transferred in and out of health centers

HCSP also monitored the death rate among ART patients and the numbers transferred into health centers and out of health centers to hospitals. During the four years of HCSP implementation, the death rate for ART patients remained around 7 percent and did not increase significantly. However, the proportion of ART patients transferred out did increase from 9.5 percent in 2007/08 to more than 13 percent in 2011. This, combined with the higher mortality observed at hospitals, suggests that health centers attract and keep relatively healthy patients, while the terminally ill are referred to hospitals.

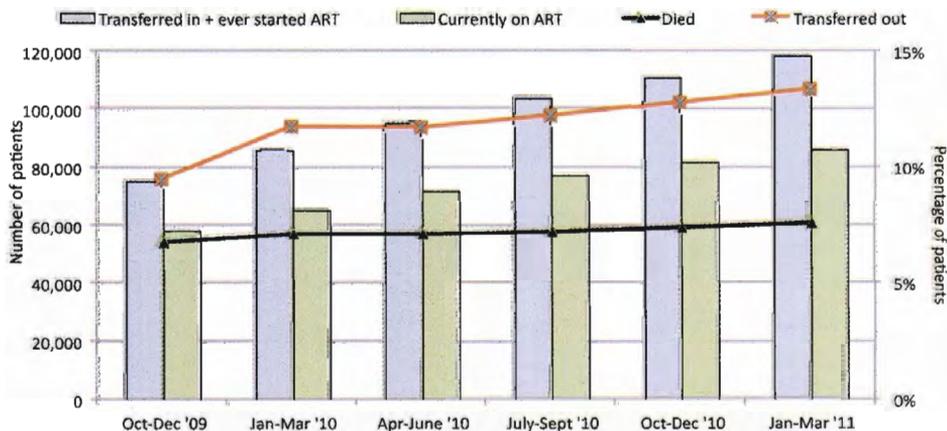


Figure 18. Number of HIV patients transferred in and ever started, and currently on ART, with percentages dead and referred to another health facility, 2009–2011

The HCSP results show that decentralizing and integrating ART services into health centers not only increased access to and use of ART but also that the quality of these services resulted in excellent patient outcomes, including the low LTFU and high survival rate among ART patients. The results confirmed, beyond doubt, the validity of the GOE visionary strategy of entrusting non-physicians at public health centers with the responsibility of providing ART and the GOE's faith in its people, though poor and little educated, to adhere to HAART.

Integration of HIV and TB Services

Ethiopia ranks seventh in the list of the 22 high-burden countries severely affected by tuberculosis (TB) in the world and third in Africa according to the WHO's 2009 Global Report; it also has an estimated prevalence of all forms of TB of 579 per 100,000. The TB mortality rate is estimated at 92 per 100,000. Although information on the association between HIV and TB in Ethiopia is limited, FMOH estimates place the TB/HIV co-infection rate at 20 percent.

In Ethiopia, TB is often the first opportunistic infection in HIV-infected patients. Active TB has been shown to induce HIV-replication, thus accelerating the progression to AIDS. Furthermore, the clinical presentation of TB may be altered in HIV-positive patients, especially in advanced stages of HIV infection when immunity is considerably compromised. Smear-negative and extra-pulmonary forms of TB are therefore more common, and X-ray abnormalities are atypical. Although TB incidence is increasing, the TB/HIV co-infection rate has remained stable over the past few years. For these reasons, the GOE has made the management of TB/HIV co-infection and the integration of TB and HIV services a priority in its national HIV and AIDS service expansion strategy.

Following national policy, HCSP trained 2,118 providers on the integration of TB and HIV services and provided tools and job aids, such as a symptomatic TB screening wall chart and TB screening log books, at all 550 health centers. HCSP monitored health center performance with regard to TB/HIV co-infection through the TB clinic, where all patients need to be tested for HIV, and the ART clinic, where all patients must be screened for TB. Cross-linkages between the TB and ART clinics were strengthened as well.

The number of HIV-positive patients receiving TB treatment at HCSP-supported health centers was 7,848 in 2008. This number included patients on HIV care and patients who tested HIV positive in the TB clinic. In 2010, the total number nearly doubled to 13,002 TB/HIV co-infected patients who received TB treatment, which included 5,154 TB patients who tested HIV positive at the TB clinic, and 5,948 patients on HIV care at the ART clinic diagnosed with TB.

This improvement was the result of better and more consistent screening of HIV-positive patients for TB, which increased from 45 percent in 2009 to 55 percent in 2010. Overall, ART clinics screened 106,827 patients in FY 2010 and 92,805 in the first half of FY 2011, representing 111 percent and 193 percent of the HCSP targets (Figure 19).

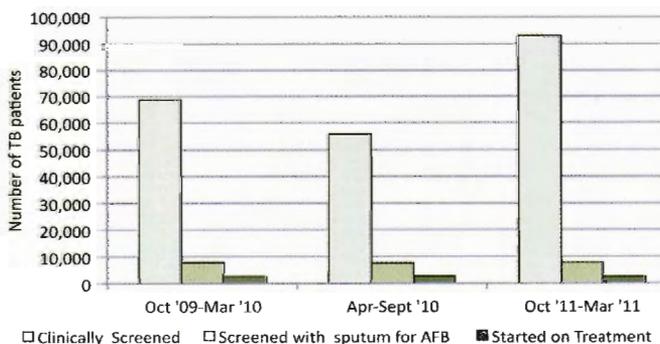


Figure 19. Number of patients screened for TB and started on treatment

Symptomatic screening for TB among HIV-positive patients should ideally be 100 percent. Findings from HCSP's assessments of compliance with the standard of care in a sample of health centers showed that the percentage of HIV patients screened for TB ranged from 80 percent in the Amhara region to 98 percent in SNNPR. This discrepancy suggested major data recording and/or reporting errors in the routine HMIS and HCSP reporting system.

At the TB clinic, testing of TB patients for HIV increased from 75 percent in 2009 to 88.5 percent in 2010. By 2010, 95 percent of all registered TB patients were being offered HIV testing, and 90 percent accepted; 16 percent tested HIV positive, down from 20 percent in 2009. There are a number of likely explanations for this decline in HIV prevalence in TB patients. The program expanded to health centers in more rural areas where HIV prevalence was low but TB incidence continued to rise. Another equally, if not more, important reason for the decline in HIV prevalence among TB patients seen at HCSP-supported health centers includes the increase in PITC at all clinics within the health centers, which linked HIV-positive people to HIV care services before they went to TB care points or before they got TB.

Among TB patients who were found to be HIV positive, 70 percent were put on CPT, but only 32 percent were registered on ART. To verify the validity of the low CPT uptake and low linkage rate to ART, HCSP conducted a special data assessment and found that the HMIS reported results significantly underestimated the true CPT and ART uptake among newly identified HIV-positive TB patients. This retrospective study reviewed records of 673 TB/HIV co-infected patients at 12 high-patient-load

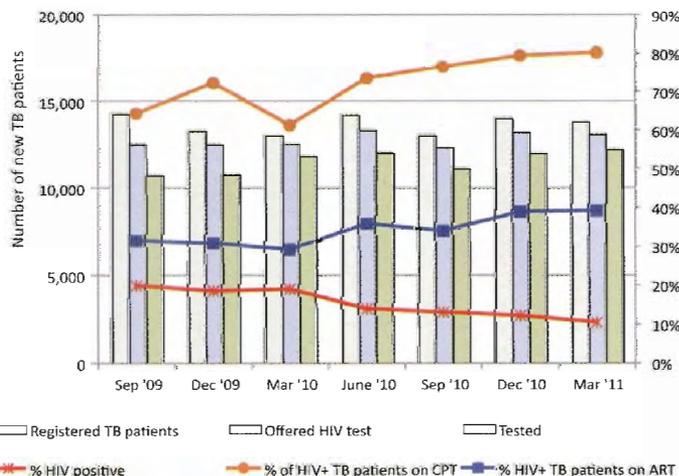


Figure 20. TB patients offered to be HIV tested, accepted to be tested, tested HIV positive, and the proportion of HIV-positive TB patients put on CPT and ART by quarter, 2009–2010

health centers between December 2009 and May 2010. However, data records were either lost or not available for 36 percent of patients. The study produced the following findings:

- 77 percent of newly identified HIV-positive TB patients were put on ART. In contrast, the program's routinely collected data reported 44 percent;
- 93 percent of those newly enrolled on ART were put on CPT. In contrast, the program's routinely collected data reported 86 percent;
- 70 percent of HIV-positive TB patients were enrolled on either ART or pre-ART, which the program's routine data collection did not include.

The study concluded that linkage and uptake of ART and CPT for TB/HIV co-infected patients is higher than the program's routine data reports. While these results

revealed major data recording and reporting errors, they also suggested lost opportunities to link almost 23 percent of newly identified HIV-positive TB patients to ART. The reasons identified for the failure to link TB patients to ART services included death, refusal, referral elsewhere, and ignorance about available options, and a few patients were critically ill.

Laboratory Services

A key feature of the FMOH's implementation strategy for scaling up HIV/AIDS services was an accelerated strengthening of laboratory diagnostic services at health centers and referral hospitals. The FMOH designed a special training program for laboratory technicians on HIV/AIDS comprehensive laboratory services, including rapid HIV testing, hematology, TB microscopy, malaria microscopy, quality control, DBS sample transportation, inventory management, and preventive maintenance. More complex testing, such as CD4 counts and clinical chemistries, were sent to referral laboratories in hospitals.

Strengthening the capacity of laboratory technicians

HCSP trained 1,187 laboratory technicians (788 male; 399 female) at all 550 health centers to perform HIV diagnostic services. HCSP complemented this training with the development, production, and/or supply of standard operating procedures (SOPs), job aids, quality assurance guidelines, AFB microscopy manuals for TB, and on-the-job technical support by the regional laboratory advisors.

However, training and deployment of laboratory personnel is not enough to ensure the continuous availability of HIV-related diagnostic services at health centers. Staff retention and motivation are also essential. HCSP conducted an

assessment of laboratory staff retention at 443 health centers a year after it had trained laboratory technicians in HIV diagnostics. The assessment found that, on average, health centers had 2.3 laboratory technicians in place.

Among the 1,018 laboratory staff available at these health centers at the time of assessment, only 444 (43.6%) were trained on comprehensive HIV and AIDS diagnostics. After 2.5 years of strengthening HIV diagnostic capacity at health centers, less than half of the laboratory technicians who had been trained in HIV diagnostic services remained available. Many left the GOE health service, presumably for the private sector. A majority of health centers had only one trained laboratory technician in place and just over a quarter had two or more. In 32 (7.2%) of the 443 surveyed health centers, none of the laboratory personnel were trained in HIV diagnostic services. The majority of these were rural health centers.

The average turnover rate of the trained laboratory personnel for the four regions and Addis Ababa was 20 percent over the two-year period. The largest turnover rate was in SNNPR (43%), followed by Tigray (18%), Amhara (11%), Oromia (8%), and Addis Ababa (4%).

The high turnover rate in SNNPR (43%) may well be related to its linguistic diversity and the remoteness of many of its health centers. The lowest turnover rate (4%) was in Addis Ababa City Administration, which is likely the result of its higher standard of living and more desirable working conditions than elsewhere in the country.

Training more laboratory technicians in HIV diagnostic services is essential to ensure continuous provision

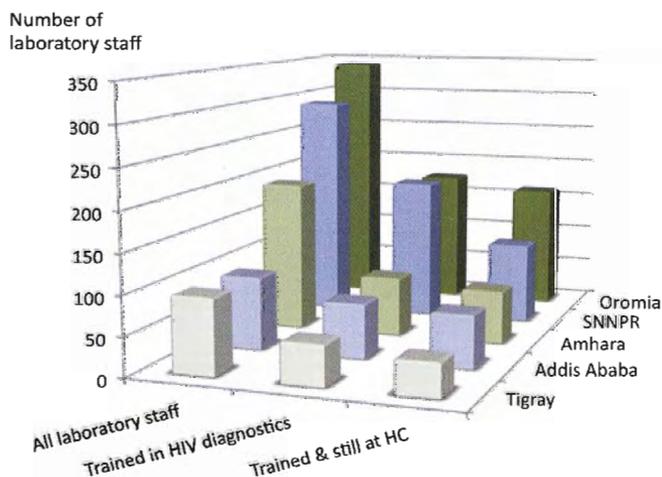


Figure 21. Number of laboratory staff, trained in HIV diagnostics, and still working at 443 health centers by region, Ethiopia, 2010 (n=1,024)

of laboratory services in Ethiopia. In addition, trained laboratory technicians should be encouraged to teach their untrained colleagues so that HIV diagnostic services can continue if and when they leave the health center. Incentives for retention of trained laboratory technicians need to be considered to promote retention and improve the quality of the diagnostic services in support of the GOE's plans to expand HIV and AIDS services.

Provision of laboratory supplies, materials and quality assurance

In close partnership with the USAID-funded Strengthening Pharmaceutical Systems (SPS) project and the Supply Chain Management Systems (SCMS) project, both also implemented by MSH in Ethiopia, and the AIDSTAR-One project implemented by John Snow Incorporated (JSI), HCSP conducted annual needs assessments of laboratory and infection prevention (IP)

equipment and supplies to ensure a regular supply of IP materials, laboratory diagnostics, and consumables for all 550 health center laboratories.

SCMS subsequently procured the laboratory supplies and JSI the IP supplies, with HCSP's regional laboratory advisors supporting the regional hubs in distribution of the supplies to health centers. Through HCSP and its collaboration with SCMS and AIDSTAR-One, the laboratories received a wide range of supplies including gram staining reagents, white blood count tommma pipette, Sahil-heligh hemoglobinometer, hemocytometer, microscope slides, immersion oil, wooden applicator stick, and test kits for RPR, HIV, DBS, and pregnancy.

HCSP helped the RHB link health centers with advanced laboratory capacities to other health centers with the goal of reducing both the burden on hospitals and the turn-around time for receiving results. HCSP worked with EHNRI, the RHBs, and regional hospitals to implement a regional external quality assurance system and strengthen the laboratory referral linkages between health centers and hospitals and improve ART monitoring performance.

CD4 tests at health centers

Until recently, only hospital laboratories conducted CD4 tests. Health centers therefore relied on transporting samples to these laboratories, and hospital laboratories set quotas on the number of CD4 tests they would perform for the health centers. This system precluded optimal patient monitoring because sample transportation was not always available. Even on the days that health centers transported samples, many patients could not always come to the health center to have their blood taken. Furthermore, the system caused significant delays in obtaining test results.

Towards the end of HCSP, 25 health centers received CD 4, hematology and clinical chemistry machines from other GOE partners, and HCSP trained their laboratory personnel on the use of these machines and analysis of results. The training included detailed theoretical and practical courses. The partnerships of several PEPFAR projects enabled these health center laboratories to perform CD4 counts, hematology studies, and clinical chemistry tests instead of having to send samples to nearby hospitals. As a result, these 25 health centers could now offload work from the already overburdened hospitals, were no longer subject to hospital-imposed quotas, and were relieved of the constraints and disadvantages involved with transporting samples. The experience in Addis Ababa showed that CD4 tests can easily be introduced at health centers, and that the technology should therefore be expanded into the regions outside the capital.



