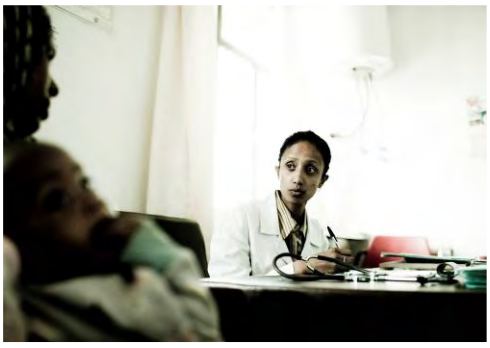
Prevention of Mother-to-Child Transmission (PMTCT) of HIV/AIDS in Ethiopia: IntraHealth International/Hareg Project

End-of-Project Report: September 15, 2004 - December 31, 2007



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List of Acronyms

AIDS	acquired immune deficiency syndrome
ANC	antenatal care
ART	antiretroviral therapy
ARV	antiretroviral
CBAC	Community Action for Behavioral Change
CPCS	Comprehensive Pediatric Care and Support Project
C&T	counseling and testing
ETEAP	Ethiopian Emergency AIDS Plan
FHI	Family Health International
HAPCO	HIV/AIDS Prevention and Control Office
HC	health center
HCSP	HIV/AIDS Care and Support Project
HEW	health extension worker
HIV	human immunodeficiency virus
HMIS	health management information system
HP	health post
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
I-TECH	International Technical & Education Center for HIV, U. of Washington and U. of San Francisco
M&E	monitoring and evaluation
MCH	maternal and child health
MOH	Ministry of Health
MSG	Mothers' Support Group
MSH	Management Sciences for Health
MTCT	mother-to-child transmission
NVP	nevirapine
OI	opportunistic infection
OJT	on-the-job training
PEPFAR	The US President's Emergency Plan for AIDS Relief
PI	performance improvement
PLWHA	people living with HIV/AIDS
PMTCT	prevention of mother-to-child transmission
RH	reproductive health
RHB	Regional Health Bureau
RPM Plus	Rational Pharmaceutical Management Plus Program
TBA	traditional birth attendant
TOT	training of trainers
USAID	United States Agency for International Development
USG	United States Government
VCT	voluntary counseling and testing
WHO	World Health Organization

List of Tables and Figures

I. Overview: Hareg Project Summary

The Hareg Prevention of Mother-to-Child Transmission (PMTCT) Project was officially launched in September 2003 as part of the U.S. Government's special initiative to reduce transmission of HIV from mothers to children. IntraHealth International and the Ethiopian Ministry of Health (MOH) formed a partnership to scale up PMTCT services in Ethiopia with funding from the U.S. Agency for International Development (USAID) through the global PRIME II Project. As PRIME II came to its end in September 2004, IntraHealth was granted a bilateral agreement by USAID as part of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and as a subcomponent of the Ethiopian Emergency AIDS Plan (ETEAP) to continue scaling up PMTCT services. Since 2004 the Hareg Project has contributed to a national effort to reduce mother-to-child transmission of HIV. The project has been a collaborative effort with the MOH, National HIV/AIDS Prevention and Control Office (HAPCO), regional and district (woreda) health offices, and community-based teams. The project also collaborated with several PEPFAR-supported partner agencies, including Columbia University, Johns Hopkins University, I-TECH, JHPIEGO, FHI, and Management Sciences for Health's RPM+ project.

The Hareg Project followed the approach that PMTCT programs succeed when they are well-integrated into antenatal care (ANC) and maternal and child health (MCH) services and utilize existing resources from the national level to the community level. No single organization, outreach intervention or target goal can singlehandedly avert the transmission of HIV from mother to child. The reduction of MTCT is best achieved through a holistic approach that increases access to MCH/PMTCT services and mobilizes community-based organizations, community leaders, traditional birth attendants and local NGOs in the fight against HIV/AIDS. As such, IntraHealth has worked at all levels of care but focused on establishing comprehensive PMTCT services at the health center level and mobilizing communities to decrease stigma and discrimination and encourage women to utilize health services in an effort to reduce transmission of HIV.

Building upon the work started in 2003 under the PRIME II Project, the first six months of the Hareg Project included organizing national and regional PMTCT orientation workshops, conducting facility baseline assessments, training health care providers on PMTCT and ANC services, and distributing needed supplies. Facility-based service delivery had begun toward the end of February 2004 in 13 health centers. This date represents initiation of facility-based data generation. The final date for inclusion of data in this report is September 2007.

The Hareg Project's accomplishments related to PMTCT client services indicate positive trends given the continued very low levels of health care utilization in Ethiopia. Despite improvements in the number of women being tested and receiving nevirapine (NVP), there are still too many HIV-positive women who do not receive PMTCT services and infants who do not receive NVP at birth. The road to greater coverage of these women and children is long and requires support from many partners.

In addition to the client outcomes, numerous process outcomes have been achieved during the Hareg Project including the following:

- Established PMTCT services in 248 health center sites in nine regions and two city administrations
- Developed a PMTCT on-the-job training curriculum

- Established a national pool of PMTCT trainers in collaboration with the Bethazatha Training Center
- Trained 1,538 health care providers in comprehensive PMTCT clinical skills
- Introduced the on-the-job approach to training whereby numerous sites could be trained rapidly and providers' time away from services was minimized
- Revised the national PMTCT guidelines in collaboration with the MOH
- Introduced wrap-around services to PMTCT clients including nutritional support and family planning (FP)
- Established 34 Mothers' Support Groups to provide psycho-social and emotional support to mothers living with HIV
- Trained 733 health extension workers in community mobilization, reaching more than 100,000 community members with messages on HIV prevention, care and support, ANC, and FP
- Developed a health information management system to collect and track health service data
- Disseminated a study on provider stigma and discrimination in collaboration with the Miz-Hazab Research Center
- Established community-based teams to mobilize communities to utilize services and reduce stigma and discrimination and to build rapport with health centers and posts
- Increased national dialogue about HIV through appearances on TV and radio shows, dissemination of posters with prevention messages, and mini-bus campaigns in regions outside Addis Ababa
- Established a network of six regional IntraHealth offices to allow for better support to regional health bureaus (RHBs) and to be responsive to the needs of PMTCT sites.

Since the conclusion of the Hareg Project on December 31, 2007, IntraHealth continues to support PMTCT at the health-center and health-post levels, through PEPFAR funding via USAID's global Capacity Project.

II. Client-Level Results

A. Overview of Key PMTCT Results

The Hareg Project supported PMTCT services in 248 health centers (HCs). The services focused on providing HIV counseling and testing (C&T) to all pregnant women presenting for ANC in order to identify HIV-positive pregnant women and to provide them with antiretroviral (ARV) prophylaxis to reduce the possibility of transmission of the infection to their infants. Figure 1 presents the primary PMTCT results across the period of project implementation.

