



The Cost of Family Planning in Mali

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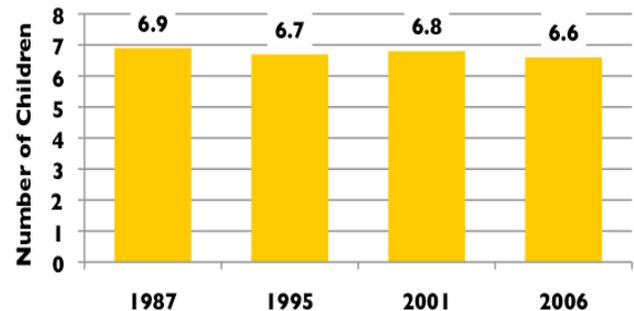
Introduction

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 direct cost of service provision in Mali and projects the cost to the government of increasing the contraceptive prevalence rate (CPR).

Fertility and Family Planning

Mali has a population of about 12 million people and one of the world's highest annual population growth rates at 3 percent. Current projections by the United Nations Population Division estimate that Mali's population will double by 2030 to more than 23 million people. Mali is a pronatalist society; people marry at a young age, especially women, and both men and women prefer large families. As a result, according to the 2006 Mali Demographic and Health Survey (MDHS), most girls begin childbearing before age 18 and have more than 6 children on average during their lifetime. From 1987 to 2006, Mali's total fertility rate (TFR) remained almost unchanged (see Figure 1). Closely spaced births, high fertility, and unintended pregnancies contribute to the lack of progress in key health and development indicators, including high rates of infant and maternal mortality.

Figure 1. Total Fertility Rates, 1987–2006

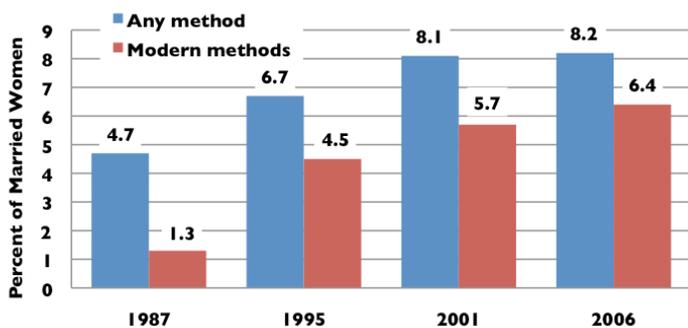


Sources: MDHS 1987, 1995, 2001, 2006.

The government of Mali has passed a series of resolutions to encourage the use of family planning since officially recognizing its importance in 1972, but progress has been slow. Despite a growing awareness of family planning, use of contraceptives has not increased much over the last 20 years and has essentially stalled during the last decade. In 2006, only 8 percent of married women ages 15–49 used any FP method and only 7 percent used a modern method (see Figure 2).

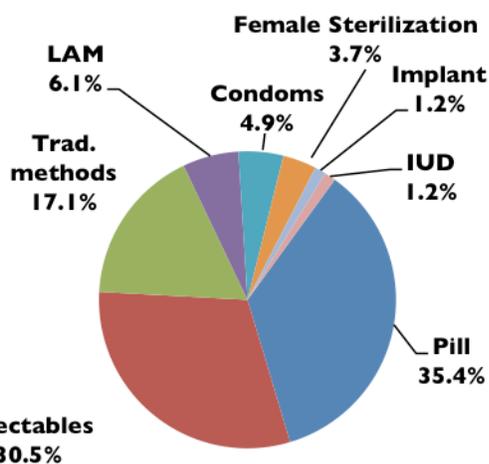
Oral contraceptives and injectables dominate the contraceptive method mix in Mali, and each accounts for approximately one-third of all FP users. About one in six (17%) FP users in Mali rely on traditional methods. Together, long-term methods—such as the intrauterine devices (IUDs), implants, and female sterilization—account for 6 percent of the total method mix (see Figure 3).

Figure 2. Contraceptive Prevalence, 1987–2006



Sources: MDHS 1987, 1995, 2001, 2006. Data for 2001 and 2006 include lactational amenorrhoea (LAM) as a modern method.

Figure 3. Contraceptive Method Mix, 2006



Source: MDHS 2006.

Unmet Need

According to the 2006 MDHS, 31 percent of married women in Mali have an unmet need for family planning—21 percent for spacing pregnancies at least two years apart and 10 percent for limiting them. This number is surprisingly similar across wealth and education levels and urban and rural areas—regardless of the number of women in these categories who actually use family planning (ranging from under 4% to 29%). However, there are large inequalities in FP demand and use, especially between the poorest and wealthiest populations. For example, only 10 percent to 15 percent of women in the poorest wealth quintile in the rural areas, among women with no formal education, who want to use family planning actually do. In contrast, 34 percent to 43 percent of women with a secondary education, in the wealthiest quintile, and living in Bamako have their FP needs met (see Table 1).

