



The Cost of Family Planning in Ethiopia

FEBRUARY 2010

Introduction

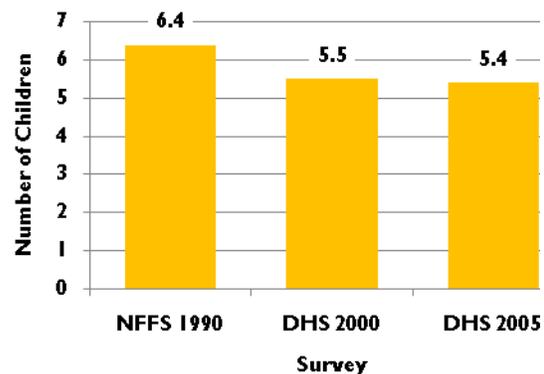
This brief presents the main findings of a multi-country study conducted in support of USAID's efforts to help national governments increase modern contraceptive prevalence. The study's main objective is to promote understanding of the aggregate costs of increasing the use of family planning (FP). The USAID | Health Policy Initiative, Task Order 1 analyzed the costs of actual FP service provision, identified key barriers to increased uptake of family planning, and estimated the cost of reducing these barriers. This brief focuses on the cost of FP service provision in Ethiopia.

Fertility and Family Planning

Ethiopia is the second most populous country in Africa, with a 2008 population of almost 78 million people and an annual population growth rate of 2.6 percent. According to the 2005 Ethiopia Demographic and Health Survey (DHS), the total fertility rate (TFR) in that year was 5.4 children per woman. The TFR declined from 1990 to 2000 but has leveled off since then (see Figure 1). There are substantial variations in TFR among regions; women in Somali and Oromiya have more than 6 children on average, while in Addis Ababa, they have 1.4 children. Overall, fertility is highest in Ethiopia's rural regions and among the poorest and least-educated women.

Over the last two decades, Ethiopia has made great progress in increasing awareness and knowledge of family planning. For example, more than 85 percent of married women now know at least one contraceptive method. However, as recently as 2005, only 14 percent of married women ages 15–49 used a modern method of family planning.

Figure 1. Total Fertility Rates, 1990–2005



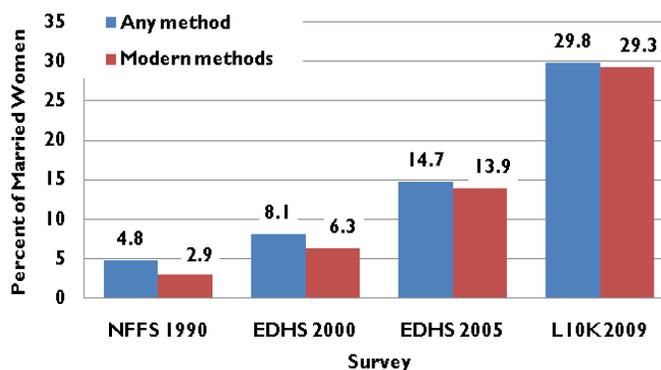
Sources: National Family and Fertility Survey (NFFS) 1990; EDHS 2000, 2005.

National surveys have found consistent increases in the contraceptive prevalence rate (CPR) from 1990 to 2005 (see Figure 2). The pace of CPR growth appears to be accelerating, although confirmation of this trend awaits the findings from the DHS scheduled for 2010.

Under the USAID-funded Last 10 Kilometers (10K) project, John Snow Inc. conducted a survey in the four most populous regions of Ethiopia in early 2009. This survey found that contraceptive prevalence had nearly doubled in the project areas (from 15% in the comparable 2005 DHS areas to 32% in the L10K areas).¹ Virtually all of the increased contraceptive use came from injectables, which are now provided by community health extension workers (HEWs). While these findings might not be generalizable to the entire country, they are cause for optimism that family planning use is growing rapidly.

¹ For more information, see http://www.jsi.com/EthiopiaL10K/Presentations/wuleta_betemariam.pdf.