Figure 1. Key PMTCT Results: February 2004 - September 2007

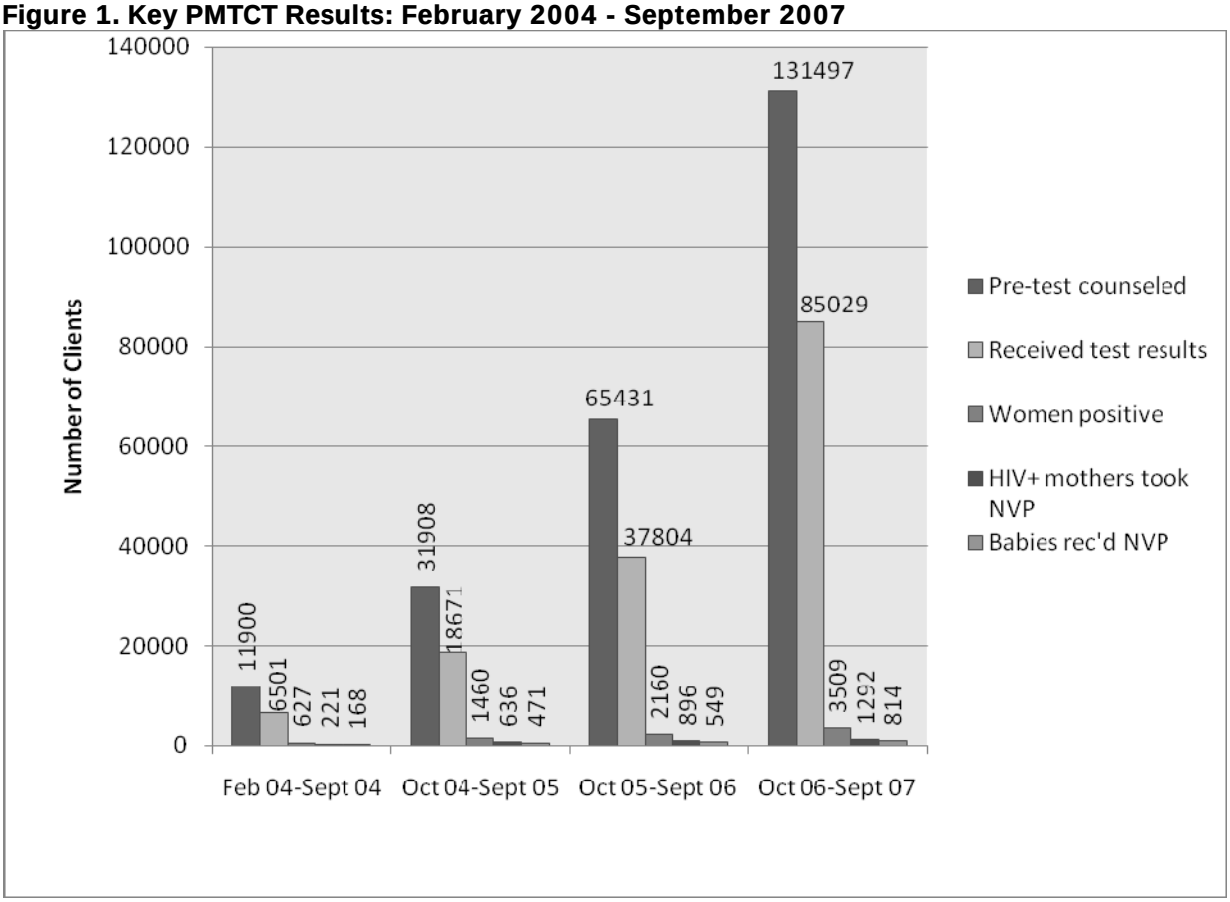

Figure 1 illustrates a significant increase in the uptake of HIV testing, from 54.6% of ANC clients who were pre-test counseled during the period of February to September 2004 to 64.6% for October 2006 to September 2007. In addition to the increase in the proportion of women counseled who go on to be tested, there has been a sizeable increase in the absolute number of pregnant women tested and counseled. This is attributable in large part to the rapid scale-up of PMTCT services, especially from October 2005 to April 2007, when 165 new sites initiated PMTCT services.

With regards to NVP uptake, there was a large increase in the number of women and infants taking NVP; however, as a proportion of the women testing positive and delivering each year (not shown above) there was a decline in the latter two years. The decrease may be due to the challenges of rapid scale-up such as the increased number of HCs that field personnel were responsible for supervising. Other challenges to NVP uptake included: prevalent stigma and discrimination with regard to HIV infection that prevent women from

disclosing their HIV status; socio-cultural and logistical barriers to women returning to HCs for repeat ANC visits and to deliver their infants at health facilities; gender inequalities affecting the decision-making power of women; and the absence of a system to track mothers lost to follow-up.

B. HIV Counseling and Testing

A key first step in PMTCT is having pregnant women counseled and tested for HIV. Table 1 illustrates the progression of counseling and testing from February 2004 to September 2007.

Table 1. HIV-Testing and Counseling of Pregnant Women in PMTCT/ANC Services+

	Feb 04 - Sept 04	Oct 04 - Sept 05	Oct 05 - Sept 06	Oct 06 - Sept 07	Total
ANC Visits					
# of 1st ANC visits this pregnancy	16,301	34,354	69,000	134,255	491,879
# of repeat ANC visits+	3,865	54,738	114,456	132,036	67,126
Total ANC visits	**20,166**	**89,092**	**183,456**	**266,291**	**559,005**
HIV Counseling					
# of women pre-test counseled in first ANC visit	10,943	24,195	44,743	102,206	182,087
# of women pre-test counseled in a repeat ANC visit	957	7,713	20,688	29,291	58,649
Total # of women pre-test counseled in an ANC visit	**11,900**	**31,908**	**65,431**	**131,497**	**240,736**
HIV Testing					
# of women who were HIV-tested in first ANC visit+ and received results	6,211	14,224	29,140	71,802	121,377
# of women who were HIV-tested in a repeat ANC visit+ and received results	290	4,447	8,664	13,407	26,628
Total # of women HIV-tested in an ANC visit	**6,501**	**18,671**	**37,804**	**85,209**	**148,005**
% of women pre-test counseled who were tested	55%	59%	58%	65%	61%
HIV Test Results					
Total # of HIV-positive women	**627**	**1,460**	**2,160**	**3,509**	**7,759**
% of women tested who were HIV-positive	(9.6%)	(7.8%)	(5.7%)	(4.1%)	(5.2%)

+ A woman could be included several times in the repeat ANC visit row. This refers to number of visits, not number of women.

As illustrated in Table 1, of the total number of women who received pre-test counseling, 61% agreed to be tested for HIV and received their results. The percentage of counseled women accepting to be tested was 10% higher in the last year of the program (65%) than in the first eight months of data collection (55%).

It should be noted that between HCs there was significant variation in the proportion of ANC clients being pre-test counseled who went on to be tested: 35% of the HCs tested over 80% of the women who were pre-test counseled, 29% tested 60-80%, 20% tested 40-59% and 16% tested fewer than 40% of the women who were pre-test counseled.

Of the women who accepted the HIV test, most were tested at their first ANC visit, with fewer than 20% tested at a subsequent visit. This may indicate that relatively fewer women need more time to make the decision to be tested or it may reflect the stage of their pregnancy when testing services were introduced at their HCs.

The increase in testing, coupled with the notable decrease in the percentage of women testing positive, suggests that the testing in later years included a larger percentage of lower-risk women than in previous years. This may reflect the increase in the proportion of rural HCs offering PMTCT services (rural women generally have a lower HIV prevalence). It is also possible that in later years more lower-risk women were willing to be tested as testing gained wider acceptability.

Regional Testing Results

Ethiopia is a large country with significant differences among regions and between urban and rural areas. Differences between access to health care and possibly stigma surrounding HIV may influence uptake of HIV testing by ANC clients, as well as the numbers of women receiving ANC, in different parts of the country.

Table 2 demonstrates regional counseling and testing results on a yearly basis. While in most regions there was an increase over time in the percent of counseled women who were tested, there were several exceptions, as illustrated in Table 2 on the following page.