Table 1. Demand for Family Planning, by Group, 2006

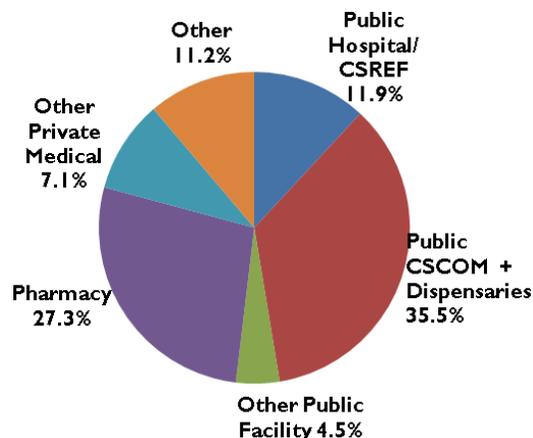
	Contraceptive prevalence	Unmet need	Total demand	% of demand satisfied
Poorest quintile	3.7%	31.7%	35.4%	10.5%
Wealthiest quintile	19.1%	33.6%	52.7%	36.2%
No formal education	5.6%	30.5%	36.1%	15.5%
Secondary education	29.0%	38.1%	67.1%	43.2%
Rural	5.1%	30.7%	35.8%	14.3%
Bamako	19.6%	37.6%	57.2%	34.3%

Source: MDHS 2006.

Family Planning Providers

Government facilities today serve about 52 percent of current modern method users (down from almost 80 percent 20 years ago). The private sector has increased its role in FP provision and now serves a 37 percent share of modern method users (see Figure 4). The major public service providers are community health centers, dispensaries, maternity clinics, and referral centers. Almost three-fourths of the contraceptives provided by the private sector are sold by pharmacies and street vendors. Other sources include shops and friends and family. Community-based distribution, which accounted for almost 6 percent of FP service provision during the mid-1990s, today accounts for just 1 percent. Figure 4 presents the provider mix for FP services.

Figure 4. Sources of Contraception, 2006



Source: MDHS 2006.

Cost of FP Service Provision

Costs of Commodities

Table 2 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 Mali in 2008, as calculated from USAID's RHInterchange database.¹ 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 (based on information from interviews with the Country Coordinating Mechanism or Central Medical Supply Store). The costs per couple-year of protection (CYP or the cost to protect one couple for one year) range from \$0.39 for IUDs to \$11.48 for implants.

Table 2. Public Sector Commodity Costs per Unit and CYP, US\$, 2008

	Contra- ceptive cost per unit	Number of units required per year	Contra- ceptive cost per year	Including required supplied	CYP	Cost per CYP
Pills	\$0.33	13	\$4.29	\$4.29	1	\$4.29
Injectables	\$0.98	4	\$3.92	\$4.18	1	\$4.18
IUDs	\$0.96			\$1.16	3	\$0.39
Implants	\$33.00			\$34.45	3	\$11.48

Sources: USAID RHInterchange; donor data 2008.²

Personnel Costs

To calculate personnel costs per FP user, the Health Policy Initiative study team visited a representative sample of health facilities, including government community health centers (CSCOMs in French), government health centers (CSREFs in French), nongovernmental organizations (NGOs), and private facilities. Through interviews and observation of medical staff involved in the provision of FP services 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 visits). Table 3 shows the staff time results for a typical CSREF facility.

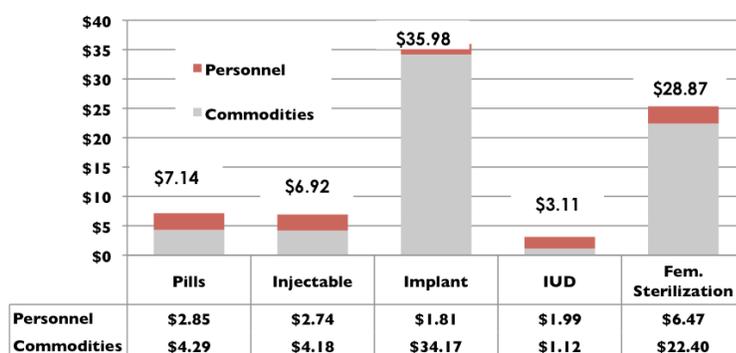
Table 3. Staff Time Requirements—Government Health Center, Minutes, 2009

Method	Initial visit	Follow-up visit	Number of follow-up visits	Total time over 1 year
Pills	23	19	3	80
Injectables	23	18	3	77
IUDs	48	8	1	56
Implants	46	5	1	51
Female sterilization	97	19	3	154

In Mali, nurses and midwives are the main providers of FP services at government health facilities. Doctors usually only see women who experience complications or those choosing tubal ligation. The study team calculated a salary cost per minute based on annual salaries, including benefits. The team then adjusted this number to account for vacation, downtime, and other time on the job not spent with clients. Midwives, for example, had an average annual salary of about \$1,700 and cost about \$0.04 per minute spent with an FP client. Doctors employed at CSREF facilities earned an average of \$3,400, which translated into a \$0.07 cost per minute of client contact.