Data clerk with wall chart for tracking survival of ART patients

Service Quality Assurance

Inherent in the mandate to HCSP to rapidly expand comprehensive HIV and AIDS services were the challenges of ensuring the quality of these services and their sustainability. Perhaps more than any other service, the provision of comprehensive HIV and AIDS services at health centers raised major apprehensions about, on the one hand, the capacity of non-physicians to learn and comply with national and international standards of care (SOC) and, on the other hand, the ability of HIV- and AIDS-focused programs to have positive spillover effects on the quality of non-HIV related services. Although the evidence indicating achievement of these goals would become available only over time through service data and health outcomes, rapidly expanding HIV and AIDS services necessitated a major and immediate focus on their quality.

The quality assurance (QA) strategy implemented by HCSP consisted of:

- Monthly health center mentorship;
- Training and deployment of data clerks at the ART clinics;
- Quality improvement using the standards-based fully functional service delivery point method (FFSDP);
- Support for catchment area meetings;

- SOC assessments during quarterly supportive supervisions at health centers;
- Program monitoring and evaluation (M&E);
- Data quality assurance (DQA).

Health center mentorship

To rapidly scale up HIV and AIDS services, the GOE adopted a strategy of in-service training of clinical health providers followed by ongoing mentorship by medical doctors or highly qualified health officers or nurses at the health facility. This approach ensured that newly trained ART providers could continue to learn how to manage patients. By deploying 45 health center mentors, HCSP strengthened and supported health center providers to comply with national norms and standards; identify gaps, weaknesses and obstacles; and find solutions. Each mentor visited, on average, between 8 and 12 health centers per month, with each visit lasting one or two days.

HCSP supported its mentors through monthly review meetings with HCSP’s regional advisors, on-site supervision by HCSP integration advisors, and annual progress meetings that brought all HCSP staff together. HCSP also developed a mentorship checklist and log book that complemented the national health center mentorship guidelines of 2007 and served as both a job aid for the mentors, a record of the mentorship activities for the health center and woreda health office, and a performance monitoring tool for HCSP supervisors.

Training and deployment of data clerks

Linking, tracing, and engaging patients and their families to the wide range of the integrated continuum of HIV care services necessitates diligent record-keeping and use

of health center and community data. HCSP trained and deployed data clerks to 350 ART health centers to fulfill the critical functions of recording and reporting service data and using the data to follow and track patients who missed appointments; monitor progress and health center performance; identify needs; and provide accurate information that health center managers could use for decision-making.

Committed to both data quality and gender equity, HCSP recruited the data clerks through open solicitation that encouraged women applicants. Although HCSP promoted women in its recruitment practices, it chose data clerks based on their qualifications and only favored female candidates if their strengths were equal to those of male candidates.

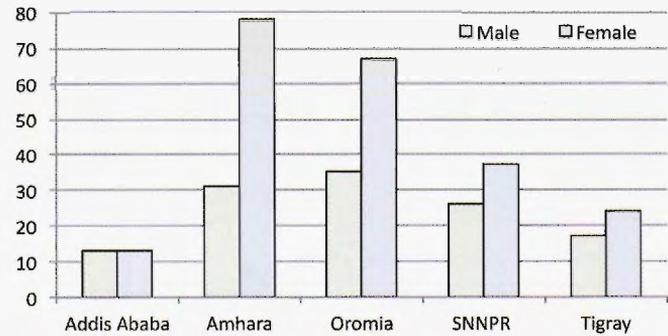


Figure 22. Number of data clerks, by sex, in 5 regions (n=350)

To support data clerks, HCSP ensured that they and the health providers they worked with had the necessary health management information system (HMIS) registers, tally sheets, log books, and other forms. HCSP developed additional data collection and reporting tools for PEPFAR indicators that the HMIS did not capture and a data collection guide for data clerks. HCSP provided each ART health center with a computer and printer. Finally, data clerks received monthly on-the-job mentorship from HCSP mentors.

Quality improvement using FFSDP methodology

The FFSDP methodology enables health providers to identify and address strengths and weaknesses together at the health facility and its surrounding catchment area, and to develop and implement actions that improve quality, sustain strengths, and correct weaknesses. While

some actions might require a greater use of resources (e.g., improving infrastructure, procuring equipment, and hiring staff), others are more process based and require long-term corrective actions from the health providers (e.g., maintaining sanitary conditions at the health facility; handling of equipment; and complying with clinical norms, standards, and guidelines).

For HCSP, all actions ultimately focused on improving outputs as measured by FHAPCO in the Quality Management Framework for HIV/AIDS Services in Ethiopia (e.g., more comprehensive services, greater use of services) and health outcomes (e.g., increased number of HIV-positive patients on ART, improved adherence to treatment). The underlying assumption was that these outputs and outcomes would lead to improved and increased health impact (e.g., reduced

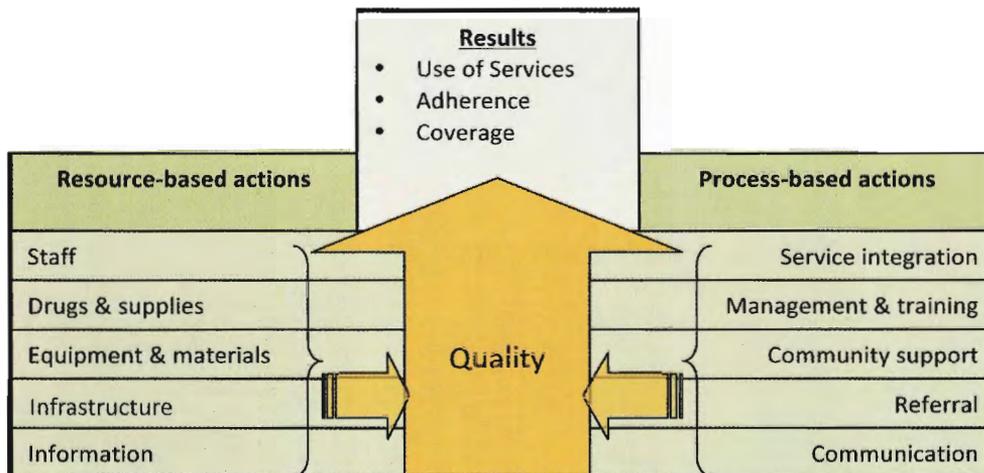


Figure 23. The relation between FFSDP actions and standards and health outcomes

incidence of HIV, reduced HIV and AIDS related morbidity and mortality, fewer orphans, healthier lives).

HCSP trained health providers and managers at all 550 health centers and supportive woreda health offices on the FFSDP. During the first round of applying the FFSDP, health centers appointed a small quality improvement team responsible for follow-up and implementation of the action plans in between evaluations. Subsequent iterations of the FFSDP were conducted semi-annually by the quality improvement team under the leadership of the head of the health center.

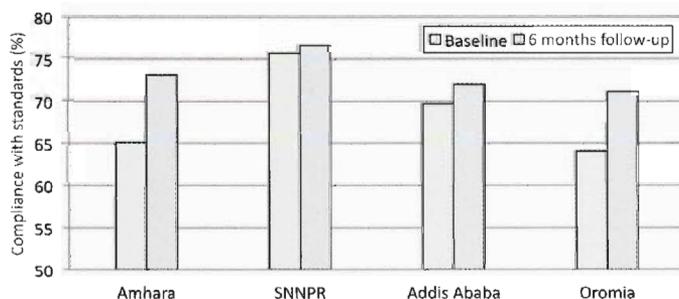


Figure 24: Comparison of average composite compliance with 10 FFSDP standards at baseline and 6 months post-intervention, by region

By early 2011, multidisciplinary teams at more than 200 ART health centers were using the FFSDP quality improvement tool to improve the quality of their services, helping them identify gaps and make improvements using their own resources from revenue generated internally at the health center and woreda levels. The FFSDP aimed at enabling health center providers and managers to systematically assess the quality of services they provide,

come together as one team to review needs and find solutions, and use evidence to solicit external resources to help close gaps that they cannot address on their own.

HCSP proposed using performance-based contracts (PBCs) with the regional and woreda councils and RHBs to provide both financial incentives and material resources to implement the FFSDP action plans and link them to specified, contractually agreed-upon outcomes achieved by expanded HIV and AIDS services at the health centers. Through performance-based contracting to the regional and woreda councils first, then the regional and woreda health offices, and then down to the health centers, resources could be channeled—based on actual performance on contractual targets—to the service level to foster effective service delivery. These public sector PBCs would have strengthened the regions and the woredas to more efficiently and effectively manage their available resources. The contracts would have provided concrete on-the-job training tools to improve the management processes used to achieve and report results.

During the first year of the HCSP, the FMOH planning department showed a great deal of enthusiasm for PBC, and HCSP provided the equivalent of 1.5 full-time advisors, plus short-term technical assistance, to the FMOH to develop policies, guidelines, training manuals, and sample contracts for the RHBs and the woreda health offices so their annual budget allocation would be related to performance. However, midway through the second year, the GOE decided to note support financial incentives as part of the planning and budgeting cycle. All work stopped on the public sector PBC design, and the HCSP staff assigned to this component was redeployed to other activities. The FMOH is currently reconsidering PBCs

as a strategy for achieving better health outcomes and motivating public sector health providers, which could reactivate HCSP's PBC approach, which MSH believes still remains viable for Ethiopia.

Catchment area meetings

A key feature of Ethiopia's HIV and AIDS service expansion strategy are quarterly catchment area meetings at the zonal level. Bringing together hospital, health center, and woreda health managers and health providers with program and partner organizations' staff, the meetings provide a forum to discuss needs and opportunities within the integrated continuum of care and to review individual patients who have been referred or back-referred. The meetings help identify LTFU patients and facilitate development of plans and actions to close loopholes. HCSP consistently supported and participated in the catchment area meetings held in Addis Ababa and the four regions where HCSP worked.

Assessing the standards of care

Every quarter, HCSP conducted supportive supervisions to a subset of health centers in each region and Addis Ababa. Supportive supervision included, among others, a performance review of each of the clinics within the health center. To conduct the review, the HCSP technical advisors sampled patient follow-up cards, records, registers and log books, typically from the previous one to three months, and verified whether the patients had received services according to the standards of care (SOC) prescribed by national guidelines.

Following the SOC assessments, HCSP advisors calculated the rates of overall compliance with SOCs and discussed



Catchment area meeting, SNNPR

the results with the health center head, the service providers, and the woreda health office team. Together, they identified strengths and weaknesses, reasons for compliance failures, and ways to improve compliance with SOCs. During the time between supportive supervision visits, mentors provided follow-up support and verification.

Monitoring and evaluation

M&E was HCSP's main tool for assessing and, based on the results, improving the quality of both HCSP's interventions and health service delivery in the 550 health centers and their surrounding communities. HCSP's M&E system consisted of routine collection of service data and other strategic information and reporting on quarterly and annual status against targets, operations research (OR), special data assessments, assessments of service compliance with national standards of care, and data quality analysis.

Through data clerks and health center mentors, HCSP collected routine program data on a monthly and

quarterly basis from each health center. HCSP used this data for reporting purposes and to continuously review program performance, adjust its interventions when and where needed, develop new strategies, and define areas for operations research for a greater understanding of observed trends and patterns. Routine program data included information on HCSP's contractual deliverables and PEPFAR's next generation indicators (NGIs), which measure program and health center performance in PMTCT; HIV testing and counseling; abstinence, be faithful (AB) and other prevention (OP); care and support; TB/HIV; HIV and AIDS treatment; pediatric HIV and AIDS care, support and treatment; laboratory strengthening; and other health systems strengthening activities.

Following the introduction and publication of PEPFAR's NGIs in August 2009, HCSP integrated them in its M&E system by training both its own staff and health workers in HCSP-supported health centers and communities. To this end, HCSP revised its performance monitoring plan and developed and distributed data collection and reporting tools and a new data management manual for data clerks and other trainees. The introduction of NGI contributed greatly to viewing and monitoring the program in a systematic and cascaded manner. In some instances, the FMOH and FHAPCO used the HCSP NGI data for their own purposes as the data included information that routine HMIS does not collect.

HCSP also conducted small operations research studies and special assessments that supplemented the routine data. The OR and special assessments were conducted on convenience and other samples of patients, service providers, communities, families. HCSP used routinely

Examples of HCSP operations research and special assessments

- PMTCT: ARV uptake and linkage to ART clinics
- TB/HIV: linkages between TB and ART clinics
- Health outcomes at HCSP-supported health centers
- The impact of new WHO guidelines on ART initiation in Ethiopia
- Gender mainstreaming
- Pediatric HIV and AIDS scale-up
- PITC and VCT
- Community volunteers and their impact on the continuum of care
- Effect of stigma reduction on accessing services
- Impact of community mobilization on follow-up of services

collected data for additional analyses and comparisons with OR data.

The main purpose of OR and special assessments was to verify the efficacy of HCSP strategies and interventions or to examine the underlying reasons for data results and trends observed in routine service data. OR results assisted in validating data and in identifying areas that warranted special attention and follow-up.

Data quality assurance

The use of data for decision-making, performance monitoring, and strategy adjustments is only as good as the data quality. Therefore, HCSP instituted data quality assurance (DQA) in its M&E system and monitored the quality and validity of its data in multiple ways. In addition to OR, special assessments, and SOC assessments, HCSP's DQA included:

- **Internal consistency checks.** HCSP's central and regional office staff systematically reviewed program data on a monthly, quarterly, and annual basis to ensure data completeness, accuracy, and consistency. Regional M&E advisors conducted detailed consistency checks of all data submitted by the health centers through HCSP mentors and technical advisors. Inconsistencies and incompleteness were verified at the source and corrected prior to submitting the data to the central office. At the central office, data were compiled and verified again. Incomplete and inconsistent data was discussed with regional M&E staff and corrected where possible. Feedback was provided through email and telephone and during the supportive supervision;
- **Health center mentorship.** HCSP's mentors spent about 30 percent of their time mentoring providers and data clerks on correct recording and reporting of data. This involved verification of current data and data spot checks at each clinic. Errors as well as correct procedures were discussed with the health center head, service providers and, at ART health centers, also data clerks so they would maintain the correct procedure;

- **Training of HCSP staff.** At monthly, quarterly, and annual review and planning meetings, HCSP trained its M&E staff, technical advisors, and mentors to ensure a uniform understanding and use of practices for data collection, data quality assurance, and data reporting. With the advent of the NGI, HCSP designed new data capturing and reporting tools for both community- and health center-level data and trained its mentors and the data clerks on the concept of the NGI and how to monitor and report on them.

As a result of these systematic data quality assurance mechanisms, the quality of data has been continuously improved throughout the program period, which enabled the program to report on the NGI's essential and reportable indicators.



A case manager with a patient

Deployment of case managers to personalize care and strengthen referrals between health centers, hospitals, and community services (Result 2)

Based on successful models of chronic patient care in other countries, Ethiopia adopted case management to complement clinical care of HIV patients as part of its HIV and AIDS scale up plan. HCSP partnered with the regional health bureaus (RHB) and woreda health offices to develop the case manager job description and recruit for the position. The deployment strategy encouraged women to apply and involved “task shifting”, i.e., transferring a role that had traditionally been assumed by trained nurses to lay counselors. The case managers are an important link between the community and health

centers; they have proved to be true champions for people living with and affected by HIV and central figures in maintaining low lost-to-follow-up rates and good adherence to treatment.