Table 2. Regional HIV Counseling and Testing in PMTCT Sites Yearly: 2004 - 2007

Regions	Feb 04 - Sept 04		Oct 04 - Sept 05		Oct 05 - Sept 06		Oct 06 - Sept 07	
	Pre-Test Counseled	Tested, Received Results+	Pre-Test Counseled	Tested, Received Results+	Pre-Test Counseled	Tested, Received Results+	Pre-Test Counseled	Tested, Received Results+
Addis Ababa	5,098	3,327 (65%)	9,465	6,791 (72%)	13,894	8,351 (60%)	12,625	8,453 (67%)
Afar		--	1,559	179 (11%)	1,041	178 (17%)	962	389 (40%)
Amhara	2,881	1,107 (38%)	8,180	3,823 (47%)	15,675	8,043 (51%)	28,417	18,199 (64%)
B. Gumuz	366	323 (88%)	731	665 (91%)	733	680 (93%)	1,258	966 (77%)
Dire Dawa		--		--	676	534 (79%)	3,167	2,511 (79%)
Gambella		--		--		--	174	129 (74%)
Harari			374	313 (84%)	334	298 (89%)	319	295 (92%)
Oromiya	1,802	933 (52%)	5,004	2,875 (57%)	16,537	7,628 (46%)	52,306	30,421 (58%)
SNNPR		--	2,363	1,983 (84%)	10,221	8,377 (82%)	18,920	14,235 (75%)
Somali	421	378 (90%)	448	423 (94%)	227	81 (36%)		0^
Tigray	1,332	433 (33%)	3,784	1,619 (43%)	6,093	3,634 (60%)	13,349	9,431 (71%)

-- Sites had not yet started PMTCT services.
+ Percent of pregnant women who were pre-test counseled who agreed to be tested and received their results
^ The Somali region ceased offering PMTCT services in the last year of the project due to an RHB decision.

Results of regional annual updates in numbers of women tested and receiving results corresponds to regions with larger populations and numbers of testing sites. The regions with the highest number of PMTCT sites and largest populations—Addis Ababa, Amhara, Oromiya, SNNPR and Tigray—demonstrated the greatest numbers of women being pre-test counseled and receiving their results.

C. Acceptance of Nevirapine

Table 3 demonstrates the number of ANC clients testing HIV-positive each year and the number of HIV-positive clients and their infants taking NVP. The table provides information on the number of mothers who were either given NVP to take home with them (at gestational age of 32 weeks) for a home delivery or who received NVP at the HC at the time of delivery. For those who took NVP home, we know that they received it but we cannot know if they actually ingested it at home. The information on infants, on the other hand, pertains only to the actual administration of NVP to infants at HCs.

Table 3. NVP Uptake by HIV-Positive Women and Their Infants in PMTCT Services: February 2004 - September 2007

	Feb 04 - Sept 04	Oct 04 - Sept 05	Oct 05 - Sept 06	Oct 06 - Sept 07	Total	Estimated ~Percentages*
# of pregnant women testing HIV-positive	627	1,460	2,160	3,509	**7,759**	--
# of HIV-positive mothers who took NVP	221	636	896	1,292	**3,043**	~46% of HIV-positive mothers delivering
# of infants of HIV-positive mothers who received NVP	168	471	549	814	**2,002**	~30% of infants of HIV-positive mothers delivering

***** Only estimates can be calculated for the NVP percentages because of a mismatch between the numerator and denominator. See *Methodological Note* in textbox below.

Due to the denominator problem discussed in the methodological note below, calculating percentages of HIV-positive women and their infants who take NVP each year is difficult. It would be misleading, in a program that is rapidly scaling up each year, to take the number of women testing HIV-positive each year as the denominator in a percent calculation for that year. Using a more complicated mathematical formula (discussed in the methodological note below) that can provide only approximations, we estimated that the approximate percentages of HIV-positive women taking NVP ranged from a high of approximately 54% (Year 2 of the project) to a low of approximately 42% (Year 4). For infants, the percentages taking NVP ranged from a high of approximately 40% (Year 2) to a low of 23% (Year 4). Across the four years we estimated overall that approximately 46% of HIV-positive mothers delivering took NVP themselves and approximately 30% of their infants did. In an effort to increase these percentages, the project's future strategy under the Capacity Project will be to increase clinical supervision by employing more field staff and to improve the quality of training of health care providers, particularly those providing counseling.

Methodological Note:

Calculating the percentages of HIV-postiive ANC clients and their infants taking NVP is difficult because we cannot know the exact denominator. For the four years as a whole (the final column in Table 3) the numerators are number of women and number of infants who took NVP during the four-year period. The denominator should be the number of HIV-positive women who delivered infants during the four years. However, many of the women who test positive in the final year will not give birth until the months after September 2007, and thus they should not be included in the denominator because they are not yet at the stage where they would need to take NVP. (Including them in the denominator would give a denominator that is much larger than it should be and would make the result, the percentage taking NVP, smaller than it in fact is.) Hence, in the denominator for the four years we have included only two-thirds of the women who tested positive in the final year (estimating that one-third of the women will deliver after September) and all women who tested positive in previous years. The denominator is thus a rough estimate, as are the percentages based on that estimate.

Similarly, calculating the percentage of women and infants taking NVP each year, for a

comparison of percentages across the years, is problematic due to the denominator issue; this problem is aggravated in a program undergoing rapid scale-up each year. If this were a program in which roughly the same number of women were being tested and were testing positive each year, then one could rationalize using the number of women testing HIV-positive each year as the denominator on the basis that while each year some women testing HIV-positive one year will deliver the following year, a similar number of women testing HIV-positive the previous year will deliver this year; hence, it would balance out. However, this is not the case in a program in which there is a large increase in the number of women being tested each year and testing HIV-positive. In this case a smaller number of HIV-positive women tested the previous year will deliver this year than the number of HIV-positive women tested this year who will deliver next year. Because of this problem, we have chosen to assume that each year approximately two-thirds of the HIV-positive women who were tested that year will deliver that same year and one-third will deliver the next year. Hence, each year our denominator for the percent calculation is the one-third of the women who tested HIV-positive the previous year and two-thirds of the women who tested positive in the current year.

Table 4 (on the following page) demonstrates the regional uptake rates of NVP over time.

Table 4. NVP Uptake by Region [+*]

Regions	Feb 04 - Sept 04			Oct 04 - Sept 05			Oct 05 - Sept 06			Oct 06 - Sept 07		
	# of women testing HIV-positive	# of HIV-positive women on NVP	# of infants on NVP	# of women testing HIV-positive	# of HIV-positive women on NVP	# of infants on NVP	# of women testing HIV-positive	# of HIV-positive women on NVP	# of infants on NVP	# of women testing HIV-positive	# HIV-positive women on NVP	# of infants on NVP
Addis Ababa	354	124	105	664	287	241	664	353	249	578	195	135
Afar	--	--	--	30	14	3	13	7	4	11	6	2
Amhara	100	27	11	301	109	52	616	269	131	986	438	259
Benishangul-Gumuz	33	16	11	48	40	23	22	2	1	23	14	10
Dire Dawa	--	--	--	--	--	--	29	4	1	124	39	12
Gambella	--	--	--	--	--	--	--	--	--	14	2	4
Harari	--	--	--	--	--	--	2	0	0	0	0	0
Oromiya	103	48	35	257	129	106	439	161	87	1,092	409	244
SNNPR	--	--	--	75	26	22	241	64	56	345	125	89
Somali	37	6	6	25	17	12	0	0	0	0	0	0
Tigray	--	--	--	60	13	12	134	36	20	336	64	59

+ -- Sites had not yet started PMTCT services.

* Note: the number of women testing positive in a given year should not be considered a denominator for an estimate of the proportion or percentage of women and infants taking NVP. See *Methodological Note* in textbox on previous page.

D. Other Client Results

A number of other indicators were tracked by the Hareg Project. Table 5 presents the results for three of these indicators: the number of HIV-positive women linked with care and support services, the number of HIV-positive clients counseled about FP options and the number of male partners of ANC clients tested for HIV. Table 5 presents results for these indicators in the regions.

