



Case Study:

AAR Health Services, Kenya

IS THE PROVISION OF FINANCING A COST-EFFECTIVE INTERVENTION
TO MOTIVATE THE FOR-PROFIT HEALTH SECTOR IN THE DELIVERY
OF FAMILY PLANNING SERVICES?



Introduction

There has been much discussion of the role of private providers in health care delivery in developing countries. Traditionally, public health officials did not consider the services provided by private providers in planning public health programs, disregarding any potential for effective collaboration. More recently, within the context of health reform and private sector development, some look to the private sector as a panacea for a score of health system problems, ranging from inefficiency to poor quality services. Even under the current pro-private sector environment, there is not adequate research on how to support for-profit providers in ways that produce cost-effective public health outcomes.

Where there is demand and willingness to pay, and a supportive regulatory environment, for-profit providers have begun to enter the market and deliver services. Historically, these for-profit providers have mainly focused on curative care. Increasingly, however, for-profit providers are playing a larger role in delivering health services with public health outcomes, such as immunization or family planning.

In many countries, however, there are a number of impediments that have constrained the growth of the private sector. In some countries there are demand generation, willingness to pay issues, and regulatory constraints. In some cases, the private sector has also been slow to invest because it perceives lower income populations or certain types of services, such as family planning, to be less profitable or riskier. In addition, the private sector has been constrained by lack of financing. Commercial banks are often reluctant to lend to the private health sector, especially at the lower end of the market. In order to grow, many private providers are limited to their own savings or borrowing from friends and family. Accordingly, in many countries in the developing world, public providers continue to dominate the delivery of health services. In an environment of limited or uncertain financial rewards, external intervention may be required to encourage for-profit private providers to provide services with positive public health outcomes.

There are few tried and tested models of effective interventions to encourage the for-profit sector to deliver certain health services. Interventions must address the reasons why for-profit providers do not deliver certain services. These reasons vary depending on the location, target market, and targeted services. One of the approaches that has been used to motivate the private sector is the provision of financing, through loans or equity investments. The provision of financing has been used not only to address the access issue but some of the other impediments listed above. Understanding the impact of financing on alleviating impediments on the private sector is useful for improving the design of future interventions.

In a limited funding environment, it is not only important to examine whether financing can produce positive health outcomes, it is also important to see how the outcomes compare with the costs. Data on cost-effectiveness allows health officials to make efficient decisions regarding the kinds of strategies to

pursue with for-profit providers. Further, it allows comparison of interventions involving for-profit providers with interventions involving other types of providers (NGOs or government sector), to see how best to achieve desired health goals.

This paper examines the use of financing by the USAID-funded Summa Foundation, to motivate a for-profit provider, AAR Health Services in Kenya, to deliver family planning services and to enter a lower income market. This paper will examine the impact of financing on addressing impediments to the for-profit provider, the health outcomes, and the cost of the intervention, to determine whether this is a cost-effective way to achieve desired health outcomes. The paper will conclude with lessons learned for future interventions.

Background

The Summa Foundation was created as part of the U.S. Agency for International Development's (USAID) Promoting Financial Investments and Transfers (PROFIT) project. The objective of the PROFIT project was to facilitate private sector involvement in family planning. Summa was established as a mechanism for providing financing to promote sustainable private sector family planning ventures.

Summa believes that the private sector has an important role to play in improving health care throughout the world. It works with the private sector to overcome obstacles such as high risk and lack of financing. Summa provides flexible financing terms and technical assistance to enable health providers and organizations to enter new markets. The Summa Foundation now operates as part of the USAID-funded Commercial Market Strategies (CMS) project.

Through collaboration with the Kenya Health Care Financing project, Summa/PROFIT became familiar with private health care providers in Kenya. AAR Health Services was identified as the company best positioned to transition into a managed care company. Although it did not provide family planning services at the time, it expressed an interest in family planning.