Figure 2. Contraceptive Prevalence, 1990–2009

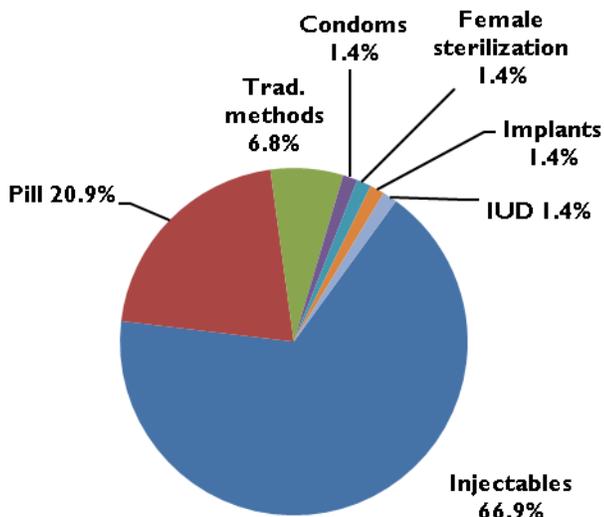


Sources: NFFS 1990; EDHS 2000, 2005; LI0K 2009.

Method Mix

Most users of contraceptives in Ethiopia—approximately 67 percent—choose injectables. The second most popular method is the pill, which is the method of choice for 21 percent of users. About 7 percent use traditional methods. Long-term methods, such as the intrauterine device (IUD), implants, and female sterilization, accounted for 4 percent of users in 2005 (see Figure 3).

Figure 3. Contraceptive Method Mix, 2005



Source: EDHS 2005.

Unmet Need

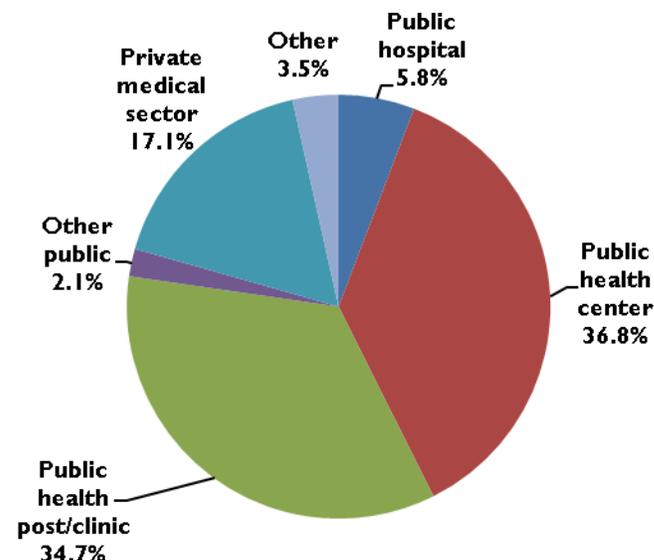
According to the 2005 DHS, 34 percent of married women ages 15–49 in Ethiopia had an unmet need for family planning—20 percent of those women expressed a desire to space births for at least two years and 14

percent wanted to limit them. Even in Addis Ababa, where 45 percent of women were already using family planning in 2005 (three times the national average), there was still an unmet need of 23 percent.

Family Planning Providers

Based on the 2005 EDHS, 80 percent of current FP users obtained their methods from the public sector, 17 percent from the private medical sector, and 3 percent from other sources. The most important sources of contraceptives in the public sector were government health centers and health posts/clinics, which provided FP methods to 37 and 35 percent of current users, respectively (see Figure 4). Government facilities were the leading providers of injectables (85% of total users) and pills (71% of total). Almost three-quarters of condom users obtained their supplies from other sources, predominantly commercial shops.

Figure 4. Sources of Contraception,² 2005



Source: EDHS 2005.

Cost of FP Service Provision

Costs of Commodities

Table 1 shows the average costs for contraceptives and other medical supplies per FP user in the public sector. Commodity prices are based on the average unit cost of contraceptives procured by the donor agencies for

² The Health Extension Workers (HEWs) program was not in existence at the time of the 2005 DHS, so HEWs are not included in Figure 4.

Ethiopia in 2008, as calculated from USAID’s RHInterchange database.³ Other supplies include items such as gloves, syringes for injectables, pregnancy tests, and antiseptics. An additional 10 percent was added to the cost for in-country storage and distribution.⁴ Costs per couple-year of protection (CYP, or the cost to protect one couple for one year) range from \$0.18 for the IUD to \$8.70 for implants.