Table 5. HIV-Positive Clients Referred for Care and Support and Counseled on FP in PMTCT Services: February 2004 - September 2007

Region	# HIV-Positive ANC Clients Referred for Care and Support*	# HIV-Positive ANC Clients Counseled on FP	# Male Partners of ANC Clients Tested for HIV	# of Children Born to HIV-Positive Mothers who are HIV-Tested at 18 months
Addis Ababa	508	1,594	1,637	138
Afar	2	46	78	0
Amhara	304	1,532	6,462	94
Benishangul-Gumuz	12	99	571	3
Dire Dawa	83	107	143	1
Gambella	0	4	0	0
Harari	0	15	15	0
SNNPR	229	1,434	3,392	51
Oromiya	114	526	8,023	30
Somali	0	51	4	0
Tigray	54	509	1,602	9
TOTAL	**1,306**	**5,917**	**21,927**	**326**

*Care treatment and support refers to those referred for antiretroviral therapy (ART), community care and support, nutritional support. In some HCs it actually refers only to ART.

It should be noted that counseling on family planning is a routine part of ANC care. The fact that not all HIV-positive women were reported to have been counseled on FP may reflect inconsistent data entry for this indicator in health management information system (HMIS) registers.

A fourth additional indicator that was tracked was the number of HIV-positive ANC clients counseled on infant feeding options. Results showed that all of the women received this counseling; it is a routine part of ANC service delivery.

OI Prophylaxis

Another indicator that has been tracked has been the number of infants receiving prophylaxis for opportunistic infections (Cotrimoxazole). The official policy in Ethiopia is to provide opportunistic infections (OI) prophylaxis to HIV-positive mothers' infants, starting at 6 weeks of age, until they are confirmed to be HIV-negative (typically at a test administered at 18 months). Two important issues with respect to OI are: the number of infants of HIV-positive women who receive OI prophylaxis and the frequency with which these infants receive OI prophylaxis (infants should receive it daily until they are confirmed HIV-negative).

Due to problems in the way data on the indicator of number of infants receiving OI prophylaxis are reported in the HMIS system, and in Hareg reports (with aggregation of

monthly data resulting in overcounts on an annual basis), a specific effort was undertaken in the end-of-project data collection campaign to collect these data more rigorously by going to the registers in HCs, rather than relying on the monthly reports. In the 135 HCs included in the end-of-project data collection campaign (HCs that had at least one month of missing PMTCT data during the course of the project), data were collected on:

- the number of infants who received OI at least once in the past year (October 2006 - September 2007) and
- the number of times each infant received OI in that year.

The results indicated that in this subsample of 135 HCs, 170 infants received OI for at least one month in the past year. Of those 170 infants, over the course of the past year:

- 99 infants (58%) received Cotrimoxazole for 1 month
- 39 infants (23%) received Cotrimoxazole for 2-4 months
- 24 infants (14%) received Cotrimoxazole for 5-9 months
- 8 infants (5%) received Cotrimoxazole for 10-12 months.

It should be noted that these HCs were the HCs included in the end-of-project data collection campaign because they had some missing PMTCT data. The results from these centers were generally lower than in the other HCs. Extrapolating from these results (and considering that centers in the subsample had a lower level of performance than others) we estimate that at least 346 infants received OI in the past year in the 248 health sites.

Reasons for the low uptake and the extremely low rate of continued use of Cotrimoxazole in infants include: the difficulty women face in returning monthly to the HCs to receive the drug for their infants because of logistical challenges (distance to HCs, resources needed to get there), fear of raising people's suspicions vis-à-vis women's HIV status with repeat visits to HCs post-delivery, and the fact that some health providers and HCs do not provide Cotrimoxazole consistently.

III. Program-Level Results

A. Hareg Approach

From its inception, the Hareg Project followed the comprehensive four-pronged PMTCT approach of the World Health Organization (WHO). The components of this approach are:

1. Primary prevention to help women remain HIV-negative
2. Preventing unintended pregnancies among HIV-infected women
3. Preventing transmission from HIV-infected women to their children
4. Providing care to HIV-infected mothers and their children.

Hareg chose a health-center-based approach but with linkages to other health facilities and to the community. Major PMTCT activities implemented by IntraHealth through the Hareg Project included building health providers' skills in PMTCT counseling and prevention, strengthening systems that support service delivery, linking PMTCT with other MCH services at all levels of care and community mobilization. The principal means of support provided for PMTCT by the project included the following:

- On-the-job training (OJT) for service providers at the facility level
- Training RHB staff members in how to manage PMTCT programs
- Supportive supervision at HCs
- Quarterly review meetings with providers, facility managers, woreda health officials, HAPCO heads and community promoters.

Over the course of the project, IntraHealth introduced several innovative interventions to bolster the effectiveness of the PMTCT program. These included Mothers' Support Groups (MSGs) for HIV-positive women, the involvement of health extension workers (HEWs) for community social mobilization, a strategy for male involvement in PMTCT (which included the development of special invitation cards), and comprehensive pediatric care and support to identify and provide services for children with HIV. More information on these interventions is provided below.

B. Geographical Scope and Scale-Up

The number of sites supported by the Hareg Project reached a high of 248 in 11 regions. The scale-up of PMTCT services followed the national health network model (linking a hospital with three HCs and five corresponding health posts) and the expansion trend of antiretroviral therapy (ART) services. The opening of new PMTCT sites followed an intensive site assessment in collaboration with RHBs. Selection criteria included sufficient ANC flow, a notable prevalence of HIV/AIDS, the initiation of ART and voluntary counseling and testing programs, availability of a delivery facility and functional laboratory services, and adequate numbers of staff in the HC to provide PMTCT services (see Appendix 1 for a list of HCs).

Table 6. Number of PMTCT Sites by Region: September 2003 - May+ 2007

Region	Health Centers Providing PMTCT Services
Amhara	80
Oromiya	79
SNNPR	39
Tigray	21

Region	Health Centers Providing PMTCT Services
Addis Ababa	8
Benishangul-Gumuz	6
Afar	6
Dire Dawa	4
Gambella	3
Harari	2
Somali*	1
Total	**248**

+Date by which PMTCT was introduced at sites.
*Services not operational during the last year of the project. Not included in total.

Figure 2 illustrates the rapid scale up of PMTCT services that occurred in the past two years of the project. The number of sites providing PMTCT services increased from 30 in September 2005 to 248 in September 2007.

Figure 2. IntraHealth-Supported PMTCT Expansion: Sites Providing PMTCT Services 2004 - 2007

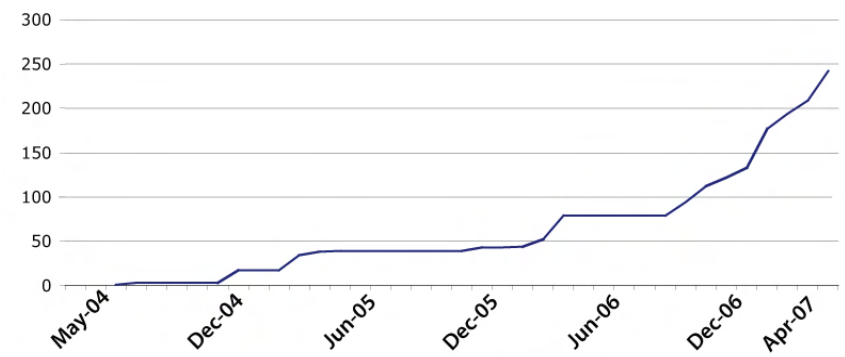

Table 7 provides more detailed information on the pace of scale-up in each year of the project.