The Role of Case Managers

Case management is intended to help improve patient adherence to treatment and care. To do this, case managers develop a personalized care plan; establish better linkages between health facilities and community resources; track and reduce the number of patients who

are lost-to-follow-up; encourage positive living; promote prevention with positives and family-focused care; address gender and reproductive health issues for HIV patients; encourage HIV status disclosure; and reduce stigma and discrimination.

Case managers work closely with ART providers, home- and community-based care and support staff and/or volunteer caregivers, and participate in meetings with the health center's multidisciplinary team to review and discuss the progress of their patients. Through daily communication and collaboration with the health center data clerk, the case manager is also responsible to receive, review, assess, manage, and update the clients' data and records. In this capacity, he or she also assists the data clerk to develop and provide monthly and quarterly reports, address queries for program monitoring and evaluation, and disseminate information to the health center manager, case management coordinator, ART nurse, and others, as needed.

The most important qualification for case managers under HCSP was their commitment and willingness to serve HIV-positive patients and, themselves HIV positive, to be a role model for adherence to care and treatment. In addition, case managers were required to have achieved a basic education level, equivalent to high school, and be fluent in speaking, reading, and writing Amharic and the local language of the area of assignment. They also needed good organizational and time management skills, strong interpersonal skills, and an ability to work with people of different backgrounds. Furthermore, they needed to pay attention to details, accuracy, and deadlines; be able to handle multiple tasks; and respect the confidentiality and privacy of patients and their families. Preferably, they

brought previous experience in peer education, home-based care, or HIV and AIDS activities.

Recruitment and Deployment of Case Managers

HCSP subcontracted HST Consulting, a highly experienced Ethiopian business consulting and accounting firm, to administer the recruitment and deployment of case managers and to manage payroll administration of all case managers at HCSP-supported ART health centers. HCSP initially determined the criteria for case managers' selection and recruitment, job description, and salary and benefits package and then shared this information with HST for action. After HCSP introduced HST to the RHBs, the woreda and health center officials became actively involved in the recruitment process, which was careful to include both men and women. The recruitment involved advertisements in local languages through health centers and woreda health offices, followed by selection of the most promising candidates after an examination by HST and woreda health offices. The best performers were offered the job and, upon accepting, they signed an employment agreement with HST.

To ensure timely salary payments, HCSP and HST mapped the health centers to the nearest commercial banks and/or credits and savings institutions and collaborated with them to define and implement a regular payment schedule, which was based on timesheets the case managers submitted by fax, email, or postal service. Case managers were oriented on the date and place of monthly salary collections, and HST communicated to the case managers when salaries were sent and encouraged them to collect

Case Manager's Position Description

		OTHER WORKING RELATIONSHIPS	
TITLE:	Case Manager	DIRECT:	Data clerk, community resources, other members of multidisciplinary team
REPORTS TO:	ART Nurse	INDIRECT:	Client's support network
DIRECT REPORTS:	Adherence Supporters		

PURPOSE OF THE ROLE	To provide a continuum of care for ART clients who are considered at risk of not adhering to treatment by addressing their needs holistically and providing linkage between the health facility and community resources and tracking and managing clients who are lost-to-follow-up
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KEY ACCOUNTABILITY	PERFORMANCE MEASURES
Manage the relationship between the health facility and community resources and coordinate the linkages between the 2 partners	Quality of relationships and referral process
Assess the holistic needs of clients and link them to the necessary services to meet their needs	Quality of client assessment
Follow adherence to care and ensure appropriate action is taken to address adherence issues	%/# of clients lost-to-follow-up
Provide support and counselling to client (and family/support network)	Client well-being & regular follow-up
Manage client information in conjunction with data clerk	Quality and accuracy of client information

Figure 25. Case manager position description

their salary on time to avoid returns. HCSP deployed at least one case manager for each of the 350 ART health centers and additional case managers for high-patient-load health centers. By early 2011, 419 case managers were in place, of whom 61 percent were women.

The program anticipates that the GOE will continue to fill case manager positions, as they are now integrated into the GOE's human resource requirements for health centers. In addition to providing invaluable services to HIV patients, the men and women HCSP deployed as case managers will benefit from increased job security, and with that, continue to gain greater economic independence and a higher status in the community.

Training of case managers

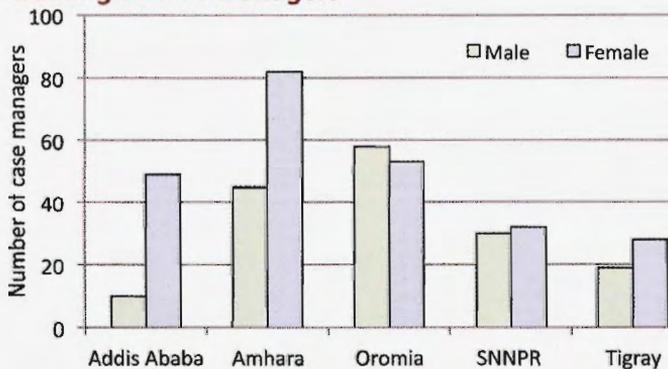


Figure 26. Number of case managers in five regions (n=419)

Once recruited, case managers attended an initial three-week training on basic HIV and AIDS case management offered by HCSP. Once deployed at ART clinics, they were supported through monthly on-the-job mentorship by HCSP mentors; supportive supervision, including assessments of case management SOCs by HCSP

technical advisors; and in-service refresher training based on needs assessments.

HCSP also provided job aids and tools for recording patient information. These materials included the family matrix, which helps identify family members so they can be encouraged to come to the health center for VCT and access care and support services, and a cohort wall chart showing patient retention from their start on ART and at 6 month, 12 month, 24 month, and 48 month follow-up. Case managers, as well as other ART clinic staff, attended training on how to use this wall chart and, especially for the data clerks, methods of data recording and analysis.

HCSP developed and distributed appointment log books allowing data clerks and case managers to track and trace patients who did not show up for their scheduled appointment; a case management program supervision checklist; standard operating procedures and standards of care for adherence to care and treatment. Lastly, HCSP developed the “Case Mangers Adherence Counseling Pocket Guide,” which was translated into Amharic and the various local languages spoken at the HCSP-supported health centers.

To ensure confidentiality and privacy, case managers were located in a separate counseling room close to the ART clinic. HCSP provided furniture and basic equipment and materials needed to make the room a comfortable environment for both case managers and their patients. Figure 27 illustrates the flow of clients within health centers supported by case managers.

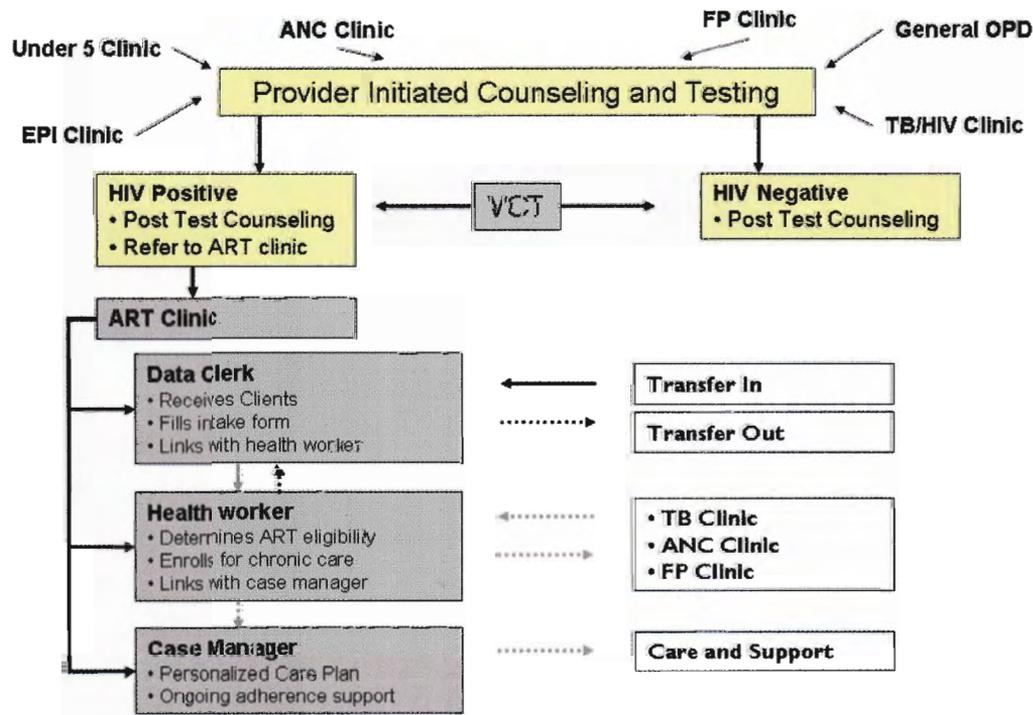


Figure 27. Intrafacility client flow

In April 2008, HCSP collaborated with I-TECH/Ethiopia, a CDC-funded partner working in hospitals, to harmonize and standardize the case management approaches used in Ethiopia. Federal HAPCO took the lead in establishing a technical working group (TWG) to develop national case manager nomenclatures, training manuals and curricula, guidelines, job descriptions, and salary scales in line with existing MOH standards. In June 2009, the TWG’s work resulted in the launch by FHAPCO of the first national guidelines for implementation of HIV and AIDS case management in Ethiopia.

Lessons Learned from Case Management in Ethiopia

Case management at the primary health care level in Ethiopia has resulted in many positive changes to the community of HIV-positive people. Because the majority of case managers are themselves HIV positive, they are able to relate to HIV patients and share with them their own experiences of coping with HIV infection, long-term treatment, and adherence. Case management addresses both the individual’s and his or her family’s needs through

the use of the family matrix and linkages with the continuum of care referral network, thus serving as the lynchpin for maintaining the HCSP lost-to-follow-up rate well below the national average.

This was clearly supported by an operations research that HCSP carried out in 2009 that utilized semi-structured interviews with ART patients, ART health workers and community volunteers to assess the quality of services provided by their case manager. The study assessed five elements of case managers' quality of service: knowledge and skill, caring commitment, confidentiality, facilitation of client access to health center services, and linking clients to community care and support.

All three groups responded positively when queried on their case manager's knowledge and skill, noting adherence counseling as a key strength. All responded positively to queries on caring commitment, provision of psychological and social support and respect for confidentiality, which they felt were strongly related to the case managers' shared HIV-positive status with their clients. All noted that their case manager played a key role in linking clients to health center services. Their responses on linking clients to community care and support was mixed, likely related to the scarcity of community resources to which case managers could refer clients.



A monthly meeting at a health center between case managers, KOOWs, and woreda leaders

Health Center

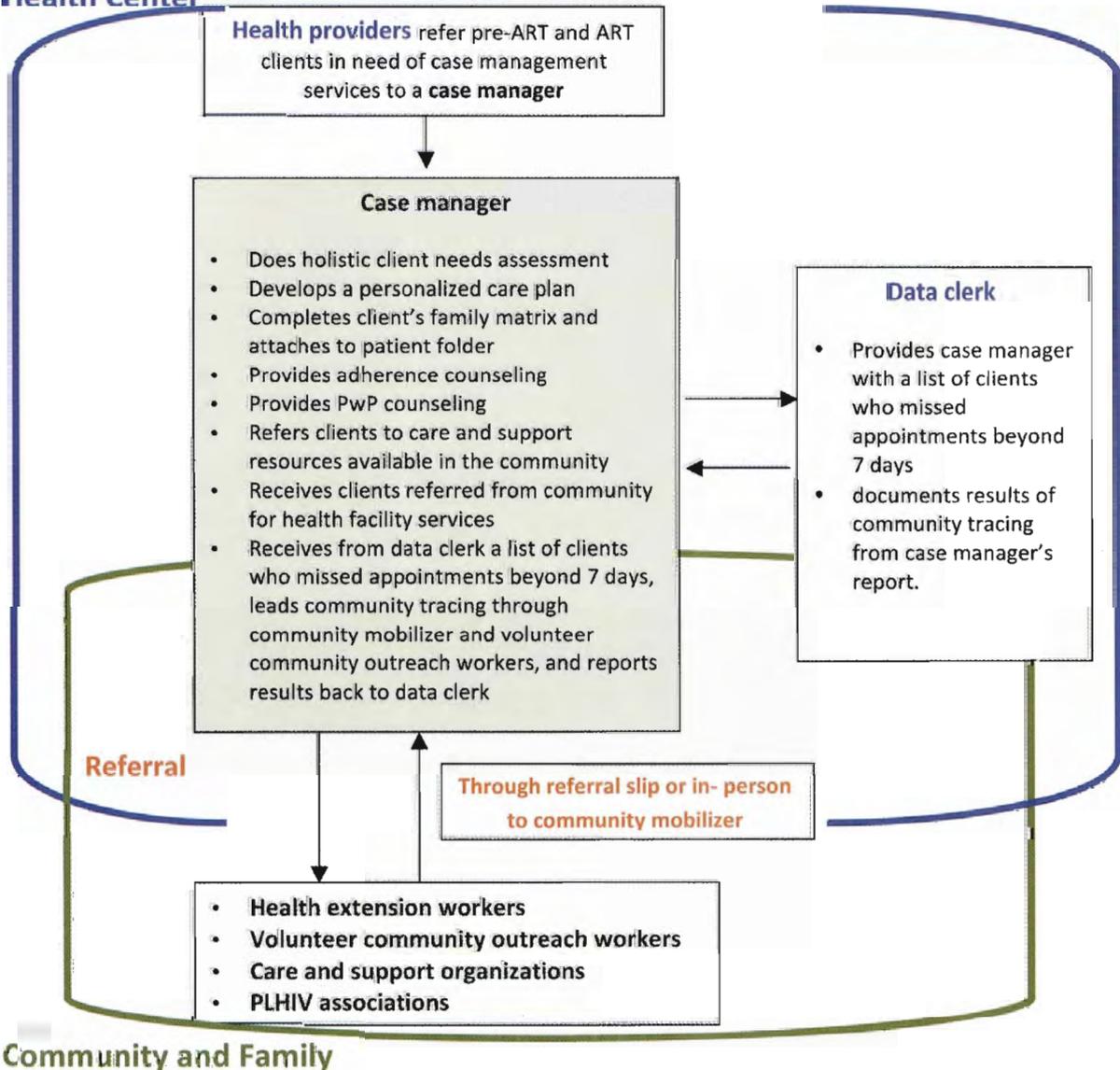


Figure 28. The role of the case manager in providing the continuum of care



Deployment of outreach workers to support family-focused prevention, care, and treatment in communities (Result 3)

Because the vast majority of HIV prevention and care takes place in the home and community, the continuum of care for HIV-infected and -affected individuals and families extends beyond health centers to include linkages with mobilized communities' care and support initiatives.

Community Mobilization

The foundation of HCSP's continuum of care was its linking of case managers at supported health centers with community volunteers in mobilized communities, which, in Ethiopia, involves the government's most grassroots administrative unit, the kebele.

As noted earlier, HCSP trained and deployed case managers in each ART health center. The program also mobilized selected communities, typically peri-urban kebeles served by high-patient-load health centers. For community mobilization, HCSP drew on the community action cycle (CAC) developed by Save the Children, which builds community ownership through collective strategy development and action that responds to community needs (Figure 29). In this context, community mobilization was defined as "a capacity-building process through which community members,

groups, or organizations plan, carry out, and evaluate activities on a participatory and sustained basis to improve their health and other conditions, either on their own or stimulated by others.”