Table 1. Public Sector Commodity Cost per Unit and CYP, US\$, 2008

	Contra- ceptive cost per unit	No. of units required per year	Contra- ceptive cost per year	Including required supplies	CYP	Cost per CYP
Pills	\$0.29	13	\$3.38	\$3.99	1	\$3.99
Injectables	\$0.85	4	\$3.08	\$3.93	1	\$3.93
IUDs	\$0.35			\$0.55	3 ⁵	\$0.18
Implants	\$24.64			\$26.09	3	\$8.70

Sources: USAID; RHInterchange; donor data 2008.⁶

Personnel Costs

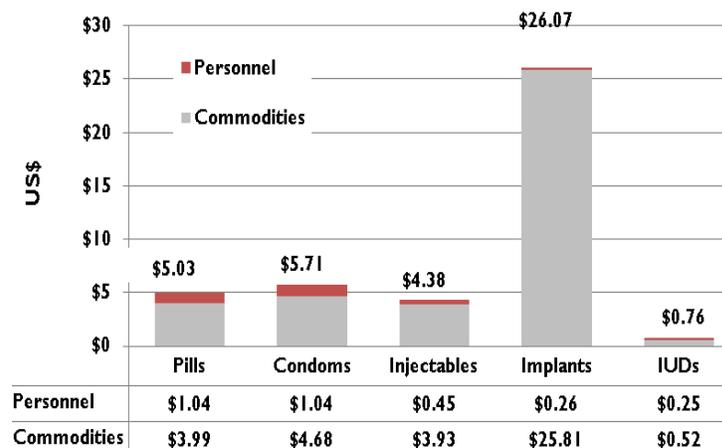
To calculate personnel costs per FP user, the Health Policy Initiative study team visited a representative sample of health facilities in three provinces (Addis Ababa, Oromiya, and Tigray). Through interviews and observation of medical staff involved in the FP service delivery at the facilities, the study team assessed how much time clinic staff spent on typical FP visits. Time estimates were obtained for all of the main methods and all visit types (initial visit; follow-up visit; and, for long-term methods, insertion and removal visit).

The main providers of FP services in Ethiopia are nurses, midwives, and, increasingly, female HEWs, who perform community-level outreach. These staff provide all methods, aside from female sterilizations, which are performed by doctors. The study team calculated a salary cost per minute based on annual salaries, including benefits. The team then adjusted this number to take into account vacation, downtime, and other time on the job not spent with clients. (For HEWs, this included the time spent on the road and visiting women in their homes.) For a nurse/midwife, at an average annual salary of about \$850, the cost per minute spent with an FP client was estimated at between \$0.01 and \$0.02. For an HEW, who receives an annual salary of about \$600, the

equivalent cost was \$0.02 (slightly higher due to the large amount of time an HEW spends on travel).

The study team calculated costs for commodities and personnel for both initial and follow-up visits and then added these to estimate the average cost incurred over the course of a year of use. Figure 5 shows the direct cost of service provision for a new acceptor in her first year of contraceptive use. Total costs ranged from less than \$1 for an IUD to \$26 for an implant.

Figure 5. Government Facility—Cost in Initial Year of Use, 2009



The team calculated costs per CYP based on the above calculations. For short-term methods, such as pills or condoms, the cost per CYP is essentially the cost of commodities and visits during one year.⁷ For long-term methods, such as IUDs, it is the cost of all commodities and personnel required over the length of the method’s use (this includes the initial visit and insertion, all follow-up visits, and the visit for removal), divided by the years of protection provided.

Total direct costs per CYP ranged from \$4 for injectables to \$9 for implants. The exception was the IUD, with a low cost per CYP of \$0.30, due to extremely low commodity and personnel costs. Personnel costs ranged from \$0.12 to just under \$1 per user per year, with variations mainly due to the number of follow-up visits required for the different methods. Most commodity costs per user per year were in the \$4 to \$9 range, except the IUD, which cost \$0.18 per year of use,

³ See http://rhi.rhsupplies.org/rhi/index.do?locale=en_US.

⁴ Based on information on costs for in-country storage and distribution in Kenya; information on Ethiopia was not available.