Table 7. Number of Sites Enrolled for PMTCT Services Yearly

Year		# of Health Centers Start-of-Year	# of Health Centers Mid-Year	# of Health Centers End-of-Year
Feb 04 - Sep 04		13	13	13
Oct 04 - Sept 05		13	25	30
Oct 05 - Sept 06		30	81	119
Oct 06 - Sept 07		119	199	248

The rapid scale-up of services, particularly during the last year of the project, with the same level of funding, was challenging for IntraHealth staff and MOH counterparts at all levels. This was especially pertinent in the areas of training and supportive supervision. Applying the on-the-job training (OJT) approach allowed Hareg staff and master trainers to expand services to a large number of HCs in a short period of time; however, the demands on the trainers and staff (to produce and deliver materials, supervise trainings and arrange for and deliver per diems) were significant. With such a wide geographical area and short timeframe, PMTCT services were initiated but support to sites was diluted as the number of staff remained the same—both for IntraHealth and regional or woreda health offices—but

the number of sites they were overseeing greatly increased. Quality control in data collection and reporting—particularly in getting complete data collection and reporting from all HCs on a monthly basis—was also compromised. Some of the specific challenges encountered during the project, particularly in the last year, are highlighted below.

Table 8. Key Challenges and Resolutions in PMTCT Service Delivery During Scale-Up

Challenge	Resolution
High turnover of trained staff in existing sites resulted in staff shortages.	Continuous OJT implemented as temporary solution for the problem Advocated with MOH/RHB/HAPCO for inclusion of PMTCT in pre-service curricula of health officers and nurses
Frequent service interruption due to shortage of supplies, Millennium AIDS Campaign (MAC), and staff attrition	Communicated with the federal and regional health officials and RPM+ about the issues
Low levels of support from the woreda health office and RHB for PMTCT activities	Supervision skill-building training given for woreda experts and head of the Woreda Health Office Efforts made to include PMTCT in performance evaluation for providers and experts
Low uptake of NVP	Home-based NVP delivery initiated at pilot stage in Amhara and Tigray regions

C. Project Components

Training

The Hareg Project used basic and refresher training as the major skills- and knowledge-building intervention for providers and health facility managers. The primary objective of the training was to equip mid-level and front-line health workers with the skills and knowledge necessary to immediately provide PMTCT services. Topics covered in the training included HIV counseling skills, maternal and child health/reproductive health, data collection and the HMIS, performance improvement, stigma reduction, infection prevention, community mobilization and facilitation.

IntraHealth worked with other USG partners and HAPCO to develop the PMTCT curriculum during the first year of the project and revised it annually using new technical updates and modifications to Ethiopian strategies or policies. OJT was selected as the best approach for service providers to receive comprehensive PMTCT training while spending minimal time away from their patients. To operationalize this approach, IntraHealth hired and deployed approximately 25 master trainers (number varied by year) who were subject-matter experts in PMTCT to deliver the training. To address the high incidence of staff attrition in the country, IntraHealth trained six to eight providers per site. This approach enabled IntraHealth to reach a large number of sites within a shorter period of time, training large numbers of the health workforce without disrupting the services of the HCs. This OJT approach, as opposed to training courses or workshops in the national or regional capitals, was the first of its kind for HIV services at the HC-level in the country. The strategy has been well-accepted by the Federal MOH and RHBs as an ideal approach to deliver training to service providers without adversely affecting their everyday duties.

As illustrated in Table 9, in all regions a total of 1,538 providers (nurses, midwives, health officers and doctors) have been trained in comprehensive clinical PMTCT services through

the Hareg Project. In addition to these providers, another 641 managers and other support staff were trained in PMTCT throughout the regions.

Table 9. Health Care Providers Trained in Clinical PMTCT: September 2003 - May 2007

Region	Male	Female	Total
Addis Ababa	13	36	49
Afar	15	14	29
Amhara	255	190	449
Benishangul-Gumuz	17	7	24
Dire Dawa	10	12	22
Gambella	10	2	12
Harari	10	8	18
Oromiya	234	293	527
SNNPR	128	97	225
Somali	2	3	5
Tigray	69	109	178
Total	**763**	**771**	**1,538**

Other training outputs included:

- Provided a ½-day PMTCT service sensitization for a total of 4,738 individuals at 132 training sites for 248 HCs. Participants included HC staff, woreda representatives and stakeholders such as members of women's and PLWHA associations, youth clubs and anti-AIDS clubs.
- Trained 910 individuals to form HC PMTCT core groups consisting of heads of HC departments, other HC staff, woreda representatives, and HIV focal persons. Topics included general PMTCT, client flow solutions and HMIS.
- Offered on-the-job PI sensitization for 375 health office managers/HC heads and woreda heads
- Provided training-of-trainers training in nine administrative regions where a total of 150 MOH resource persons were trained. RHBs will employ these resource persons as the RHBs expand PMTCT services further.
- Provided OJT on safer obstetrical skills (e.g. basic life-saving skills per the ACNM curriculum) to health providers at selected HCs
- During the first year of the project, trained approximately 400 traditional birth attendants (TBAs) and community leaders in home-based life-saving skills. This training was not continued in subsequent years as the MOH revised its policy to support use of HEWs instead of TBAs.

Supportive Supervision

Supportive supervision is a vital facet of IntraHealth's approach for ensuring standardized, high-quality PMTCT service delivery. Supervisory visits conducted by IntraHealth staff, together with woreda or RHB staff, strengthened the capacity of providers, facility managers, and woreda health officials. During these visits they engaged in problem solving with providers, ensuring adequate material support, assisting with good record-keeping practices and helping managers with data-driven decision-making. Supervision checklists were routinely used to ensure standardized PMTCT service delivery. Regional review meetings conducted twice yearly in all regions enabled health providers and woreda health officials to reflect on the progress and challenges of PMTCT service delivery. The review

meetings also served as an opportunity for a shared learning forum among providers and partners involved in PMTCT and reproductive health activities.

Community Mobilization

One key way to decrease MTCT is by reducing delays in obstetric care seeking; this can be done by mobilizing the community through Community Action for Behavioral Change (CABC) initiatives. CABC empowers the community to explore the issues surrounding the pandemic, identify the strengths and resources within a community, select priority problems and develop locally appropriate and sustainable solutions. CABC initiatives increase the community's awareness of HIV/AIDS transmission and prevention; engender male involvement; and promote strategies to improve maternal and infant nutrition. Through Hareg, IntraHealth used local NGOs—or faith-based organizations, community-based organizations, associations of people living with HIV/AIDS (PLWHA)—to undertake CABC activities. IntraHealth worked to build the capacity of these organizations to standardize and harmonize the basic CABC messages. During the last two years of the project, 12 community organizations received grants from Hareg to conduct mobilization activities and to educate their communities about HIV/AIDS. When such organizations did not exist, IntraHealth worked directly with community action facilitators (CAFs). CAFs are teams comprised of anti-AIDS club members, PLWHA, religious leaders, members of Iddir (local community organization), traditional TBAs and village-level facilitators. These teams, which range in size from 30-50 people, conduct regular community dialogues and house-to-house education using targeted PMTCT messages.

Table 10. Key Results for Community Mobilization Activities by CAFs* in PMTCT: September 2004 - September 2007

Activity	Men	Women	Total
# of community meetings conducted by CAF			**11,926**
# of community conversation sessions conducted			**79,837**
# of house-to-house visits made			**24,177**
# of referral cards distributed by the CAF for C&T, ANC, FP and infant follow-up	16,127	33,212	**49,339**

*CAFs include PLWHA, anti-AIDS club members, religious leaders, Iddir members, community-based reproductive health agents, community health agents.

During the final year of the project, IntraHealth placed special emphasis on engaging HEWs in community mobilization efforts. HEWs worked in cooperation with the community organizations and CAF teams to encourage the use of PMTCT services as well as other health care services.