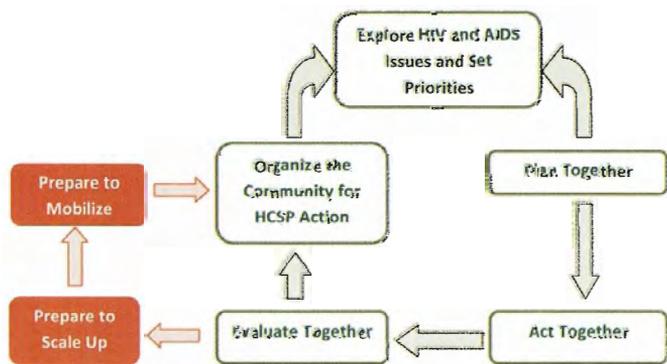


Figure 29. The community action cycle

Through the application of the CAC, HCSP systematically strengthened and supported community-based services linked to health centers for patient follow-up outside the clinical setup, increased enrollment of target populations into ANC and care and treatment, and provided comprehensive services, all of which promoted community and local government ownership.

Capacity-building of woreda- and community-level structures and deployment of community mobilizers

Community mobilization first focused on capacity-building of woreda structures to plan, coordinate, and monitor community-level support initiatives and to use data for decision-making. Using CAC principles, the program trained the head of the woreda HIV/AIDS Prevention and Control Office (HAPCO) at 191 woredas

with a high-patient-load health center. The three-day training emphasized woreda leadership roles and development of woreda action plans.

Following the training, the woreda HAPCO or woreda health office selected a community mobilizer. This volunteer position was based at the woreda level and served as the key link between the community volunteers and the health center case manager. Community mobilizers needed to have a minimum of a Grade 10 education and were selected based on their record of community work in the woreda. Their HCSP training emphasized their role in coordinating the program’s community volunteers, linking them to the health center, and reporting on their community-level activities.

Formation and training of a community core group

Under the CAC, the next step involved the woreda officer and community mobilizer (both trained at this point) facilitating community leaders and representatives of community-based organizations (CBOs) to come together to assess their HIV and AIDS issues and form a community core group (CCG) to lead their community response. A typical CCG was made up of 7 to 10 members and comprised a kebele HIV/AIDS desk officer or health extension worker (HEW); representatives of CBOs, FBOs, idirs (traditional burial societies), PLHIV, and women and youth associations; business leaders; and local professionals, such as teachers. The three-day CCG training emphasized support for community volunteers, addressing stigma and discrimination in their community, and mobilizing community resources for infected and affected households.

Training and deployment of KOOWs

Under CAC, the next step involved the CCG selecting five community volunteers from their kebele. These volunteers, called kebele-oriented outreach workers (KOOWs) by the program, were selected to provide community care and support outreach under the CCG's support and direction and to link PLHIV to health center services through the case manager.

HCSP provided 12-day training to the KOOWs that included topics such as basic facts about HIV and AIDS; health center HIV and AIDS services; and the importance of adherence to ART, TB, and opportunistic infection (OI) treatment. Training also focused on understanding and carrying out community outreach, including mapping and linking PLHIV to community resources; identification of infected and affected households, including pediatric and OVC cases; home visits; counseling/communication; prevention messages emphasizing abstinence, other prevention, and PwP; home-based care and use of care packages; and conducting small group outreach, typically using coffee ceremonies as a cultural platform for open community discussion on disclosure of HIV-positive status, positive living, stigma reduction, and the benefits of health center and community services.

To complement the KOOWs' training, HCSP subsequently provided them with a manual; community-based data collection and reporting tools; job aids; home-based care kits; and educational materials with ABC messages targeting prevention for both the general population and HIV-positive people.

During the life of the program, HCSP trained and deployed more than 6,969 KOOWs (110% of the end-of-program target) in 1,625 kebeles (99.6% of the end-of-program target) that were served by 191 high-patient-load ART health centers. Of note, these high-patient-load health centers served around 85 percent of all the program's pre-ART and ART patients.

KOOWs Selection Criteria

1. Self-motivated and very willing to serve her/his community without payment;
2. Well-respected by the community;
3. Originally from the kebele where she or he will be deployed;
4. Possessing excellent interpersonal communication skills;
5. Highly experienced in community-based volunteer services;
6. Some knowledge/experience related to HIV and AIDS care and support, including home- and community-based services;
7. Well-informed about HIV- and AIDS-related stigma, ART adherence, orphans and vulnerable children (OVC), and other service demands of the community;
8. Able to write and report;
9. Living with HIV and enrolled on care and support;
10. Completed minimum of Grade 8 education (optional);
11. Female volunteers highly encouraged to be engaged as KOOWs.



Testing hope

First, Maru and his wife despaired when they learned they both were HIV positive. However, they soon discovered that they could live with the virus and still be productive. Next, their concern turned to their unborn child, but then they learned about the PMTCT program at their local, HCSP-supported, health center. "At first I did not believe them," said Maru. "When the doctor told me our baby was free from the virus, I knelt down and cried. This is by far the most precious gift anyone has ever given me."

Maru transformed his gratitude into action. "I see my child grow wise and strong every day," said Maru. "I am very grateful. There are many young people like me. I want to be a model to show them that being positive is not the end." Maru volunteered as a KOOW to find lost-to-follow-up patients. He and his team traced and found 20 clients—and he successfully convinced 18 of them to return to treatment.

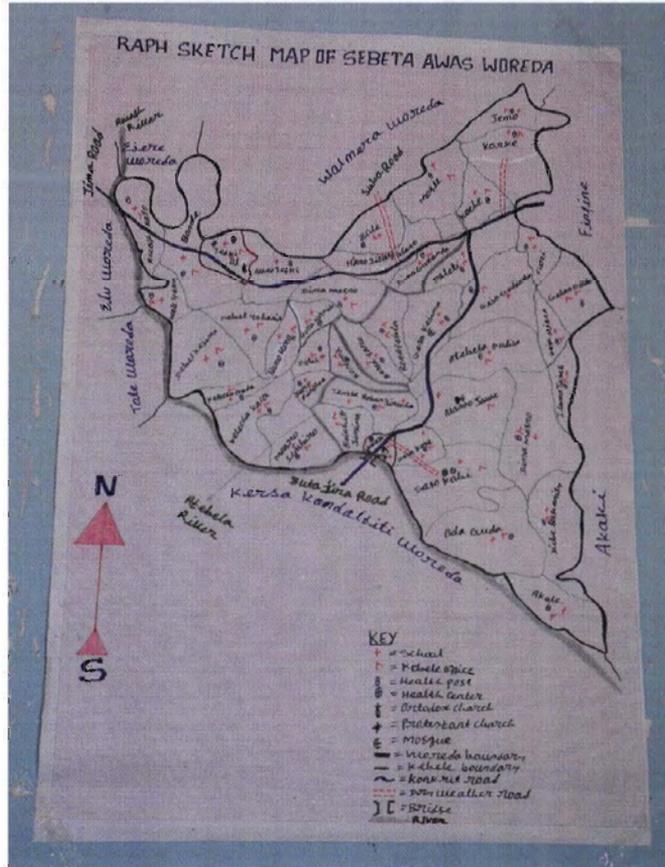
"It is not easy," admitted Maru, who has traveled as long as 12 hours on foot to find patients. "However, we have seen and tested hope, and many lives are being saved."

The Continuum of Care

The KOOWs, community mobilizer, and health center case manager, with support from the woreda health/HAPCO office and CCG, formed the core woreda team for operationalizing the continuum of care among highly vulnerable infected and affected households, community resources, and the health center. The core woreda team was scheduled to meet once a month at the health center, during which time the KOOWs reported their activities and services to the community mobilizer and discussed their results, successes, and issues of concern with the team. The meeting allowed the team to review patients who had been referred to services, and, together, find solutions for tracing those who missed an appointment or failed to adhere to ART.

The community mobilizer subsequently compiled the individual KOOW reports for submission to the case manager. KOOWs' care and support services were categorized by the program, for reporting purposes, into nine service areas:

1. Palliative care, including home-based care, psychosocial support, adherence support, and bereavement counseling;
2. Referral for clinical services;
3. Referral for food support;
4. Referral for income-generating activities (IGA) support;
5. Provision of prevention with positives (PwP) messages;
6. Provision of abstinence and be faithful messages (AB);
7. Provision of other prevention (OP) messages;
8. Tracing of TB patients LTFU;
9. Tracing of HIV patients LTFU.



Asset mapping

A key component of the continuum of care was the KOOWs' asset mapping, using a tool HCSP introduced as part of its community mobilization process. With asset mapping, CCG members, KOOWs, and other community-based volunteers literally drew a map showing the resources, or "assets," existing in their community that could help HIV-infected and -affected families. The resulting asset map enabled referral of highly vulnerable people to the most appropriate and readily available services.

Palliative home-based care

Home visits were the primary vehicle for identifying HIV-infected and -affected individuals and families and

providing palliative care. KOOWs typically carried out monthly home visits to a minimum of 20 households, which they identified through a variety of sources, including referrals from the health center case managers, CCG members, and local PLHIV associations. As KOOWs were typically themselves HIV positive, they also identified households through their own HIV-positive networks. Coffee ceremonies also provided referrals, as people often came up to the KOOWs after the ceremonies and asked for assistance.

Results of HCSP's operations research conducted in October 2010 showed that at least 63 percent of clients were identified by KOOWs through home visits, 21 percent were initiated by a case manager, 11 percent were initiated by KOOWs' referral to a health center, and 5 percent were identified through coffee ceremonies. During home visits, KOOWs assessed care and support needs and provided services accordingly. Typical services performed by KOOWs included home-based care, assistance with household chores, training of caregivers, and referrals to the health and other community services.

The number of infected and affected individuals who received a minimum of one care service through home visits by KOOWs dramatically increased after HCSP started in 2007. By March 2011, almost half a million eligible adults and children had been provided with a minimum of one care service, which represented 123 percent of HCSP's target for the first half of FY 2011 (Figure 30). More than half (57%) were women, and 23 percent were younger than 18 years of age. This distribution reflects HCSP's gender-sensitive, family-focused approach as well as the fact that more women are infected and affected by HIV than men.

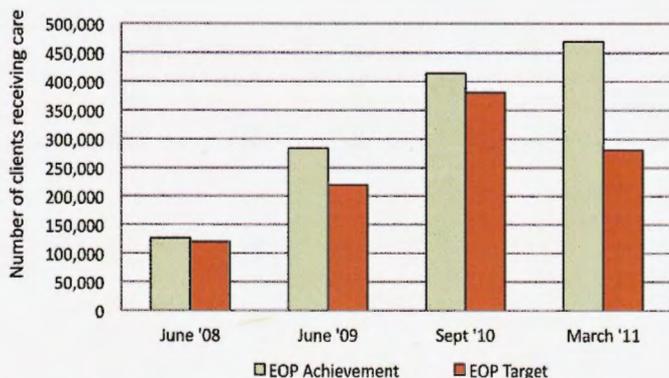


Figure 30. Number of eligible adults and children provided with a minimum of one care service, June 2008–March 2011

The trained KOOWs soon became a source of vital information about HIV and AIDS and a gateway to lifesaving health care. Over time, as previously bedridden HIV patients became healthier and returned to work, their families and communities began appreciating the KOOWs. Although being an unpaid community volunteer used to be the domain of women, being a KOOW became an increasingly high-status activity that began to attract a growing number of men (Figure 31).

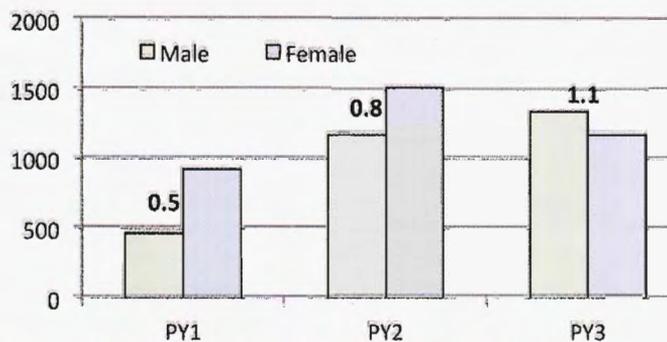


Figure 31. Number and male-to-female sex ratio of KOOWs, Program Years (PY) 1–3

Prevention and stigma reduction

In addition to home visits, coffee ceremonies were the primary vehicle that the KOOWs used to reach community members. Coffee ceremonies provided them with a culturally acceptable platform for carrying out community outreach in small group settings, using open discussion to promote prevention and testing, disclosure and positive living, stigma and discrimination reduction, and availability of community and health center services.

Prior to 2009, the program’s coffee ceremonies tended to target large groups of people, often in a one-off encounter without much focus on anticipated behavior change. In 2009, the program adjusted the coffee ceremony format to comply with the NGI guideline on other prevention (OP) messaging. KOOWs coffee ceremonies were revised to become small-group interventions (25 persons or less) that met at least four times with specific topics discussed in each. HCSP developed job aids to guide these sessions, including reference materials. The CCGs and kebele HIV desk officers/HEWs helped the KOOWs mobilize the community to attend the required four sessions. As the KOOWs became accustomed to the NGI implementation modalities, the program saw an increase in the number reached through the revised coffee ceremony format.

Referral to health center and community services

As KOOWs conducted their home visits and coffee ceremonies, they came across HIV-infected and -affected individuals in need of referral and linkage to clinic- and community-based support. While the KOOWs reported more than 170,000 referrals to health centers during fiscal

year 2010 and more than 95,000 in the first half of fiscal year 2011, the average number per month reported by the more than 6,000 deployed KOOWs remained at around three per month since October 2009. This low number was because the program only recorded referrals of people whom the KOOWs could actually confirm had accessed health center services, which, in most cases, involved their physically escorting the patient to the case manager.

The KOOWs routine escorting of patients from their homes to health centers was a time-consuming referral mechanism that demanded not only dedication among KOOWs but also a high degree of discretion and an ability to inspire confidence and motivate defaulting patients to return for care and support. Its success demonstrated both the remarkable commitment of KOOWs and the power of traditional Ethiopian community values.

The program estimates that referrals consumed around 25 percent of the volunteers' time, with the remainder focused on household visits, coffee ceremonies, and community tracing of patients who missed their appointments, followed by adherence counseling and assistance for restarting treatment.

Although KOOWs always referred clients to food support and IGA, the program did not start recording these services separately until October 2010. Since then, 11,826 individuals were referred for food support and another 5,967 were referred or helped to engage in IGA activities.

The operations research conducted by the program in October 2010 demonstrated CAC's success in engaging communities to mobilize their resources for HIV care

and support and confirmed linkages of PLHIV to food resources, IGA, preventive care packages, and money for keeping ART appointments as well as access to government housing or community construction of simple shelters. Some communities were found to have initiated innovative food support in the absence of formal food programs, such as initiating grain banks during harvest times for highly vulnerable infected and affected members of the community.

NGO-Supported Community Volunteers

To maximize geographical coverage, HCSP partnered with a number of local organizations and associations of people living with HIV and supported their community outreach volunteers. The program supported six national and regional NGOs to deploy 858 outreach workers, typically in kebeles without KOOWs. Like KOOWs, these NGO outreach workers conducted house-to-house visits (around 20 households each), and their key responsibilities mirrored those of the KOOWs.