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 the first year of contraceptive use. Total costs ranged from about \$3 for IUDs to about \$36 for implants.

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



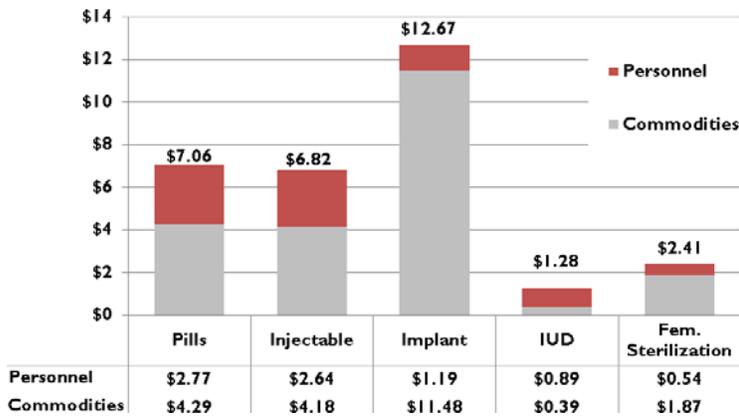
¹ See http://rhi.rhsupplies.org/rhi/index.do?locale=en_US.

² Ten percent adjustment for storage and distribution costs.

The team calculated costs per CYP based on the above calculations. For short-term methods such as pills or injectables, cost per CYP is essentially the cost of commodities and visits during one year.³ 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 for counseling 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 \$1 for the IUD to \$13 for implants (see Figure 6). Personnel costs per CYP ranged from less than US\$1 to less than US\$3, with variations mainly due to the number of follow-up visits required for the different methods. Commodity costs per CYP ranged from less than \$1 for IUDs to more than \$11 for implants. For pills and injectables, personnel costs constituted about 30 percent of total cost per CYP. For implants, however, the personnel cost accounted for less than 10 percent. Costs per CYP were lowest for the IUD and female sterilization; personnel costs were less than \$1 per CYP and commodity costs were less than \$2. For IUDs, personnel costs constituted about 70 percent of total cost per CYP; for female sterilization, commodities constituted about 77 percent of total costs.

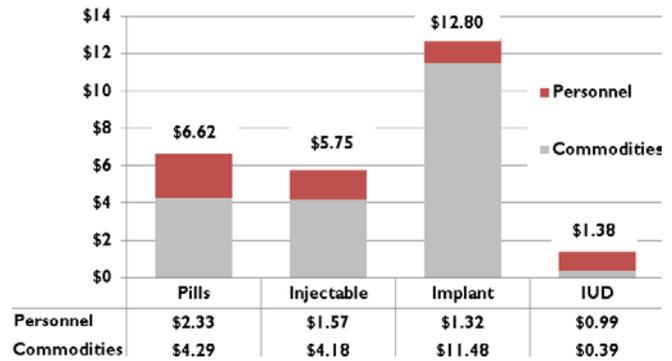
Figure 6. Government Facility—Cost per CYP, US\$, 2009



³ The calculations recognize that the initial visit tends to cost more than follow-ups. 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 cost of the first year (initial visit +11 and 3 follow-up visits, respectively) and the cost of the two following years (11 and 4 follow-up visits, respectively) and then dividing the total cost by three.

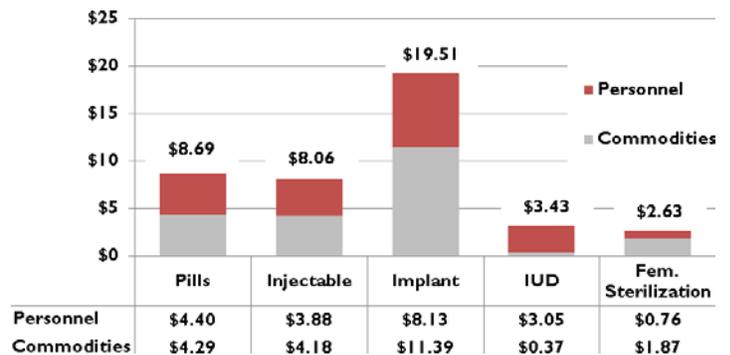
Figure 7 shows the average cost per CYP for an NGO-operated clinic, and Figure 8 shows the average cost for a private clinic for comparison. Costs at the Mali Association for the Protection and Support of the Family (AMPPF) clinic were found to be similar to the costs at the government facility. While salaries tended to be higher at NGO facilities, the average length of visits were shorter (both initial and follow-up visits). As was the case at government facilities, personnel costs constituted a small portion of total costs, while commodities accounted for the bulk of total costs.