Health Extension Worker Involvement in PMTCT

HEWs working in the community at the health-post level are the backbone of the MOH's effort to deliver services to the community. HEWs are trusted members of the communities in which they work and live. They work house-to-house, providing education and preventive care and encouraging use of the HCs for care. As part of their existing scope of work, HEWs visit households monthly and are expected to know the gestational status of all women in their catchment areas, as well as to attend all births. HEWs are trained to discuss birth preparedness and complication readiness and PMTCT services with the pregnant mother and immediate family. The role of HEWs puts them in an important position to promote PMTCT care in communities. They describe PMTCT services and their importance and refer pregnant

women and their spouses for C&T. During the last year of the project, IntraHealth put additional emphasis on building the capacity of HEWs to mobilize the community for PMTCT, to link HIV-positive pregnant women to the health care system, to provide NVP at the community and household level (through a special pilot described below) and to find HIV-positive pregnant women lost to the system.

Key results

- Community mobilization training was conducted at 76 sites.
- Using the existing network of master trainers, 733 HEWs were trained on PMTCT services (e.g., components of PMTCT services, the importance of referral of pregnant women for ANC/PMTCT services, linkages to other care and support services, and case follow-up).
- 152 PMTCT counselors and woreda HEW coordinators were trained in supervising HEWs as members of the PMTCT care team and strengthening community-facility linkages.

Table 11 shows the results of HEWs' subsequent engagement in PMTCT outreach activities in the community.

Table 11. Key Referrals in Community Mobilization Activities by HEWS in PMTCT: October 2006 - September 2007

Activity	Total
# of pregnant women referred for ANC by the HEW	**2,044**
# of pregnant women referred for delivery	**339**
# of mothers referred for family planning	**476**
# of partners referred to HC for HIV C&T	**746**

Some of the challenges faced in engaging HEWs in community mobilization are noted below (Table 12). These challenges are typical of projects in which community-based health care providers are asked to assume additional responsibilities.

Table 12. Challenges and Resolutions in HEW Community Moblization for PMTCT Intervention

Challenge	Resolution
Lack of regular incentives for HEWs	Quarterly review meetings are used as an opportunity to address this.
Distance of HEW assignments from the HCs	This will continue to be a challenge unless PMTCT services are brought down to the health-post level.
Lack of transportation means and funds to bring referred mothers to the HC	This will also continue to be a challenge unless PMTCT services are brought down to the health-post level.
Inconsistent monthly reporting (including failure to report)	The IntraHealth monitoring and evaluation specialist will help revamp the data reporting system and work with regional officers to encourage providers to report regularly.
Woreda Health Officer/HEW coordinators busy with many other responsibilities to emphasize community mobilization once HEWs on-site	Skill-building on community mobilization will be integrated into the pre-service HEW training so that upon placement in sites, they will know community mobilization strategies.

Some of the results of community mobilization activities must be considered cautiously because of challenges in data collection, e.g., mobilizers having to estimate the number of attendees at meetings and the undercounting that occurs when individuals go to HCs on referral but do not take the referral card with them.

D. Monitoring & Evaluation (M&E)

To monitor project outcomes, data collection was undertaken at all HCs supported by Hareg on a monthly basis. Data were collected from each HC and reported to project headquarters in Addis Ababa. These data were used to track project performance, to provide reports to stakeholders and to inform project decision making. For the latter purpose, during supportive supervision visits, feedback was provided on results and means of improving results were reviewed.

Special Data Collection Campaign for End-of-Project Report

Due to rapid site expansion in fiscal year 2006-2007, significant problems were encountered in collecting monthly PMTCT reports from the sites in a timely manner and reporting those results to headquarters in Addis Ababa. The volume of missing data led to a special data collection campaign conducted from November 22 to December 10, 2007 to collect all missing data from the inception of the project to September 2007.

For this data collection campaign, the following methodology was used:

- Sites with months of missing data were identified from the project database.
- Professional data collectors were employed.
- A one-day training session was conducted with the data collectors.
- Supervision of data collection in the field was conducted by regional project officers.
- Data cleaning and entry in the database was conducted by Hareg's HMIS officer and a trained data entry staff member.
- Data analysis was conducted by Hareg's M&E Officer.

A total of 135 sites were involved in the data collection campaign. Missing data from 18 HCs were not collected due to service interruption caused by loss of trained individuals and a shortage of test kits.

IV. Innovative Interventions

A. Mothers' Support Groups

A key barrier to success in PMTCT programs is mothers lost to follow up: HIV-positive mothers who never return to the HC to receive prophylaxis for themselves and/or their infants. Upon learning of a successful South African program (Mothers to Mothers, or M2M), IntraHealth sent two staff members to South Africa to assess the program's appropriateness for adoption in Ethiopia. Adapting the program's methods and training materials, IntraHealth began Mothers' Support Groups (MSGs) in four pilot sites in 2005. During COP 06, the number increased to 34 support groups.

In an effort to increase awareness about HIV and to provide psycho-social and emotional support to mothers living with HIV, IntraHealth begins by training MSG site coordinators. These are staff members of the HCs where MSGs are located, and they work with IntraHealth to identify, train and support mother mentors. These HIV-positive women lead the MSGs. The MSGs educate and mentor HIV-positive mothers and connect them with other HIV-positive mothers. Mothers' Support Groups address the special needs of pregnant and postpartum women living with HIV and caring for new infants. HIV-positive mothers, guided by mentor-mother facilitators, discuss topics of mutual interest, including:

- How to disclose their HIV status to partners and others
- How to confront stigma and discrimination
- Adherence to the PMTCT process including ART
- Infant feeding options
- How to prevent unintended pregnancy in the future through family planning
- Safer sexual practices
- Linkages with other programs and services to strengthen women's health and decision making (e.g., nutritional support, income-generating activities and skills training)
- Living positively.

As with others aspects of this project, there was also a rapid scale-up of MSGs from 2006 to 2007 (Table 13).

Table 13. Establishment and Distribution of Mothers' Support Groups By Region: October 2005 - September 2007

Region	# MSGs at Year End: Sept 2006	# MSGs at Year End: Sept 2007	# Mother Mentors Trained
Addis Ababa	3	7	28
Amhara	-	10	40
Oromiya	1	8	32
SNNPR	-	4	16
Tigray	-	3	11
Dire Dawa	-	2	8
Total	**4**	**34**	**135**

MSGs are popular in many sites and have not only provided many HIV-positive women with support and education but have also assisted in instilling a sense of empowerment. As an example of this, there are now three sites where mother mentors have initiated additional MSG activities by themselves, organizing coffee ceremonies in the volunteer mother's house or outdoors. During the coffee ceremony, the volunteers use the time to deliver reproductive health/HIV/PMTCT messages to other mothers in the community. These mother mentors are

also organizing a PLWHA association in order to obtain legal recognition from concerned bodies. IntraHealth is examining ways to continue to support such developments. Some sites in the early period of the intervention initiated male partner groups; however, additional support is necessary in order for male partner groups to succeed.

Key results of MSG Intervention (October 2005 - September 2007)

- Enrolled 1,566 mothers in the program
- Linked 998 women to care and support
- Trained 135 mother mentors and 60 site coordinators at the HC level
- Trained 138 mothers in home-based care
- Graduated 234 mothers from the MSG
- Referred 998 mothers to treatment, care and support (ART, OI, FP, pediatric care)
- Linked 34 women with income-generating activities
- Included the MSG program in the national HIV/AIDS road map
- Created and adapted Ethiopia-appropriate MSG training materials, translated into Amharic
- Created and adapted M&E and reporting tools and translated them into Amharic (plans are underway to translate them into Tigrinia and Oromifa).