In addition to home visits, the range of services provided by the NGO volunteers included testimonials, youth peer-to-peer outreach, community outreach and mobilization through coffee ceremonies, income-generating activities for PLHIV, capacity-building of peer NGOs, and individual peer counseling at NGO offices. HCSP funding and technical assistance accelerated NGO community mobilization by enabling the NGO branch offices to work within their catchment areas.

Performance-based contracts for NGOs

Although plans to use performance-based contracts (PBCs) in the public sector were not realized, HCSP was able to

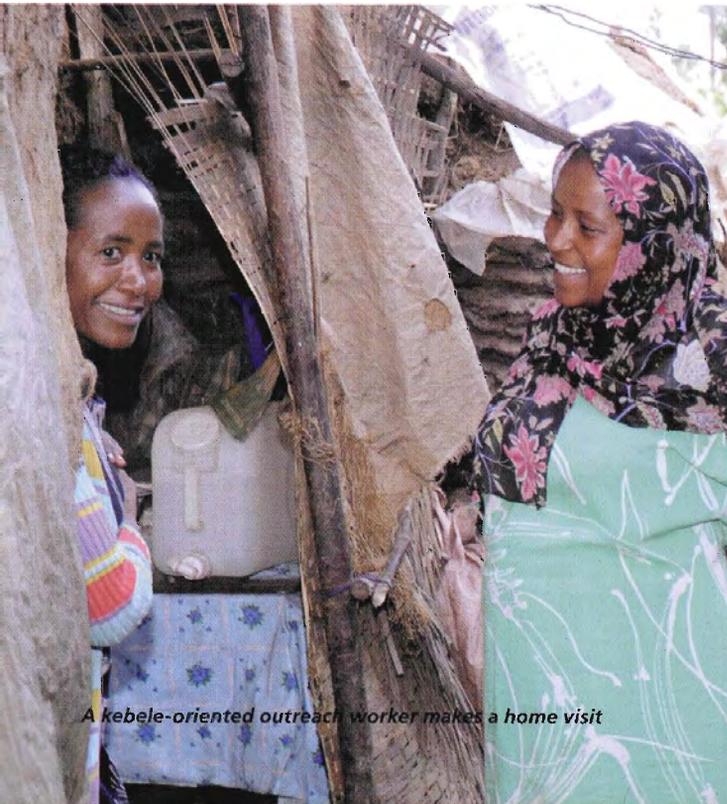
use PBCs, as noted above, to great effect for partnering with two local NGOs. Technical support, based on the principles of performance-based contracting, enabled the NGOs to improve their capacity and increased accountability for achieving agreed-upon results. The mechanism positively influenced the ways in which they worked with other donor-supported activities. The level of support for each PBC varied among the NGOs according to their scope and geographic presence.

Performance-based contracting has several key elements: (1) Each contract specifies the output indicators to be achieved (the desired performance); (2) Each contract

is fixed-price and tied to the achievement of the indicators at specific benchmarks within the program implementation plan; (3) A small percent of the overall contract amount is held back until the organization achieves the performance indicators; and (4) Payment can be withheld if an organization consistently fails to meet its specified targets.

HCSP's approach to performance-based contracting with the NGOs targeted two levels: mentoring NGOs and implementing NGOs. The mentoring NGOs had enough experience and skills to function nationwide as HCSP's technical partners and mentor a large number of the implementing NGOs. Implementing NGOs were smaller, worked within a region or cluster of woredas, and needed mentoring. However, they were capable of providing a wide range of critical services at the community level that both supported the program's family-focused strategy and linkage to supported health centers. In addition, the implementing NGOs mentored a much larger number of smaller CBOs and FBOs, idirs, and other community groups that provided direct services at community and family levels.

In its first year, HCSP issued an RFP to local NGOs to serve as implementing NGOs and to mentor CBOs, FBOs, and community organizations throughout the five program regions to expand their community care and support services. Fifty-eight organizations responded and six were ultimately selected. The selected ones covered a wide range of both specific population groups and geographical regions.



A kebele-oriented outreach worker makes a home visit

The contribution of these organizations to overall program success and their communities cannot be underestimated and will surely continue. The private sector performance-based contracts performed well and proved to be a key technical innovation of HCSP. Operations research highlighted an example of this success: EIFFDA's stigma reduction activities supported a marked increase in HCT. HCSP financial support to DOHE allowed their national newsletter, "Libona," to develop into Ethiopia's premier vehicle for communication among PLHIV, networking opportunities, and information dissemination regarding available services.

HCSP's Ethiopian NGO partners

- *Dawn of Hope Ethiopia (DOHE)* was HCSP's primary partner for mobilization of PLHIV through its multiple local affiliates; increasing access to services, providing community-level care and support for PLHIV and their families, and supporting community-based educational efforts.
- *Ethiopian Inter-Faith Forum for Development, Dialogue and Action (EIFDDA)* was a key partner in the mobilization of faith-based communities of all religions in all regions of Ethiopia and focused on stigma reduction and antidiscrimination.
- *HIV/AIDS Prevention, Care and Support Association (HAPSCA)* supported community-based services in Addis Ababa.
- *IMPACT Association for Social Services and Development* was a key mentoring organization that supported and developed the capacity of community CSOs to deliver care and support services.
- *National Network of Positive Women Ethiopians (NNPWE)* provided strong support to deliver community and home based services to infected women and their families and to mobilize communities to increase testing and access to critical services such as ANC and PMTCT.
- *Relief Society of Tigray (REST)* was selected to mobilize community groups and women in support of the HCSP in Tigray.



HIV Prevention through “Abstinence, Be Faithful, and Condom Use” (ABC) (Result 4)

Prevention is one of the most important strategic pillars in scaling up comprehensive HIV and AIDS services because the fear, stigma, and discrimination associated with HIV are the biggest obstacles to widespread use of these services by those who need them the most. In fact, technical prevention activities were the “unsung heroes” of HCSP because it is very difficult to quantify their effect. It is very hard, if not impossible, for example, to determine how much of the dramatic increase in HCT

and ART services are due to reducing stigma and promoting the message that “you can live positively with HIV; get tested, get treated.” Prevention activities show people how to adopt healthy lifestyles and help create demand for services.

HCSP built on the primary prevention programs already well-developed in Ethiopia by updating, customizing, and disseminating existing behavior

change communication (BCC) materials and supporting public events such as World AIDS Day and community mobilization activities. HCSP based its interventions on initial needs assessments that found gaps in existing materials and activities. HCSP also expanded the focus of prevention by targeting HIV-positive people through “prevention with positives” (PwP) and service providers through activities that centered on awareness-raising and stigma reduction, use of job aids, and infection prevention (IP) within health centers. HCSP further supported the provision of post-exposure prophylaxis (PEP) to prevent HIV infection in victims of rape or sexual assault and health providers who had experienced an occupational HIV exposure.

HCSP delivered these interventions through its ambitious training program, the development and distribution of materials and job aids, and subsequent mentorship and supervision activities for which HCSP developed two checklists: the prevention and care and support mentorship checklist for HCSP’s advisors and the mentorship checklist for health center mentors.

HCSP’s partnerships with national NGOs such as EIFDDA, DOHE, and NNPWE significantly expanded prevention activities by increasing access to faith-based groups, PLWHA, and women’s groups. Key messages developed with these important NGOs were harmonized so that consistent and mutually supportive messages would be provided by health workers at health centers and outreach volunteers in the community.



Leaving the dark

Under a plastic awning in Hawassa, Hiwot is busy selling commodities to her customers. She is proud and motivated, but this was not always the case. She says she now “successfully walks the walk of life after I have walked in the dark.” However, the change didn’t come until after a stillborn baby, learning that she was both pregnant and HIV positive, and, most importantly, turning in despair to HCSP partner Dawn of Hope Ethiopia. As she says, “it turned my life around.”

Through her volunteer work with Dawn of Hope, Hiwot also took training for income-generating activities and microcredit projects, which led to her retail business. She is making and saving money, and is eligible for more credit. What’s next? She dreams of a wholesale shop.

As Hiwot speaks of her volunteer work, entrepreneurial efforts, and plans for the future, she says she considers herself lucky because she is independent, her children are healthy, she can lead a productive life despite her HIV status, and she has a supportive husband. She also speaks often of walking back into the dark to help others get out.

Customization and Dissemination of BCC Materials

In collaboration with FHAPCO, the national AIDS Resource Center (ARC), and other government and US Government (USG) partners, HCSP adapted, customized, and reprinted more than 1.5 million HIV and AIDS BCC materials, including job aids and technical guides, reference books, and manuals as well as promotional materials for all 550 HCSP-supported health centers and their catchment areas.

To reinforce correct and consistent information and messaging to address gender issues and stigma and discrimination associated with HIV and AIDS, HCSP purchased 50 audio tape recorders and supplied them with prerecorded CDs and cassette tapes to selected ART health centers in areas with high HIV prevalence for use with their large client audiences. The materials were distributed through the HCSP regional offices, mentors, case managers, community mobilizers, KOOWs, and CCGs during their monthly and quarterly meetings. (See Appendix 1 for a list of these materials.)

Abstinence, be faithful, and other prevention

KOOWs and NGO community volunteers delivered other prevention (OP) messages to adults over 14 years of age and abstinence, be faithful (AB) messages to 10–14-year-old members of infected and affected households during their regular home visits. They also delivered OP messages through coffee ceremonies.

Until halfway through its third program year, HCSP used definitions for AB and OP that differed from the definitions required by the New Generation Indicators issued by PEPFAR in August 2009. To integrate NGIs in

all its prevention activities, HCSP trained KOOWs, case managers, woreda HIV desk officers, health extension workers (HEWs), and NGO outreach volunteers and provided them with a reference manual and job aid to help ensure that they presented OP and AB messages consistent with the NGI guidelines. Training of trainers (TOT) on NGI AB messages was provided to 245 people (164 male; 81 female), encompassing regional BCC and care and support coordinators, NGO coordinators, community mobilizers, and M&E advisors. Subsequent training on NGI AB messaging reached 7,539 individual implementers (3,079 male; 4,460 female).

The concerted effort of the community mobilizers, case managers, KOOWs, CCGs, and NGO community outreach volunteers brought AB messages to a total of 94,829 youths in FY 2010 and 98,900 in the first half of FY 2011. The HCSP achievement against NGI target was 75 percent and 78 percent, respectively. The moderate achievement was likely the result of the program's over-estimation that community volunteers would reach one 10–14-year-old member per infected/affected household visited during their regular home visits. HCSP's previous contract indicator, under Result 4 used a different definition for AB and under that definition HCSP reached a cumulative total of 1,907,481 individuals through community outreach promoting AB by the end of Program Year 3.

In addition to providing AB messages, HCSP reached 371,990 individuals in FY 2010 and 358,670 in the first half of FY 2011 through community outreach with OP messaging. The annual achievement against NGI target was 84 percent and 104 percent, respectively. Previously, HCSP had reached a cumulative total of 1,392,940 individuals with OP messages through community outreach by the end of Program Year 3.

Activity/Messaging	Individuals Reached with NGI, 2010–2011		
	Male	Female	Total
AB	112,064	132,141	244,205
OP	316,298	385,319	701,617
Total	428,362	517,460	945,822

Table 3. Number of individuals reached with NGI modalities (AB, OP)

Activity/Messages	Individuals Reached under Contract Deliverable, 2007–2009		
	Male	Female	Total
AB	2,335,256	2,448,516	4,783,772
OP	2,027,173	2,042,859	4,070,032
Total	4,362,429	4,491,375	8,853,804

Table 4. Number of individuals reached with AB and OP messages defined by contract deliverables

For coffee ceremonies, which target small groups rather than individuals, the volunteers followed a prescribed format with four separate sessions, supported by job aids. The content of the sessions was as follows:

- **Session 1:** Social norms that affect sexual behaviors, e.g., sex under the influence of alcohol, cross-generational sex, transactional sex, etc.; stigma and stigma reduction; disclosure; partner testing; and referral for testing.
- **Session 2:** Effective ABC messages, including abstinence, delay of sexual debut, mutual faithfulness, partner reduction, and correct and consistent use of condoms by those whose behavior places them at risk for transmitting or becoming infected with HIV.

- **Session 3:** Messages on sexual abstinence, delay of sexual debut, and secondary abstinence; mutual fidelity and mutual knowledge of HIV status; social and gender norms that promote mutual respect and open communication about sexuality; discouraging multiple and/or concurrent partners, cross-generational, and transactional sex; sexual violence, stigma, and other harmful gender norms and practices.
- **Session 4:** ART initiation; ART adherence counseling and support; messages on TB/HIV, STIs, safer sex, etc.; services available at health centers, e.g., PMTCT, FP, ART, and HCT.

The community outreach volunteers conducted the coffee ceremonies in their communities, listed the names of clients attending, and reported on those who attended all four sessions. To avoid double-counting, they did not list clients whom they supported during home visits. Through home visits and coffee ceremonies, HCSP provided a minimum of one care service to 415,203 individuals in FY 2010 and 469,399 in the first half of FY 2011 through community outreach with OP messaging. The achievement against NGI target was 109 percent and 123 percent, respectively. The numbers reached through home visits and small groups were relatively even. During the first half of FY 2011, 241,387 were reached through home visits and 228,012 through small groups.

Ensuring condom availability. Ensuring condom availability was an essential part of HCSP's OP strategy, and condom distribution is an essential component of prevention with positives. Through collaboration and partnership with RHBs and the USAID Targeted HIV Prevention Program (THPP) implemented by Population

Services International (PSI) Ethiopia, the program ensured the availability of condoms in HCSP-supported health centers. PSI has developed a mechanism to ensure condoms are available through the RHBs and RHAPCOs. HCSP supported health centers to appropriately receive the condoms and make them available to their patients; for example, case managers receive and place condoms in easily accessible, open places in their health centers. HCSP also reported to the RHBs any shortages at health centers. In addition to facility-level distribution of condoms, KOOWs and other community outreach workers were actively involved in the distribution of condoms to the community, with the support of woreda HAPCOs, HEWs, and PLHIV associations.



Prevention counseling with an HIV-positive woman

Prevention with Positives

Prevention with positives (PwP) was a new, required indicator under PEPFAR's NGIs. HCSP introduced PwP at facility and community levels through trainings and production of job aids, including a wall poster for display in various clinics within the health center. Training was followed up through mentorship and supervision. The intervention strategy was applied according to the NGI guidelines and implementation procedures, and included, at the community level, house-to-house visits and/or small group sessions using individual and/or small group intervention messaging packages. In FY 2010, 105,948 people living with HIV (PLHIV) were reached with a minimum package of prevention. In 2011, the semi-annual number reached 95,075. The achievement against NGI target was 106 percent and 190 percent, respectively.

In addition to NGI-defined PwP activities, HCSP reached out to HIV-positive people by supporting DOHE's monthly newspaper "Libona" and the NNPWE's "Yesotoch Dimtse" (Voice of Women). The objectives of the newspaper are to disseminate messages, information, and best practices on comprehensive HIV and AIDS prevention, care, and treatment services targeting PLWHA and the general public.

Within the program period, a total of 75,000 copies of "Libona" and 11,550 copies of "Yesotoch Dimtse" were produced with HCSP support for distribution to the national AIDS Resource Center, member women PLHIV associations, and central and regional government organizations through NNPWE and DOHE.