Figure 7. AMPPF—Cost per CYP, US\$, 2009



As expected, costs at private clinics were higher because salaries were almost 50 percent higher and visit times were longer. Furthermore, a large proportion of women were seen by doctors, not midwives/nurses, who tended to be the main providers at government and NGO facilities.

Figure 8. Private Clinic—Cost per CYP, US\$, 2009



Cost of Increasing Contraceptive Prevalence by One Percentage Point

The study team estimated how much it would cost to increase modern contraceptive prevalence in Mali by one percentage point in 2009. Based on historic growth patterns, it was assumed that modern contraceptive use in 2008 was still 6.9 percent. This means that in 2008, there were approximately 156,000 women or couples who were using modern FP methods in Mali. A one percentage point increase in the contraceptive prevalence rate (CPR) to 7.9 percent by 2009, together with an expected 2.6 percent increase in the number of married or in union women ages 15–49, was projected to result in an additional 27,500 users, bringing the total number of modern method users in Mali to 181,200. Table 4 shows the estimated number of new users/acceptors—assuming that the CPR increased by one percentage point—projected to seek FP services at government facilities in 2009 if the share of services provided by the government remained constant.

Table 4. Projected Number of New FP Users by Method, with One Percentage Point Increase, 2009

	Total	Ministry of Health facilities
Pills	11,575	4,179
Condoms	1,597	59
Injectables	9,978	7,564
Implants	399	313
IUDs	399	239
Sterilization	1,197	920
Other	2,395	NA
TOTAL	27,540	13,274

Using cost per new user/acceptor for the different methods (as presented in Figure 6), the total direct cost of providing these new users with family planning at government facilities was projected to be \$112,000 for 2009.⁴ About \$81,500—or 73 percent—of the total direct cost for new FP users would be for commodities; about \$31,000 (27%) of the total direct cost would be for personnel. Table 5 shows the cost by method and cost type. These costs include only direct costs to government facilities where current utilization is low; a one percentage point increase could easily be absorbed by the existing

infrastructure and human resources, although utilization may vary between facilities and regions.

Table 5. Cost of Providing FP Services to an Additional Number of Users at Government Facilities, US\$, 2008

	Commodity costs	Personnel costs	Total costs
Pills	\$17,926	\$8,702	\$26,628
Condoms	\$390	\$49	\$439
Injectables	\$31,616	\$15,604	\$47,221
Implants	\$10,705	\$194	\$10,899
IUDs	\$269	\$476	\$745
Sterilization	\$20,596	\$5,792	\$26,388
TOTAL	\$50,777	\$135,753	\$186,530

Cost of Meeting Unmet Need by 2015

The Health Policy Initiative study team also estimated how much it would cost to meet the Millennium Development Goal of eliminating all unmet need for family planning by 2015. With unmet need at 31 percent, the total CPR would have to rise from the 8 percent observed in the 2006 MDHS to 39 percent to satisfy the FP needs of all married women in Mali by 2015 (both numbers include traditional methods).

Unlike the previous calculation, which looked only at additional costs incurred by new users, this scenario examines 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 MDHS estimates of the number of users and average length of usage, the team calculated how many women would accept 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 the IUD and implant, a cost was calculated for the year of removal, with an assumption that no costs would be incurred in the years between insertion and removal.

⁴ This constitutes only a small portion of the total government FP costs.

Assuming that the current modern method mix stays the same, with pills and injectables remaining the predominant methods of choice, there would be 442,000 pill users and 381,500 injectable users by 2015—up from 69,500 and 60,000 in 2008, respectively.

If the provider mix remains the same, 36 percent (or 170,900) of these pill users and 76 percent (309,300) of the women using injectables would seek care at government facilities. Including the other methods, in 2015, the government would need to spend approximately \$2.6 million on FP commodities and direct personnel costs to provide care at the government facilities. Commodity costs alone would account for most of this—approximately \$2.3 million.

Achieving a contraceptive prevalence of 39 percent would require large investments in Mali's health infrastructure, its facilities, and especially its health personnel. Mali would have to strengthen its logistics system and substantially expand its information, education, and communication/behavior change communication programs. The current approach of providing family planning mainly through facilities would need to be revisited, as access to health facilities remains a major problem for many women, especially those living in rural and remote areas.

Methodology

The data collection process in Mali included (1) a literature 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 public and private facilities, and (3) a one-day workshop with key stakeholders to discuss the barriers to increasing Mali'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 Mali; (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 Mali; 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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