Table 14. Challenges and Resolutions in MSG Intervention

Challenge	Resolution
Shortages of meeting space for the mothers	Negotiation with the Woreda Health Office and HC directors for space to be allocated
Some site coordinators are not highly motivated to support the MSG program.	Initially, site coordinators were not reimbursed for their time. Starting in November 2007, site coordinators were paid a monthly stipend of 200 birr/month.
Some mentors stop working for personal reasons.	Mentors deploy other committed mother members and orient them with site coordinators and IntraHealth regional staff. The formal MSG mother mentor training will be given to them during expansion training under Capacity Project.
There is a lack of organizations working on income-generating activities (IGA) for mothers graduated from the MSGs. (Currently only six IGA organizations have been identified in the areas surrounding the 34 sites.)	A plan has been developed and budget allocated to enable these organizations to support mothers from the MSGs in their communities post-graduation.
Lack of standardized, locally sensitive MSG training materials. The South Africa manual has been used with some modification.	IntraHealth adapted and created Ethiopia-appropriate MSG training materials and translated them into Amharic. Continue working with HAPCO and other partners to finalize and standardize the training packages
Mentors did not take early measures to track group members lost to follow-up.	The M&E tools will be revised, making it easy to quickly identify mothers lost to follow-up. Mentors and site coordinators will increase the number of home visits to encourage mothers to participate in the program. The monthly stipend now covers telephone calls to track mothers lost to follow-up.

Challenge	Resolution
Lack of OI prophylaxis in some HCs discourages mothers from attending MSG sessions regularly.	Exploring other means for the mother to get OI prophylaxis such as referring mothers to the hospital with a prescription

B. Pediatric HIV/AIDS Support

Reduction of child mortality by two-thirds is one of the Millennium Development Goals. Despite pediatric HIV infection emerging as a major contributor to infant and childhood mortality, very little has been done at the national level in Ethiopia to curb the infection in children and to provide continuous support and care to those who are infected. The prevailing referral system in general, and for children in particular, has been weak, as evidenced by the fact that very few children have received OI prophylaxis or ART.

To reduce the impact of HIV on children, a Comprehensive Pediatric Care and Support (CPCS) intervention aimed at health posts (HPs) and HCs was launched in January 2007. The project was designed to reach 120 HCs and three satellite HPs associated with each HC. The primary purpose of the intervention was to enhance pediatric case detection and early referral to HCs for support and care in the intervention sites. Later, this service was to be extended to other sites in Ethiopia. To further support the CPCS, IntraHealth has trained providers in general pediatric case management, thus equipping them to use the Integrated Management of Newborn and Childhood Illness (IMNCI) strategy, developed by WHO and UNICEF to tackle the major diseases of early childhood such as diarrhea and measles.

The intervention objectives were:

- To increase case finding of HIV-positive children
- To improve care and support for HIV-positive children
- To strengthen referral linkages for HIV-positive children.

Key Results of Pediatric HIV/AIDS Support

Table 15. Key Pediatric HIV/AIDS Intervention Results: October 2006 - September 2007

Service Delivery	Target	Achieved	%
# of HCs involved in pediatric case detection and referral	120	68	57%
# of HPs with capability of detection and referral	360	196	52%
# of health care providers trained in IMNCI/pediatric HIV	240	193	80%
# of facilitators (nurses/doctors) trained to support pediatric HIV	12	6	50%
# of HEWs/TBAs engaged in case detection and referral	960	752	78%
# of HEWs/TBAs trained by IntraHealth for detection and referral	720	453	63%
# of new cases of infants and children tested for HIV (<15 years)	4,000	2,419	61%
# of children who tested HIV-positive	200	497	248%
# of HIV-positive children referred for pediatric ART initiation	200	264	132%
# of HIV-positive infants and children receiving complete pediatric care	160	85	53%

As shown in Table 15, a high proportion of children tested for HIV had a positive result (21%). This suggests the effectiveness of case detection. Challenges still exist with referral and treatment initiation for children. As the table shows, just over 50% of children testing HIV-positive were referred for pediatric ART initiation. They were referred to the nearest ART hospital as well as to HCs during the last several months of the project (some HCs had initiated pediatric ART by then). Some reasons for insufficient referrals include providers waiting for clinical symptoms to appear. For those referred, providers often do not receive feedback on the status of clients treated at hospitals and, thus, do not know whether or not they receive complete pediatric care.

Table 16. Challenges and Resolutions in Pediatric Intervention

Challenge	Resolution
All expected regional sites did not start implementing CPCS simultaneously as intended.	IntraHealth increased and refocused region-based program staff to support start-up and supportive supervision
The reporting system was not closely followed by HC providers.	Established new HMIS practices in collaboration with MOH and RHBs Additional IntraHealth staff placed in regional offices to support data collection processes
Test kit shortages	Communicated with RPM+, RHBs, and federal HAPCO Secure supply of test kits now in place
Referral of pediatric HIV-positive clients currently being made to hospital while their parents are receiving ART at HC level	Advocate for the initiation of pediatric ART services at HC level
Unavailability of early infant diagnostic services	Work with Columbia University to advocate for rapid scale-up of Dry Blood Sample services and training of appropriate staff

C. HEW Nevirapine Facilitation Pilot Intervention

One aspect of the Hareg PMTCT project that has been particularly challenging has been the low numbers of women who come to HCs for ANC for deliveries (94% deliver at home) and for NVP for themselves and their infants. In March 2007, IntraHealth began a pilot intervention designed to address these problems.

The approach used in the pilot was to incorporate rural HEWs into PMTCT services in six HCs: three each in Tigray and Amhara, along with associated HPs, 18 and 15 respectively. This was done by enabling them to 1) provide HIV-positive pregnant women and their infants with NVP at home, and 2) continue follow-up with infants born to HIV-positive women to ensure that they receive appropriate follow-up care (e.g., referrals to HCs for OI and for HIV testing). They were also encouraged to refer pregnant women to HCs for HIV testing.

The intervention included training 58 HEWs, 17 PMTCT counselors, and 11 woreda officials (Health Extension Package experts, WHO heads). The HEWs were trained in referring pregnant women for ANC/PMTCT consultation, delivering NVP to women and their infants at home, understanding the concept of shared confidentiality between providers and clients, and the reporting system. The PMTCT counselors received training in the system of referring HIV-positive pregnant women to HEWs, in how to prepare infant syringes of NVP and deliver them to the HPs, and in the reporting system. The woreda personnel were trained in the HEW PMTCT intervention and in conducting monthly meetings with the HEWs and the PMTCT counselors.

The pilot also included establishing a system for delivering NVP tablets and syrup, as needed, to the HPs, developing a record-keeping system and providing follow-up supervision for HEWs and PMTCT counselors.

Key Results for HEW / Nevirapine Pilot

At the end of August 2007, data were compiled for the first six months of the intervention.

Table 17. Key Results for HEW NVP Pilot Program (first six months): March 2007 - August 2007

	Amhara	Tigray	Total
# of pregnant women referred by HEW for ANC/PMTCT services	439	598	**1,037**
# of pregnant women in the HEW catchment areas who tested HIV-positive	8	29	**37**
# of HIV-positive women under follow-up by HEWs	8	29	**37**
# of HIV-positive women with a delivery due date in the reporting period and living in the catchment area of the HEWs	7	29	**36**
# of HIV-positive pregnant women who received NVP from HEWs	6	7	**13**
# of infants of HIV-positive mothers who received NVP from HEWs	3	3	**6**

The most important result was that from March to August, in the 33 HPs in the pilot, a total of 13 HIV-positive pregnant women and six of their infants received NVP from the HEWs (see Table 17). During this period, 36 HIV-positive women had a delivery due date.