Post-Exposure Prophylaxis

Like PwP, the provision of post-exposure prophylaxis (PEP) was a new, PEPFAR-required NGI indicator introduced in 2009 that HCSP had not monitored in previous years. PEP was particularly intended to prevent HIV infection in people who had been exposed to a high risk of infection at work or because of rape or sexual assault.

HCSP conducted on-site orientations at Addis Ababa health centers to strengthen their previously established PEP committees and also oriented its program mentors to mentor health workers on the principle, concept, and guidelines of PEP during all ART training.

By the end of FY 2010, HCSP reached 473 individuals with PEP, or 95 percent of the NGI annual target of 500. Among them, 240 (54%) received PEP following occupational exposure, 106 (24%) because of exposure by rape or sexual assault, and the remaining 100 (22%) for other exposures. During the first half of FY 2011, HCSP reached 353 individuals with PEP, or 141 percent of the NGI half-year target of 250. Among them, 185 (53%) received PEP following occupational exposure, 100 (28%) because of exposure by rape or sexual assault, and the remaining 68 (19%) for other exposures.

During supportive supervision, HCSP assessed the quality of care for PEP services in 14 ART HCs in Amhara and 13 in Tigray. In Amhara, 57 individuals received care and completed PEP. However, only 7 (12%) received follow-up HIV testing at 3 months. Among 17 individuals who received care for HIV exposure in Tigray, 5 completed PEP, and 3 of them were tested and counseled at 3 months. For both regions, all individuals were non-reactive for HIV.



“Libona” newspaper

Infection Prevention

Infection prevention at health centers was another key HCSP activity. HCSP was actively involved in institutionalizing IP interventions at health centers through trainings of health center staff to enhance their knowledge and skills and support the establishment of IP committees supervised by the MDT. Major IP activities undertaken by the program included:

- Adoption of IP training manuals and a reference document for use at the health-center level, in collaboration with JHPIEGO;
- Provision of TOT, and the new trainers in turn cascaded what they learned to the health center staff. During the program period, a total of 889 (684 male; 205 female) health center staff were trained on IP;
- In Addis Ababa and the four regions, IP/PEP practices were institutionalized and routinely monitored/ supervised by the MDT in each health center;
- IP committees were established and implemented in 300 health centers under HCSP support;
- HCSP, working through the technical working group on IP and patient safety, participated in the development of a national guideline or strategy on IP that includes patient safety. TWG members developed three national documents on IP that were approved: a national IP guideline, a national strategic framework,

and a national standardized reference manual. In addition, the TWG produced training modules with guides for both trainers and trainees.

Collaboration with Relevant Partners

To ensure harmonization and integration with the health delivery system, HCSP participated in TWG activities together with relevant USG partners, mainly C-Change, PATH, PSI, and JHPIEGO. The Medical Service Directorate of the FMOH and FHAPCO chaired and technically monitored the TWGs in which HCSP participated. In addition to the IP TWG noted above, these TWGs were as follows:

- **Nutrition TWG:** Development of cue cards on exclusive infant breastfeeding and the nutritional needs of HIV-positive lactating mothers for educational use at health centers and health posts;
- **Most-at-risk populations (MARP) TWG:** Collaboration of USG partners working in the MARP area;
- **National communication and MNCH TWG** on HIV and AIDS and malaria messaging;
- **Harmonization and integration TWG:** Message development and harmonization on HIV and AIDS and malaria with the USAID C-Change Program.

Operations Research

HCSP conducted research on selected activities in all regions in the first year of the program to discern gaps and fill them when applicable. These assessments explored areas related to HIV prevention: the existence of BCC materials and needs linked to ART services at the health-center level, and mechanisms for condom supply and distribution to facilities and beneficiaries.

Assessment of existing BCC materials and needs linked to ART services at health-center level

HCSP assessed the appropriateness and timeliness of existing BCC materials and needs in the ART health centers and their catchments areas. The main objective was to use the information to develop or adapt appropriate BCC materials to help scale up ART and prevention activities. The overall findings of the research showed an acute shortage of materials, and those materials that were available were either outdated or not properly used. In addition, the research found a strong need for BCC materials related to ART services.

Assessment of condom supply and distribution system

According to its contractual obligation, HCSP was expected to ensure a regular supply of condoms in the program-supported ART health centers for use by clients and PLHIV. The assessment measured condom source, supply, availability, and distribution at central-, regional-, and health-facility levels and showed that at the central level FHAPCO either purchased or received donations of condoms from USAID and other partners. Upon request, FHAPCO distributed the condoms to the RHBs. The RHBs, in turn, distributed condoms to the health facilities on a regular basis. Visits to RHBs and ART health centers showed condoms were available in all service areas and a regular replenishment mechanism existed from the RHB and organizations working in HIV prevention and reproductive health services. HCSP continued to work with the RHBs to ensure condoms were supplied and always available in the health centers' various service rooms and offered to clients.

Assessment of stigma reduction in HCSP intervention area

HCSP conducted an assessment in June 2009 to identify factors that led to change in stigma and discrimination as a result of HCSP intervention activities. The study applied focus group discussion and interview tools to measure changes that occurred during the previous two years of comprehensive HCSP intervention. The results showed significant changes were achieved and that they indeed related to HCSP interventions.

Type	Year of Production				Total
	2007	2008	2009	2010	
Posters	40,400	109,797	50,000	49,000	249,197
Flyers/leaflets	105,000	167,000	160,000		432,000
Banners	28	98	70	86	282
T-shirts	250			77,380	77,630
Brochures	10,000			160,525	170,525
Red ribbons				10,000	10,000

Table 5. BCC materials produced for World AIDS Day, 2007–2010

World AIDS Day

Every year, on December 1, organizations, communities, and individuals commemorate World AIDS Day (WAD) with various events and activities under a global theme announced by UNAIDS. HCSP collaborated with the federal and regional HAPCOs to commemorate the themes of “Stop AIDS, keep the promise” in 2007, “Empower, lead, and deliver” in 2008, and “Universal access and human rights” in both 2009 and 2010. Each year, HCSP contributed to these events by developing and producing a variety of BCC materials and distributing them at national and regional WAD events.



Ethiopia's President Girma Wolde-Giorgis at World AIDS Day, Axum, Tigray, 2010



Strengthening Human Resources for HIV and AIDS Service Delivery (Cross-Cutting Result)

No matter how well-designed and innovative a plan for rapid expansion of HIV and AIDS services might be, it is worth nothing if there are not enough people to implement it. Therefore, the GOE adopted a strategy of in-service training of clinical health providers, lay counselors, and community volunteers combined with intensive on-the-job mentorship and supportive supervision following the training. One of the cornerstones of HCSP's scale-up strategy was its ambitious plan to develop both the quantitative and qualitative capacity of health managers, service providers, and program support staff.

Over the life of the program—mostly during the first two years—more than 33,000 trainees learned how

to deliver the full spectrum of comprehensive HIV and AIDS prevention, care and support, and treatment services. The trainees included health center managers and providers, community volunteers and outreach workers, program managers at regional and woreda levels, religious and other leaders, and HCSP staff. Training relied on government-approved curricula and manuals, complemented by HCSP-developed support tools and training programs. GOE-certified instructors or HCSP staff and consultants conducted the training.

Although most of these trainings targeted people in existing positions and roles, HCSP also trained, deployed,

Training Type	Male	Female	% Female	Total
KOOWs basic + gap filling training	3,030	3,622	54%	6,652
Data clerks basic + gap filling training	168	289	63%	457
KOOWS refresher training	980	950	49%	1,930
Community mobilizers	307	84	21%	391
Case managers	149	270	65%	419
Mother mentors	0	177	100%	177
Mother mentors for prevention	0	114	100%	114
Refresher case managers	114	188	59%	302
Refresher data clerk	235	360	61%	595
Total	4,978	6,049	55%	11,027

Table 6. Number of paraprofessional (nonclinical) health providers trained in various areas

Training Type	Male	Female	% Female	Total
ANC/MSG coordination	14	45	76%	59
ART	1,890	1,261	40%	3,151
Comprehensive laboratory services	788	399	34%	1,187
FFSDP	673	313	32%	986
HEW mobilization	421	544	56%	965
HMIS	163	243	60%*	406
IP	684	205	23%	889
Pediatric care & treatment	185	164	47%	349
PITC & family counseling	3,618	3,532	49%	7,150
PMTCT	1,121	1,477	57%	2,598
Prevention for HEWs	0	1,927	100%	1,927
Prevention for HEWs' supervisors	289	164	36%	453
TB-HIV	1,134	984	46%	2,118
Total	10,980	11,258	41%	22,238

*estimated

Table 7. Number of professional (clinical) health providers trained in various areas

and supported four new cadres of human resources that the GOE introduced for HIV and AIDS service expansion to health centers. These new cadres were:

- **Case managers**, themselves HIV positive, to provide personalized care to HIV-positive patients seen at health centers, trace lost patients through community mobilizers and volunteers, and refer them to appropriate community follow-up and care (see Result 2);
- **Data clerks** to collect, record, and report service data to monitor progress and health center performance; provide data for PEPFAR-USAID reporting, allow

community tracing of patients who miss appointments; identify needs; and support decision-making by health center managers (see Result 1);

- **Health center mentors** to strengthen and support health center providers' compliance with national norms and standards; ensure that all health center clients receive integrated HIV and AIDS services; and identify and remedy gaps, weaknesses, and obstacles to providing equitable access and care at health centers (see Result 1);
- **Community volunteers**, themselves HIV positive, to identify individuals, families, and households affected by HIV and AIDS and link them to community resources, home-based care, palliative services, and health center ART and TB treatment services backed by adherence support; to mobilize communities to support stigma reduction, prevention, care, and support; and to strengthen referral linkages between communities and health centers (see Results 3 and 4).

HCSP partnered with the GOE to recruit people for the case manager and data clerk positions. In particular, HCSP worked with RHBs to encourage women candidates to apply for these jobs and with woreda and health center managers to train, deploy, and mentor those hired into these positions. HCSP also worked through the woreda councils and local community structures within kebeles to select community volunteers and mobilizers. HCSP also deployed 31 physicians to mentor, primarily in ART health centers, and 14 health officers or nurses to mentor in non-ART health centers. Based at regional HCSP offices, each mentor visited between 8 and 12 health centers per month, spending from 1 to 2 days per visit.

Using national guidelines, HCSP trained more than 22,000 health center clinicians in HCT, PMTCT, HIV and AIDS adult



Becoming positive women

Senait, Fekade, and Mestawot are positive women in terms of both their HIV status and their attitudes. Thanks to PMTCT, all their babies were HIV negative, and the experience has mobilized them. As Senait said, "I want every woman to have the chance I had." The women belong to a member association in Yirgalem, SNNPR, of the National Network of Positive Women Ethiopians, an HCSP partner NGO. Its members emphasize that will they not only survive, they will thrive. They are not afraid to say, "I am HIV positive," and are both helpers and role models for HIV-positive women.

Senait, Fekade, and Mestawot established three mother support groups in 2009, and the number rapidly grew. The women next worked with their health center and the local hospital, which has even given them an office. As Fekade said, "The health providers call upon us to help them with women who are having a difficult time."

"It breaks my heart," said Mestawat, "that children are born infected." Thanks to her and her friends' efforts, however, hundreds of babies born to HIV-positive women in Yirgalem have brought joy, not broken hearts.

and pediatric case management, management of TB/HIV co-infection, and comprehensive HIV diagnostic services. Through the RHBs and woreda health offices, HCSP ensured gender equity in these trainings by inviting both men and women to attend. Overall, 41 percent of these trainees were women. However, among nonclinical service providers such as the case managers, data clerks, and community outreach workers, the proportion of women trainees was greater than 60 percent.

HCSP supported these trained providers through its mentors, who themselves received support from HCSP through monthly review meetings with HCSP's regional technical advisors, on-site supervision by HCSP integration advisors, and annual progress meetings that brought all HCSP staff together. HCSP also developed a mentorship checklist and log book that complemented the national health center mentorship guidelines of 2007 and served as a job aid for the mentors, a record of the mentorship activities for the health centers and woreda health offices, and a performance monitoring tool for HCSP supervisors.

HCSP leaves behind a very large cadre of trained service providers, which reflects HCSP's success in rapidly training service providers and enabling them to provide comprehensive services in 550 health centers throughout the country's most populous regions. However, the large number of people trained was also driven, in part, by staff turnover in the public health sector. After HCSP, the GOE and its partners will have to continue intense in-service training to both maintain current services and expand to them to more health centers. However, the materials and methods are now in place, and Ethiopia's health managers are familiar with the approaches HCSP implemented to train a high volume of providers in a very short time.



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Challenges and Lessons Learned

Challenges

In Ethiopia, the national expansion of comprehensive HIV and AIDS services to 550 health centers and linked communities was unprecedented in its complexity, scale, and urgency. As with all new public health endeavors, the expansion offered a unique set of challenges that required innovative technical approaches.

The table on the following pages summarizes these challenges and the HCSP responses to them.

Challenge	Response(s)
Lack of trained personnel to support an unprecedented national scale-up of comprehensive HIV and AIDS services to 550 health centers and linked communities	<ul style="list-style-type: none"> ▪ Supported extensive in-service training of health officers and nurses, followed up with monthly on-site mentorship for strengthening the task shifting of clinical services ▪ Deployed, trained, and supported new cadres of health workers, including: <ul style="list-style-type: none"> • case managers • data clerks • kebele-oriented outreach workers (KOOWs) • health center mentors
Weak health network model for sharing information and referrals	<ul style="list-style-type: none"> ▪ In partnership with RHBs and partners, developed quarterly catchment area meetings between hospitals, health centers, and woreda representatives ▪ Promoted a continuum of care between health centers and their served communities, including the increasing involvement of kebele-based HEWs ▪ Strengthened bi-directional referrals between health centers and area hospitals
Uneven quality of comprehensive HIV and AIDS services	<ul style="list-style-type: none"> ▪ In partnership with RHBs, assessed facility adherence to standards of care through sampling of patient records ▪ Developed a mentorship checklist that helps focus health workers on key service quality areas and the linkage of services among health center clinics ▪ Promoted a fully functional service delivery point (FFSDP) quality assessment tool that helps health centers carry out ongoing self-assessments of their service delivery in accordance to FMOH/FHAPCO guidelines
Weak linkages between health centers and communities	<ul style="list-style-type: none"> ▪ Used community mobilization to expand community services that were linked to health center services. Community mobilization included: <ul style="list-style-type: none"> • Formation of community core groups; • Training and community deployment of KOOWs; • Training and deployment of health center-based case managers supported by community mobilizers; • Partnerships with national and regional NGOs through performance-based contracts; • Promotion of involvement of HEWs, including provision of orientation training.