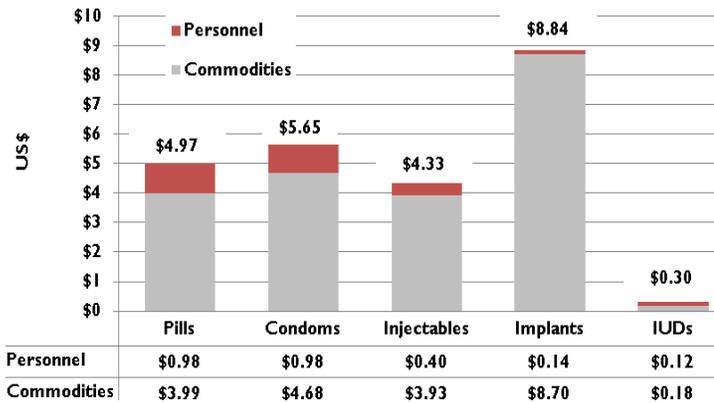
⁵ CYP based on average length of use of these methods.

⁶ Ten percent adjustment for storage and distribution costs.

⁷ The calculations recognize that the initial visit tends to cost more than follow-up visits. It was assumed that the average pill/injectable user stayed on the same method for three years. Average CYP was calculated by adding up the costs of each year and then dividing the total cost by three.

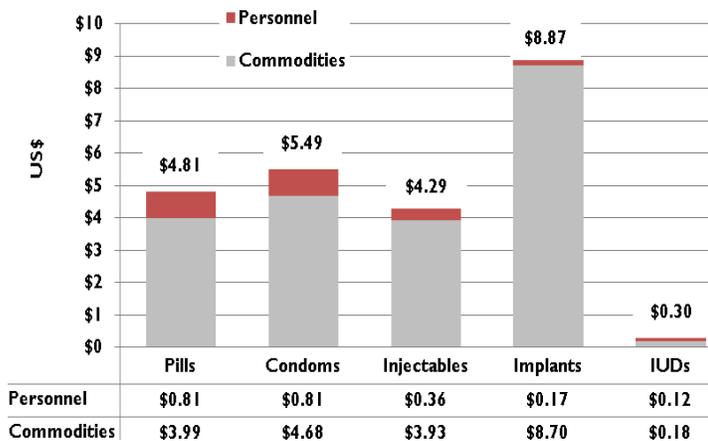
on average (see Figure 6). For pills, condoms, and injectables, personnel costs constituted between 10 percent and 20 percent of total costs. For implants, however, the personnel cost component was less than 2 percent.

Figure 6. Government Facility—Costs per CYP, 2009



For comparison, Figure 7 shows the average cost per CYP at a private clinic.⁸ Costs actually were quite similar, even though salary levels at private clinics were more than double those at government facilities. Visit times were shorter and fewer at private clinics, which negated the higher salary costs.

Figure 7. Private Clinics—Costs per CYP, 2009



⁸ To facilitate comparisons, the calculations used the same commodity costs as used for government facilities.

Cost of Increasing Contraceptive Prevalence Rate by One Percentage Point

The study team estimated how much it would cost to increase modern contraceptive prevalence in Ethiopia by one percentage point in 2009. Based on the LK10 2008 Survey and population data from the Ethiopian Census 2007, there were approximately 3.1 million Ethiopian women or couples using modern FP methods in 2008. A one percentage point increase in the contraceptive prevalence rate (CPR) to 30.3 percent by 2009, together with an expected 2.6 percent increase in the number of married women ages 15–49, was projected to result in an additional 190,000 users, bringing the total number of modern method users in Ethiopia to almost 3.3 million.

Table 2 shows the number of new acceptors expected to seek FP services at government facilities in 2009 if the government-provided share of FP services remained constant.

Table 2. Projected Number of New FP Users by Method with One Percentage Point Increase, 2009

	Total	Government facilities
Pills	15,571	10,386
Condoms	1,946	337
Injectables	165,439	121,928
Implants	2,595	1,586
IUDs	2,595	1,586
Sterilization	1,298	793
TOTAL	189,444	136,615

Using cost per new acceptor for the different methods (as presented in Figure 6), the total direct cost of providing them with family planning at government facilities was projected at about \$580,000 in 2009; \$560,000, or 98 percent of costs, would be for commodities.⁹ Table 3 shows the cost by method and cost type; it includes only commodity costs to government facilities, where current utilization is low and a one percentage point increase could easily be absorbed by the existing infrastructure and human resources.¹⁰

⁹ Excluding cost of female sterilization, which was not assessed in this study.