Table 18. Challenges and Resolutions In HEW NVP Pilot

Challenge	Resolution
HEW turnover was considerable during the six months.	More frequent training of HEWs
HEWs were often absent for training purposes.	Recommend coverage scheme so that only one HEW is gone at a time, or there is coverage from the HC
Bringing infants regularly to the HC for OI presents a barrier to access.	Devise OI provision at the health-post level
Low frequency of HIV testing outreach from HC to HP	Advocate with RHBs to monitor outreach frequency Monitor and report back to RHBs
Low frequency of supportive supervision from the HC to the HP	Increase supportive supervision visits by IntraHealth staff
HEWs too few to cover all households	Involve TBAs in referring, either to HEWs or to HC

V. Conclusions

Over the life of the Hareg Project, PMTCT has been transformed from a tiny, donor-driven, vertical pilot project implemented in four hospital sites with the support of UNICEF to a full-fledged MOH-owned program. Starting in 13 pilot HCs and 10 hospital sites in 2004, the PEPFAR-supported PMTCT program is offered, as of January 2008, in approximately 300 sites (248 supported by IntraHealth Ethiopia through the Capacity Project). The MOH has now declared PMTCT a regular HC service that will be provided in all health facilities in Ethiopia within the next two years. Throughout the project, IntraHealth Ethiopia has led a large and diverse team to reach the goals of scaling up the service to significant numbers of HIV-positive expectant mothers in Ethiopia.

While the successes have been many, great challenges remain. In order to overcome the low ANC coverage, low PMTCT uptake, and mothers lost to follow-up, a redoubled effort will be needed on everyone's part. Many of the proposed and enacted resolutions identified from the challenges faced by Hareg during the past three years are being implemented under the Capacity Project for 2007-2008. With the infusion of additional funds, IntraHealth will be able to devote needed resources to regionally based staff who can provide support on a regular basis to improve delivery of PMTCT services, data collection, training and retraining of staff, and community mobilization. Innovative interventions including the Mothers' Support Groups and pediatric HIV/AIDS care will be expanded, reaching additional families infected and affected by HIV/AIDS.

In sum, the Hareg Project has provided a strong base for continued expansion and strengthening of PMTCT services in Ethiopia.

Appendix 1: Geographical Scope

At the end of September 2007, IntraHealth Ethiopia supported the delivery of comprehensive PMTCT services in 248 facilities in all administrative regions in the country.

Regions	Health Facility	MSG	HEW	CPCS
Addis Ababa				
	Addis Ketma	X		
	Bole	X		
	Kebena			
	Lideta	X		
	Kaliti	X		
	Teklehimanot	X		
	Nefassilk	X		
	Selam	X		
Afar				
	Assaita			
	Awash			
	Chiro			
	Gewane			
	Worer			
	Abala			
Amhara				
	Addis Zemen			
	Adet			X
	Adirkay			
	Amanuel			
	Ambagiorgis			
	Amdework/Dehana			
	Ararti			
	Ataye			
	Bahir Dar	X		X
	Bati	X		X
	Bichena	X		X
	Burie	X		
	Cefarobit			
	Chagni			
	Dangla			X
	Debark			
	Debrebirhan	X		X
	Debremarkos	X		X
	Debresina			
	DebreTabor			
	Debrework			
	Dejen			
	Delgi			
	Dembecha			X
	Dessie	X		X
	Durbete			
	Estie	X		
	Flakit			
	Gomedwoin			
	Haike			X

Regions	Health Facility	MSG	HEW	CPCS
	Hajibar			
	Hara			
	Harbu			
	Injibara			
	Janamora			
	Jiga			
	Kelela			
	Kemissie			X
	Kobo	X		X
	Kokit			
	Kombolcha	X		X
	Kutaber			
	Kuyi			
	Lalibela			
	Majete			
	Maksegnet			
	Masha / Mekdela			
	Mekaneselam			
	Meragna			
	Merawi			
	Merssa			
	Mertolemariam			
	Metema			
	Molale			
	Mota			
	Muja			
	Nefas mewcha			
	Rabel			
	Sanja			
	Sanka			
	Sayint			
	Segno Gebya			
	Sekota			
	Semada			
	Senbete			
	Shawara			
	Shinaf			
	Shoarobit			X
	Tenta			
	Tikil Dingay			
	Tilil			
	Wegel Tena			
	Woldia			
	Woreilu			
	Woreta			
	Wuchale			
	Zemero			
	Zequala/tsetseka			
Benishangul-Gumuz				
	Assosa			
	Bambassi			
	Dangur			
	Dibate			

Regions	Health Facility	MSG	HEW	CPCS
	Kamashi			
	Menge			
Dire Dawa				
	DireDawa			X
	Legehare	X		X
	Melkajebdu			
	Sabian	X		X
Gambella				
	Abobo			
	Etang			
	Meti			
Harari				
	Erer			X
	Hassenge			X
Oromiya				
	Abomssa			X
	Adama	X		X
	Adola			
	Adulala			
	Agarfa			
	Agaro			
	Alem Teferi			
	Alemaya			
	Ambo			X
	Anfilo			
	Arssi Negele			
	Assebot			
	Assela			X
	Babile			
	Badessa			
	Bedeno			
	Bekoji			
	Bishoftu			X
	Boke			
	Bulbula			
	Chancho			X
	Chelenko			
	De'era			X
	Delomena			
	Dembidolo			
	Dodola			
	Dukerm			X
	Fiche			X
	Fincha			
	Gassera			
	Gida			
	Gidami			
	Ginchi			X
	Gulisso			
	Gutin			
	Hirna			
	Holeta	X		X
	Ijaji			X
	Jaldu			X

Regions	Health Facility	MSG	HEW	CPCS
	Jara			
	Jarsso			
	Jarte			
	Jimma Arjo			
	Karamile			
	Keto			
	Kofele			
	Kombolcha East Hararge			
	Kombolcha East Wolega			
	Kuyu	X		X
	Lemen			
	Limu Genet			
	Limu Kossa/Atango			
	Mega			
	Meki			
	Mendi			
	Messala			
	Metehara			X
	Micheta			
	Mojo	X		X
	Moyale			
	Nejo			
	Nekemte	X		
	Robe			X
	Sagure			
	Sebeta			X
	Sendafa			X
	Shakisso			
	Shashemene	X		
	Sheno			X
	Tedecaha Belo			
	Teji			X
	Tulu Bolo			X
	Wadera			
	Water			
	Wayu			
	Wolenchiti	X		X
	Wolisso			X
	Yabello			
	Zeway			
SNNPR				
	Alaba	X		X
	Arbamich	X		X
	Areka			X
	Birbir			X
	Boditti			X
	Burebulshana			
	Butajira			X
	Chiri			
	Chuko			X
	Derara			

Regions	Health Facility	MSG	HEW	CPCS
	Durame			X
	Endibir			X
	Fasha			
	Gessachere			
	Gunchire			
	Hossaena			X
	Karate			
	Kela			
	Ketchi			
	Keyafer			
	Kibet			
	Koyeb			
	Lante			
	Leku			
	Lera			
	Mirababaya			
	Mizan			X
	Morsito			X
	Mugo			
	Sheko			
	Shele			
	Sheshinda			
	Sodo	X		X
	Soyama			
	Teppi			X
	Turmi			
	Uffa			
	Waka			
	Wolkite	X		X
	Yirgalem			X
Somali				
	Jijiga			
Tigray				
	Adidaro			
	Adigoshu			
	Adigrat	X		
	Adishehu			
	Adwa			
	Alamata			
	Atsbi			
	Axum	X		
	Edaga Arbi			
	Enticho			
	Fatsi			
	Firewoyni			
	Hawzen			
	Humera			
	Korem			
	Mehoni			
	Micadra			
	Michew			
	Samre			
	Seleklaka	X		
	Wukromariam			