Challenge	Response(s)
Vertical clinical services at health centers	<ul style="list-style-type: none"> ▪ Promoted the integration of HIV and AIDS clinical services, including: <ul style="list-style-type: none"> • ART • TB/HIV • ANC/PMTCT • pediatric care/pediatric HIV • VCT • PITC in all health center clinics
Weak HMIS	<ul style="list-style-type: none"> ▪ Printed and distributed HMIS forms and registers for gap-filling ▪ Trained and mentored health workers on HMIS ▪ Initiated data quality assessments and improvements ▪ Data clerks assigned to all ART health centers to collect, report, and analyze data
Limited use of data for decision-making	<ul style="list-style-type: none"> ▪ Promoted catchment area meetings ▪ M&E team provided mentorship to RHB teams on data use ▪ Mentors met monthly with HCSP's regional management teams to review data.
Limited data on impact of program services	<ul style="list-style-type: none"> ▪ Operations research initiated to develop better understanding of impact for decision-making
Limited capacity of RHBs and woreda health offices to plan, manage, and monitor HIV and AIDS services	<ul style="list-style-type: none"> ▪ Actively participated in RHB initiatives, such as their annual review meeting and joint supportive supervision ▪ Supported woreda health offices to develop HIV and AIDS service plans that harmonized with program activities
Limited pediatric HIV and AIDS services and follow-up of HEI infants	Collaborated with ANECCA to provide complementary, intensive mentorship on pediatric care and treatment to program-supported health centers
TB case detection and treatment limited	Ensured health center mentorship emphasized key topics: comprehensive lab services (most extensively covered), TB screening at ART clinics, HIV testing at TB clinics, referral of patients between clinics, and partnering with TB-CAP to strengthen lab TB diagnostics
Weak HIV and AIDS related laboratory diagnostics	<ul style="list-style-type: none"> ▪ Laboratory strengthening program instituted with regional laboratory advisors working closely with the regional EHNRI laboratories ▪ Supported significant training of laboratory technicians on HIV diagnostics ▪ Supported EHNRI to pilot external quality assurance to health facilities, including HCSP-supported health centers
High personnel turnover	<ul style="list-style-type: none"> ▪ Provision of a significant number of in-service trainings to health workers on the key areas of comprehensive HIV and AIDS services, which increased staff motivation and work performance ▪ Carried out ongoing gap filling training to replace departed health workers

Challenge	Response(s)
Potential for jealousy between health workers and HCSP-deployed staff over unequal pay and benefits of new categories of personnel—case managers and data clerks	Subcontracted an Ethiopian firm, HST Consulting, to recruit, deploy, and pay HCSP-deployed staff in a manner consistent with FMOH salary and benefit packages
Coordination with partners needed strengthening	<ul style="list-style-type: none"> ▪ Catchment area meetings created an effective decentralized platform for sharing information and coordinating activities. ▪ Signed memoranda of understanding with certain partners that required close supportive collaboration ▪ Shared offices with ANECCA, SCMS, SPS, and TB-CAP which greatly facilitated collaboration. ▪ Actively participated in TWGs which brought HCSP technical staff together with counterparts in the GOE and partner organizations. ▪ Actively participated in USAID partner meetings and technical briefs by technical advisory teams which brought partners together around common themes.
HCSP was required to meet a large number of wide-ranging, quantitative, and comprehensive HIV and AIDS targets, further challenged by a mid-project transition to the PEPFAR NGI	<ul style="list-style-type: none"> ▪ Achieved nearly all of its quantitative targets (see details in Appendix 2) through program innovations, such as deployment of data clerks, case managers, KOOWs, community mobilizers, and clinical mentors, supported by the HCSP developed mentorship checklist. ▪ Developed a detailed understanding of the complex NGI guidelines and trained staff to implement them using manuals and job aids designed by HCSP to assist them. ▪ Integrated the numerous original contract deliverables with the NGI to develop a streamlined performance-monitoring plan (PMP) (see Appendix 2).
Sustainability of HIV and AIDS service delivery by GOE/FMOH	<ul style="list-style-type: none"> ▪ Rooted the design and subsequent implementation of HCSP in strengthening and increasing the sustainability of existing GOE structures, systems, and services through technical assistance. For example: <ul style="list-style-type: none"> • Supported the training of health center providers by working through GOE-certified trainers, and subsequent on-site mentorship of RHB-employed staff from woreda-managed health centers • Supported the GOE in deploying, training, and mentoring case managers, data clerks, and KOOWs As the above shows, the design and subsequent implementation of HCSP was rooted in strengthening and increasing the sustainability of existing GOE structures, systems, and services.

Table 8. Challenges and responses in the rapid expansion of comprehensive HIV and AIDS services in Ethiopia

Lessons Learned

The rapid scale-up of integrated HIV and AIDS services to health centers in Ethiopia has proven to be a great public health success, built on the Ethiopian government's vision, leadership, and commitment to action that received strong technical and financial backing from PEPFAR and USAID, along with other donors. It is the success of Ethiopia's midlevel health providers, whose dedication and commitment to saving the lives of their fellow citizens resulted in dramatic improvements in the quality of life of previously bedridden patients. And it is the success of the Ethiopian people, who, often in the

face of abject poverty, pulled together as communities and proved that their HIV-positive members can and will comply with the complex drug regimens required to enhance the quality of life for themselves and their children.

HCSP harnessed this energy and commitment and, through partnership with the GOE and the Ethiopian people, built on existing social networks and cultural traditions in Ethiopian society to disseminate health information and connect families and households to comprehensive care and support.



Appendix 1. Materials Distributed by HCSP

Topic	Type	Number
IPC counseling skills	Manual	450
Advantages of ART	Booklet	120,000
Positive living	Booklet	120,000
Opportunistic infection	Booklet	120,000
Community care	Booklet	120,000
Stages of HIV	Brochure	120,000
Time of death	Brochure	120,000
CD4 count	Brochure	120,000
Risky behaviors	Brochure	120,000
Condom promotion	Brochure	80,000
ART adherence and use of holy water (Tsebel)	Brochure	80,000
PMTCT targeting males	Brochure	100,000
TB screening at community levels	Brochure	100,000
PMTCT (Oromiffa)	Booklet	100,000
PMTCT (Tigrigna)	Booklet	80,000
Total		1,500,450

Table A-1. BCC materials adapted, reprinted, and distributed by HCSP, 2007–2011

Topic	Type	Number
PICT Monthly Progress Monitoring Chart	Wall chart	4,000
PMTCT Monthly Progress Monitoring Chart	Wall chart	1,500
TB prevention protocol for health centers	Job aid	1,500
Case Managers Monthly Progress Monitoring Chart	Wall chart	1,500
Cotrimoxazole Therapy	Job Aid	6,000
WHO clinical staging of HIV/AIDS for infants and children with	Job Aid	6,000
WHO clinical staging of diseases in adults and adolescents	Job Aid	6,000
Exposure to Potential Source of Occupational HIV Infection	Job Aid	6,000
TB screening tools	Job Aid	6,000
ARV Dispensary Schedule for PMTCT	Job Aid	6,000
PMTCT Client Flow Chart	Job Aid	6,000
Cohort Analysis Wall Chart	Wall chart	1,600
Standard operating procedures (SOPs) for case managers	Job Aid	500
Family-focused care for discordance	Brochure	100,000
Family-focused care for PWP	Brochure	100,000
Reproductive needs of PLHIV	Brochure	100,000
AB messaging	Job aid	12,000
Coffee ceremony messaging	Job aid	12,000
Group and one to one (PwP)	Job aid	12,000
Home-to-home visits messaging	Job aid	12,000
Training and reference manual	Manual	9,000
	Total	409,600

Table A-2. Job aids and wall charts produced and distributed by HCSP, 2007–2011

Topic	Type	Number
Trainers manual	Manual	240
Trainers handout	Manual	240
Implementation strategy	Manual	80
Counseling card	Flip chart	1,000
TB and nutrition	Poster	2,000
Physical fitness and HIV	Brochure	2,000
Clinical algorithms	Children	2,000
	Adults	2,000
BMI	Children	2,000
	Adults	2,000
Weight for height chart	Boys	2,000
	Girls	2,000
MUAC classification	Chart	2,000
Plan for tomorrow and get tested today	Poster	750
Lambadina	Newsletter	600
Plan guide for ARV clients	Flyer	500
Kit for health promoters	Bag	300
Total		22,660

Table A-3. Essential BCC materials collected from FHAPCO/ARC and distributed to HCSP-supported health centers

Region	# of tape recorders distributed
Oromia	15
Amhara	13
SNNPR	11
Tigray	9
Addis Ababa	2
Total	50

Table A-4. Regional distribution of tape recorders, 2009

Appendix 2. HCSP Performance Monitoring Plan and Achieved Results

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR 11		
		Target	Result	%	Target	Result	%	Target	Result	%
PREVENTION										
Prevention sub-area 1: Prevention of MTCT (PMTCT)										
P1.1.D and Contract Subset of Deliverable #11	Number of pregnant women with known HIV status (includes women who were tested for HIV and received their results)				315,562	339,687	108%	157,781	191,938	122%
	Known positives at entry				N	1,478		No target	1,478	
	No. of new positives identified				No target	6,945		No target	6,945	
Contract Deliverable #11 subset (and also Contract Indicator under Result 1)	Number of pregnant women of ANC clients receiving HIV tests at the service outlets including the Labor and Delivery ward and community outreach (subset of individuals counseled and tested)	250,000	501,447	201%	NOTE: After PY3, contract deliverable #11 (subset) and contract Indicator under Result 1 were aligned with and reported under P1.1.D above.					
P1.2.D	Number of HIV-positive pregnant women who received antiretrovirals to reduce risk of mother-to-child-transmission				4,970	3,762	76%	2,485	2,238	90%
	Single dose nivrapipe (SD NVP)				No target	510		No target	140	
	Two ARVs				No target	1,250		No target	1,278	
	Three ARVs				No target	401		No target		
	ART				No target	801		No target	820	
PMTCT (Recommended)										
P1.3.D	Number of health facilities providing ANC services that provide both HIV testing and ARVs for PMTCT on site.				550	550	100%	550	550	100%
P1.4.D	Number of HIV positive pregnant women assessed for ART eligibility through clinical staging (using WHO clinical staging criteria) or CD4 testing				No target	3,342		No target	1,533	
P1.5.D	Number of HIV positive pregnant women newly B39				No target	3,342		No target	1,533	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Prevention sub-area 6: Post-Exposure prophylaxis (PEP)										
P6.1.D	Number of Persons provided with post-exposure prophylaxis (PEP)				500	473	95%	250	353	141%
	Occupational				No target	240		71	185	
	Rape/sexual assault				No target	106		19	100	
	Other non-occupational				No target	100		28	68	
Prevention sub-area 7: Prevention With Positives (PWP)										
P7.1.D	Number of People Living with HIV/AIDS (PLHIV) reached with a minimum package of Prevention with PLHIV (PwP) interventions				100,000	105,948	106%	50,000	95,075	190%
	Clinic/Facility-based				No target	105,948		No target	95,075	
	Community/ Home-based				No target	68,034		No target	129,462	
Prevention sub-area 7: Sexual and other risk prevention										
P8.1.D	Number of the targeted population reached with individual and/or small group level preventive interventions that are based on evidence and/or meet the minimum standards required				441,000	371,990	84%	441,000	457,570	104%
	Male				No target	174,762		No target	200,587	
	Female				No target	197,228		No target	256,983	
	10-14 years				No target	95,917		No target	114,531	
	15+ years				No target	276,073		No target	343,039	
Contract Indicator under Result 4	Number of individuals reached through community outreach that promotes HIV/AIDS prevention through other behavior change beyond abstinence and/or being faithful	No Target	1,392,940		NOTE: For PY1-3, contract Indicator under result 1 was calculated in accordance with program's initial contract guideline. After PY3, results were integrated into P8.1.D and P8.1.2.D and calculated in accordance with NGI guideline.					