¹⁰ The method mix was updated from the 2005 DHS, taking into account recently observed trends of the rapid increase in use of injectables.

Table 3. Cost of Providing FP Services to Additional Number of Users at Government Facilities, 2009

	Commodity	Personnel	Total costs
Pills	\$41,470	\$10,754	\$52,224
Condoms	\$1,574	\$349	\$1,923
Injectables	\$478,813	\$1,169	\$479,982
Implants	\$40,918	\$419	\$41,338
IUDs	\$820	\$391	\$1,211
TOTAL	\$563,595	\$13,082	\$576,677

Cost of Meeting Ethiopia's FP Goals

The study team also estimated how much it would cost to achieve Ethiopia's goal stated in its Health Sector Development Program 2005–2010 of reaching a modern contraceptive prevalence of 60 percent by 2010. At the request of the government, the costing took into account the government's plan to distribute 3 million implants through health extension workers by the end of 2010.

Unlike the previous calculation that looked only at additional costs incurred by new acceptors, this scenario examined the cost of providing family planning to all users. To calculate total commodity requirements and costs, average cost per CYP, as presented above, was used to project the cost for short-term methods such as pills and injectables. For long-term methods, the study team used different cost estimates for the initial year of use and the following years to account for the fact that 90–100 percent of the cost of long-term methods is incurred during the first year of use.

Based on EDHS estimates of the number of users and average length of usage, the study team calculated how many women would adopt long-term methods in a given year and how many would visit the health system for removal of these methods.

It was assumed that no cost would be incurred for female sterilization after the first year; for IUDs and implants, a cost was calculated for the year of removal, with the assumption that no costs would be incurred in the years between insertion and removal.

The method mix was adjusted to reflect the government's plan to increase the share of implants in the total method mix. It was assumed that the number of women using the other FP methods would change according to the trends observed during the past few years of a rapid increase in the use of injectables. The

percentage of FP users choosing injectables was projected to increase from 26 percent¹¹ in 2008 to 30 percent in 2010. The percentage of women using the pill as their preferred method was projected to decrease slightly from the current 2.4 percent to 2.3 percent over the same period. To conform with the government's plan for a rapid increase in the use of injectables through HEWs, the study team assumed that the roll-out of implants through the HEW system would raise the percentage of married women using this method from 0.4 percent in 2008 to 27 percent in 2010.

Using the above method mix assumptions, there were projected to be about 3.3 million users of injectables, 3 million users of IUDs, and 257,000 users of the pill in 2010.

For lack of more recent data, provider mix was assumed to stay roughly the same as reported in the 2005 EDHS. The exception was the implant, which was assumed to be distributed entirely through the government's HEW system, as per the government plan.

Given all of these assumptions, it is projected that the annual cost of government-provided contraceptive commodities and supplies will increase from \$9 million in 2008 to \$88 million in 2010. Almost 90 percent, or more than \$77 million of that cost, would be for implants. This indicates a need for \$80 million in funding beyond the 2008 level of spending on commodities.

To achieve such a significant increase in the country's modern contraceptive prevalence in such a short time frame will require the Ethiopian government to implement an organized and well-financed effort. In particular, the rapid scale-up of the implant will necessitate a large investment in Ethiopia's health extension workers. The main expense will be the cost of training all 30,000 HEWs in implant insertion and removal skills within a very short time span. The government also will incur substantial costs for supervision, monitoring, and evaluation, as well as for the implementation of comprehensive information, education, and communication/behavioral change communication strategies to ensure that women in Ethiopia are aware of available contraceptive options.

¹¹ L10K data for 2008.

Methodology

For this study, the data collection process in Ethiopia included (1) a review of available FP data and studies, (2) interviews with key staff at organizations involved in family planning and healthcare providers at a sample of 20 public and private facilities, and (3) a one-day workshop with key stakeholders to discuss the barriers to increasing Ethiopia's contraceptive prevalence rate and the possible approaches to tackling these barriers.

The study limitations included the following: (1) the small sample size of health facilities and data captured over a brief timeframe may not be representative of facilities nationwide in Ethiopia; (2) estimations employed in the analysis were based on assumptions, as stated, that draw on latest international and national research but may not accurately reflect the actual situation in Ethiopia; and (3) views of the stakeholders represented at the workshop might not be representative of the views of the larger FP community.

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