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
P8.2.D	Number of the targeted population reached with individual and/or small group level preventive interventions that are primarily focused on abstinence and/or being faithful, and are based on evidence and/or meet the minimum standards required				127,000	94,829	75%	127,000	98,900	78%
Contract Indicator under Result 4	Number of individuals reached through community outreach that promotes HIV/AIDS prevention through abstinence and/or being faithful	No Target	1,907,481		NOTE: For PY1-3, contract Indicator under result 1 was calculated in accordance with program's initial contract guideline. After PY3, was aligned with and reported under P8.1.2.D above.					
Sexual and other risk prevention (Recommended)										
P.8.4.D	Number of targeted condom service outlets				No target	550		No target	550	
Prevention sub-area 11: Testing and Counseling										
P11.1.D and Contract Deliverable #11	Number of individuals who received Testing and Counseling (T&C) services for HIV and received their test results				2,700,000	3,457,469	128%	1,350,000	1,722,036	128%
	<15				405,000	324,274	80%	202,500	148,007	73%
	15+				2,295,000	3,133,195	137%	1,147,500	1,574,029	137%
	Male				1,566,000	1,519,660	97%	783,000	742,910	95%
	Female				1,134,000	1,937,809	171%	567,000	979,126	173%
	Negative				No target	3,390,504		No target	1,694,162	
	Positive				No target	66,965		No target	27,874	
Contract Deliverable #11 (and also Contract Indicator under Result 1)	Number of individuals counseled and tested for HIV and received their results (disaggregated by sex listed under result 1)	1,592,041	4,548,797	286%	NOTE: After PY3, contract deliverable #11 and contract Indicator under result 1 were aligned with and reported under P11.1.D above.					
	Male	No target	1,140,513							
	Female	No target	1,409,823							
Contract Indicator under Result 1	Number of exposed children under 14 years who are tested for HIV with antibody test kits (subset). NOTE: Results report only those infants and children who tested HIV+ and were enrolled into HIV care and support services.	No target	8,608					No target	10,130	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Non-PEPFAR	Number of service outlets providing counseling and testing according to national or international standards.				No target	550		No target	550	
Contract Deliverable #2 (and also Contract Indicator under Result 1)	Number of Health Centers offering comprehensive HIV and TB Counselling and Testing Services	550	550	100%				No target	550	
CARE										
Care sub-area 1: Umbrella Care										
C1.1.D and Contract Deliverable #9	Number of eligible adults and children provided with a minimum of one care service				381,000	415,203	109%	381,000	469,399	123%
	<18				114,300	135,898	119%	114,300	109,827	96%
	18+				266,700	279,305	105%	266,700	359,572	135%
	Male				152,400	166,742	109%	152,400	197,710	130%
	Female				228,600	248,461	109%	228,600	271,689	119%
Contract Deliverable #9 (and also Contract Indicator under Result 1)	Individuals reached with basic palliative care/care and support services (Contract indicator states "including TB/HIV" and disaggregated by sex)	330,000	379,399	115%	After PY3, contract deliverable #9 and contract Indicator under result 1 were aligned with and reported under C1.1.D above.					
	Male	No target	121,872							
	Female	No target	194,853							
Contract Indicator from Result 2	Number of all referrals made for HIV/AIDS related services	No target	230,425					No target	123,457	
Contract Indicator from Result 2	Number of referrals made by health providers (intra-facility and inter-facility) for HIV/AIDS related services (subset of above all referrals). <i>NOTE: Results report only inter-facility referrals.</i>	No target	59,734					No target	26,848	
Contract Indicator from Result 2	Number of referrals made by health providers to health posts/HEW for HIV/AIDS-related services (subset of above referrals made by health providers). <i>NOTE: Results report all community referrals by health providers.</i>	No target	4,178					No target	2,900	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Contract Indicator from Result 3	Number of individuals referred to health center from community (subset of above all referrals)	No target	170,199					No target	95,391	
Contract Indicator from Result 3	Number of individuals reached in HIV-related community mobilization for prevention, care and/or treatment	No target	1,631,485					No target	469,399	
Care sub-area 2: Clinical Care										
C2.1.D and Contract Deliverable #9 (pediatrics subset)	Number of HIV-positive adults and children receiving a minimum of one clinical service				100,000	106,827	107%	50,000	99,499	199%
	<15				6,000	5,463	91%	3,000	4,424	147%
	15+				94,000	101,364	108%	47,000	95,075	202%
	Male				42,000	40,368	96%	21,000	36,996	176%
	Female				58,000	66,459	115%	29,000	62,503	216%
Contract Deliverable #9 subset (and also Contract Indicator under Result 1)	Number of infants and children receiving HIV pediatric care (subset of the basic palliative care) (Contract Indicator requires disaggregation by sex)	5,760	7,731	134%	NOTE: After PY3, contract deliverable #9 (subset) and contract Indicator under result 1 were aligned with and reported under C2.1.D above.					
	Male	No target	1,071							
	Female	No target	1,194							
C2.2.D	Number of HIV-positive persons receiving cotrimoxazole prophylaxis				56,000	82,223	147%	28,000	49,279	176%
	<15				No target	5,207		No target	3,911	
	15+				No target	77,016		No target	45,368	
C2.3.D	Number of HIV-positive clinically malnourished clients who received therapeutic or supplementary food. NOTE: Results report all HIV+ clients referred or linked to therapeutic or supplementary food services.				No target	8,065		No target	10,260	
	Male				No target	3,041		No target	3,724	
	Female				No target	5,024		No target	6,536	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Care sub-area 4: Additional Pediatrics Care										
C4.1.D	Percent of infants born to HIV-positive women who received an HIV test within 12 months of birth				No target	2,386		No target	2,432	
	Infants who received virological test in the first 2 months				No target	1,137		No target	1,252	
	Infants who were tested either virologically between 2 and 12 months, or serology between 9 and 12 months				No target	1,249		No target	1,065	
C4.2.D	Percent of infants born to HIV-positive women who are started on CTZ prophylaxis within two months of birth				No target	1,472		No target	2,130	
Care sub-area 5: Support care										
C5.1.D	Number of eligible clients who received food and/or other nutrition services. <i>NOTE: Results report all affected clients referred or linked to therapeutic or supplementary food services.</i>				No target	6,870		No target	6,910	
	<18				No target	855		No target	1,049	
	18+				No target	6,015		No target	5,861	
	Pregnant Women				No target	533		No target	914	
	Lactating Women				No target	500		No target	963	
C5.6.D	Number of eligible adults and children provided with Psychological, Social, and or Spiritual support (by age)				No target	13,315		No target	103,684	
	<18				No target	1,867		No target	6,809	
	18+				No target	11,448		No target	96,875	
TB/HIV										
C2.4.D	TB/HIV: Number of HIV-positive patients who were screened for TB in HIV care or treatment settings				96,000	106,827	111%	48,000	92,805	193%
	Male				No target	40,368		No target	35,941	
	Female				No target	66,459		No target	56,864	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
C2.5.D and Contract Deliverable #10	TB/HIV: Number of HIV-positive patients in HIV care or treatment (pre-ART or ART) who started TB treatment				6,068	5,154	85%	3,034	2,441	80%
	Male				No target	2,429		No target	1,196	
	Female				No target	2,725		No target	1,245	
Contract Deliverable #10 (and also Contract Indicator under Result 1)	Number of HIV-infected clients attending HIV care/treatment services that are receiving treatment for TB disease	70,000	23,605	34%	NOTE: After PY3, the target for contract deliverable #10 and contract indicator under result 1 was reduced to a more appropriate level, and then aligned with and reported under C2.5.D above.					
	Male	No target	1,159							
	Female	No target	1,362							
Contract Indicator under Result 1	Number of HIV clients receiving treatment for TB (disaggregated by HIV-status, by sex)	No target	92,968					No target	120,111	
	HIV pos.	No target	14,071					No target	16,859	
	HIV neg.	No target	69,292					No target	90,737	
	HIV status unknown	No target	13,221					No target	16,131	
TB/HIV (Recommended)										
C2.6.D and Contract Indicator under Result 1	TB/HIV: Number of eligible HIV-positive patients starting Isoniazid Preventative Therapy (IPT)				No target	19,277		No target	9,362	
	Male				No target	6,820		No target	3,271	
	Female				No target	12,457		No target	6,091	
Contract Indicator under Result 1	Number of HIV-infected clients given TB preventive therapy (a subset of all served with palliative care), disaggregated by sex	No target	20,969		NOTE: After PY3, contract Indicator under result 1 was aligned with and reported under C2.6.D above.					
	Male	No target	6,820							
	Female	No target	12,457							
C3.1.D	TB/HIV: Number TB patients who had an HIV test result recorded in the TB register				No target	46,964		No target	25,958	
	Male				No target	25,138		No target	13,811	
	Female				No target	21,826		No target	12,147	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
TREATMENT										
Treatment sub-area I: ARV Services										
Contract Indicator under Result 1	Total number of individuals referred for CD4 test	No target	98,917					No target	65,217	
	Male	No target	35,722					No target	23,298	
	Female	No target	62,137					No target	41,919	
	Pregnant	No target	1,764					No target	880	
	Pediatric	No target	4,846					No target	3,345	
T1.1.D	Number of adults and children with advanced HIV infection newly enrolled on ART	25,000	29,113	116%	25,000	29,461	118%	12,500	12,463	100%
	Male	10,000	10,999	110%	10,000	11,189	112%	5,000	4,823	96%
	Female	15,000	18,114	121%	15,000	18,272	122%	7,500	7,640	102%
	<1	272	110	40%	272	125	46%	136	37	27%
	<15	1,812	1,614	89%	1,812	1,718	95%	906	853	94%
	<15 Males	No target	625		No target	884		No target	453	
	<15 Females	No target	614		No target	834		No target	400	
	15+	23,188	21,161	91%	23,188	27,743	120%	11,594	11,610	100%
	15+ Males	No target	7,845		No target	10,306		No target	4,370	
	15+ Females	No target	13,316		No target	17,437		No target	7,240	
Pregnant Women	750	766	102%	750	801	107%	375	389	104%	
T1.2.D and Contract Deliverable #12	Number of adults and children with advanced HIV infection receiving antiretroviral therapy (ART) [CURRENT]	70,000	71,674	102%	70,000	77,205	110%	82,500	86,005	104%
	Male	28,000	27,132	97%	28,000	29,266	105%	33,000	32,475	98%
	Female	42,000	44,542	106%	42,000	47,939	114%	49,500	53,530	108%
	<1	272	156	57%	272	169	62%	344	189	55%
	<15	3,500	2,570	73%	3,500	3,021	86%	4,425	3,763	85%
	<15 Males	No target	1,386		No target	1,643		No target	2,021	
	<15 Females	No target	1,184		No target	1,378		No target	1,742	
	15+	66,500	69,104	104%	66,500	74,184	112%	78,075	82,242	105%
	15+ Males	No target	25,746		No target	27,623		No target	30,454	
	15+ Females	No target	43,358		No target	46,561		No target	51,788	
Pregnant Women	No target	395		No target	553		No target	683		

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Contract Deliverable #12 sub-set (and Contract Indicator under Result 1)	Number of HIV positive infants and children receiving ART (Subset of clients on ART)	2,880	2,570	89%	NOTE: After PY3, contract deliverable #12 (subset) and contract Indicator under result 1 were aligned with and reported under T1.2.D above.					
Contract Indicator under Result 1	Number of ART clients transferred in to the health center during the reporting period	No target	22,408					No target	25,453	
Contract Indicator under Result 1	Number of ART clients transferred out of the health center during the reporting period	No target	10,765					No target	13,313	
T1.3.D	Percent of adults and children known to be alive and on treatment 12 months after initiation of antiretroviral therapy				No target	78%		No target	81%	
	Male				No target	77%		No target	79%	
	Female				No target	79%		No target	82%	
T1.4.D and Contract Indicator under Result 1	Number of adults and children with advanced HIV infection who ever started on ART [EVER STARTED]				No target	81,506		No target	93,027	
	Male				No target	31,805		No target	36,249	
	Female				No target	49,701		No target	56,778	
	<15				No target	2,795		No target	3,594	
	15+				No target	78,711		No target	89,433	
T1.5.D and Contract Deliverable #3 and #4	Number of health facilities that offer ART (including enhanced palliative care)				350	350	100%	350	394	113%
	Public				No target	348		No target	392	
	Private				No target	0		No target	0	
	NGO				No target	2		No target	2	
HEALTH SYSTEMS STRENGTHENING										
HSS sub-area 1: Laboratory										
H1.1.D	Number of testing facilities (laboratories) with capacity to perform clinical laboratory tests				550	550	100%	550	550	100%

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
HSS sub-area 2: Human Resources for Health										
H2.2.D	Number of community health and para-social workers who successfully completed a pre-service training program				2,283	2,600	114%	No target	128	
	Male				No target	1,220		No target	51	
	Female				No target	1,380		No target	77	
Contract Deliverable #8 (and also under Result 3)	Number of Outreach Workers trained in community and household HIV prevention, care and treatment promotion. (Contract indicators target trained in community mobilization and deployed in kebeles)	6,350	6,969	110%				6,350	6,969	110%
	Male	No target	1,152					No target	1,152	
	Female	No target	1,095					No target	1,095	
Contract Deliverable #7	Number of case managers trained and deployed on IMAI/Case Managers modules	393	419	107%				393	419	107%
	Male	No target	168					N/A	163	
	Female	No target	251					N/A	256	
Contract Indicator from Result 2	Number of health centers with a trained and deployed case manager	350	350	100%				350	350	100%
Contract Deliverable #13	Number of kebeles with deployed outreach workers that are served by a network health center	1,270	1,265	100%				1,270	1,265	100%
Contract Indicator from Result 3	Number of local organizations provided with technical assistance for HIV-related institutional capacity building	No target	1,248					No target	0	
H2.3.D and Contract Deliverable #5	Number of health care workers who successfully completed an in-service training program				10,000	9,958	100%	No target	1,516	
	Male Circumcision				No target	0		No target	0	
	Pediatric Treatment				No target	239		No target	0	
	All program areas				No target	9,719		No target	1,516	

Indicator		PY1-3 (Jun '07-Jun '10) Contract Deliverables			FY10			SAPR '11		
Number	Description	Target	Result	%	Target	Result	%	Target	Result	%
Contract Deliverable #5 (and also Contract Indicator under Result 1)	Number of Health Providers trained in HIV and TB counseling and testing using national curriculums	9,047	8,616	95%				9,047	9,003	100%
	Male	No target	2,118					No target	2,318	
	Female	No target	1,770					No target	1,957	
Contract Deliverable #6 (subset of H2.3.D)	Number of health workers trained with IMAT/Clinical Care and Antiretroviral Therapy (ART) curriculums (including pediatric HIV case finding and care)	4,650	5,639	121%				4,650	6,098	131%
	Male	No target	908					No target	1,207	
	Female	No target	906					No target	1,066	
Contract Indicator under Result 1	Number of individuals (health workers) trained in the provision of HIV related laboratory activities	No target	634					No target	129	
	Male	No target	412					No target	84	
	Female	No target	222					No target	45	
Contract Deliverable #1	Number of Woreda Health Offices supported with HIV/AIDS Services Plan	356	321	90%				550	437	79%
STRATEGIC INFORMATION										
	Number of local organizations provided with technical assistance for strategic information activities				No target	5		3	3	100%
	Number of individuals trained in strategic information (includes M&E, surveillance, and/or HMIS)				No target	8,280		No target	74	

Appendix 3. Acronyms and Abbreviations

AB	abstinence	EHNRI	Ethiopian Health and Nutrition Research Institute
ABC	abstinence, be faithful, condom	EIFDDA	Ethiopian Inter-Faith Forum for Development, Dialogue and Action
AFB	Acid fast bacilli	EID	early infant diagnosis
AIDS	acquired immune deficiency syndrome	EPI	expanded program for immunizations
ANC	antenatal care	FFC	family-focused care
ANECCA	African Network for Care of Children Affected by HIV/AIDS	FFSDP	fully functional service delivery point
ARC	AIDS Resource Center	FHAPCO1	Federal HIV/AIDS Prevention and Control Office
ART	antiretroviral therapy	FMOH	Federal Ministry of Health
ARV	antiretroviral	FP	family planning
BCC	behavior change communication	FY	fiscal year
CAC	community action cycle	GDP	gross domestic product
CBO	community-based organization	GHI	Global Health Initiative
CCG	community core group	GOE	Government of Ethiopia
CD4	cluster of differentiation 4 (better known as T cell)	HAART	highly active antiretroviral therapy
CDC	Centers for Disease Control and Prevention	HAPCO	HIV/AIDS Prevention and Control Office
CM	community mobilizer	HAPSCA	HIV/AIDS Prevention, Care and Support Association
CME	continuing medical education	HC	health center
CPT	cotrimoxazole therapy	HCSP	HIV/AIDS Care and Support Program
CQI	continuous quality improvement	HCT	HIV counseling and testing
C&S	care and support	HDI	human development index
DBS	dry blood sample	HEI	HIV-exposed infants
DHS	Demographic and Health Survey	HEW	health extension worker
DOHE	Dawn of Hope Ethiopia	HIV	human immunodeficiency virus
DQA	data quality assurance	HMIS	health management information system
EDHS	Ethiopian Demographic and Health Survey		

IGA	income-generating activity	PSI	Population Services International
IP	infection prevention	PwP	prevention with positives
JSI	John Snow Incorporated	PY	project year
KOOW	kebele-oriented outreach worker	Q	quarter
L&D	labor and delivery	QA	quality assurance
LTFU	lost-to-follow-up	REST	Relief Society of Tigray
MiARP	most at-risk population	RHAPCO	Regional HIV/AIDS Prevention and Control Office
M&E	monitoring and evaluation	RHB	regional health bureau
MSG	mother support group	SAPR	semi-annual performance report
MSH	Management Sciences for Health	SCMS	Supply Chain Management System
NGI	Next Generation Indicator	SNNPR	Southern Nations, Nationalities and People's Region
NGO	nongovernmental organization	SOC	standard of care
NNPWE	National Network of Positive Women Ethiopians	SPS	Strengthening Pharmaceutical Systems
OP	other prevention	STD	sexually-transmitted disease
OPD	outpatient department	TB	tuberculosis
OR	operations research	THPP	Targeted HIV Prevention Program
OVC	orphans and vulnerable children	TWG	technical working group
PBC	performance-based contract	UNAIDS	Joint United Nations Program on HIV/AIDS
PEP	post-exposure prophylaxis	USAID	US Agency for International Development
PEPFAR	President's Emergency Plan for AIDS Relief	USG	US Government
PITC	provider-initiated testing and counseling	VCT	voluntary counseling and testing
PLHIV	people living with HIV	WAD	World AIDS Day
PKWHA	people living with HIV/AIDS	WHO	World Health Organization
PMTCT	prevention of mother-to-child transmission		
PS	patient safety		

BEST AVAILABLE

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Notes

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MSH Ethiopia
Bole Sub-City, Kebele 02 | **P.O. Box** 1157-1250 | Addis Ababa, Ethiopia

t: +251 11.662 07 81/91 | **e:** communications@msh.org

www.msh.org