AAR is a for-profit Kenyan company. It began operations in 1984 as Africa Air Rescue, providing emergency rescue services, and has evolved to become a premier health maintenance organization. It started its medical center business in 1993, opening the Williamson House Medical Center in Nairobi. AAR opened a second medical center in Mombasa the following year. By April 1995, its medical center membership had grown to nearly 9,000 clients. The business of providing comprehensive health care through its own medical centers was so successful that its medical center in Nairobi was near full capacity. AAR was interested in expansion opportunities, and focused on building a second medical center in Nairobi in the industrial area.

AAR medical center membership is marketed primarily to employers, who pay the premiums for their employees. Traditionally, AAR's clients were large multinational companies, who purchased the service for their executives. Slowly these companies wanted to enroll their entire workforce. In addition smaller companies also wanted to provide such benefits to their employees. AAR's expansion strategy included adopting managed care principles to control costs so that it could attract the larger, lower middle and middle income market, rather than just focusing on the high end market.

Goals of Intervention

Summa/PROFIT's long-term goals of this intervention were the following:

- 1) Integrate a full range of family planning services, including pills, barrier methods, spermicides, IUDs, female sterilization, and vasectomy, into AAR's package of prepaid services
- 2) Increase the number of new family planning acceptors
- 3) Contribute to the sustainable delivery of family planning services by the private sector
- 4) Shift family planning service provision from the public to the private sector
- 5) Assist AAR to enter a lower income market
- 6) Assist AAR to adopt managed care principals

Description of Intervention

The Summa Foundation provided a loan to AAR to establish a clinic system in the industrial area in Nairobi. Proceeds from the loan were used to build and equip a medical center and outreach clinic, as well as to support related activities, such as market research, and computer systems to support operations.

The loan was denominated in Kenyan shillings, so the Summa Foundation bore all foreign exchange risk. The total value of the loan was Ksh 23 million, approximately \$414,000 at prevailing exchange rates. The loan was to be repaid over six years, with a one-year grace period on interest and two years grace period on principal payments. Principal and interest were due semi-annually, with the principal repaid on an amortizing basis starting in the third year. Interest was adjusted annually, with an initial rate of 13%. Financing from Summa was below commercial rates, which at the time of the loan was approximately 16%-21%. Summa financing was also advantageous because of the longer term of financing, compared with commercial lenders who would only provide loans repayable within 2-3 years.

The original design of the clinic system included a medical center in the industrial area and three outreach clinics in surrounding residential areas. The clinic system was designed so that the outreach clinics would serve as gatekeepers, referring more complicated cases to the medical center, thereby adopting managed care principals and controlling costs. The Odyssey Plaza Medical Center was opened in September 1995. The first outreach clinic, in Kariobangi, was opened in December 1996. To-date, other outreach facilities have not been established.

The Odyssey Plaza Medical Center is located in the industrial area and primarily serves lower income members who work in the industrial area. For various reasons, including parking and transportation constraints at Odyssey Plaza, prestige of location, and habit, patients prefer to visit Williamson House. AAR has responded by moving some specialized services, such as gynecology, pediatrics, and immunization, to Odyssey Plaza. All family planning methods are available at Odyssey Plaza.

The Kariobangi Outreach Clinic was designed primarily to serve women and children, families of the workers in the industrial area. It offers minor curative services, as well as family planning, immunizations, basic maternal child health care, diagnosis and treatment of sexually transmitted diseases, HIV diagnosis and counseling, and health education. The clinic is staffed by a Kenyan registered nurse, a community nurse, and a nurse aid. All family planning methods, except for surgical methods, are available.

Technical Assistance

As one of the conditions of the loan, all AAR physicians and nurses were trained in family planning delivery. The PROFIT project provided this training and it was not included in the loan amount.

In 1996, the PROFIT project also funded technical assistance to promote AAR's services, including family planning services. Some activities funded included development of a corporate video, a formal launch event for Odyssey Plaza, and other promotional materials. PROFIT agreed to these additional activities, which included messages about family planning, with the goal of maximizing the potential for family planning impact.

Success in Achieving Goals

GOAL 1: INTEGRATE A FULL RANGE OF FAMILY PLANNING SERVICES INTO AAR'S PACKAGE OF SERVICES

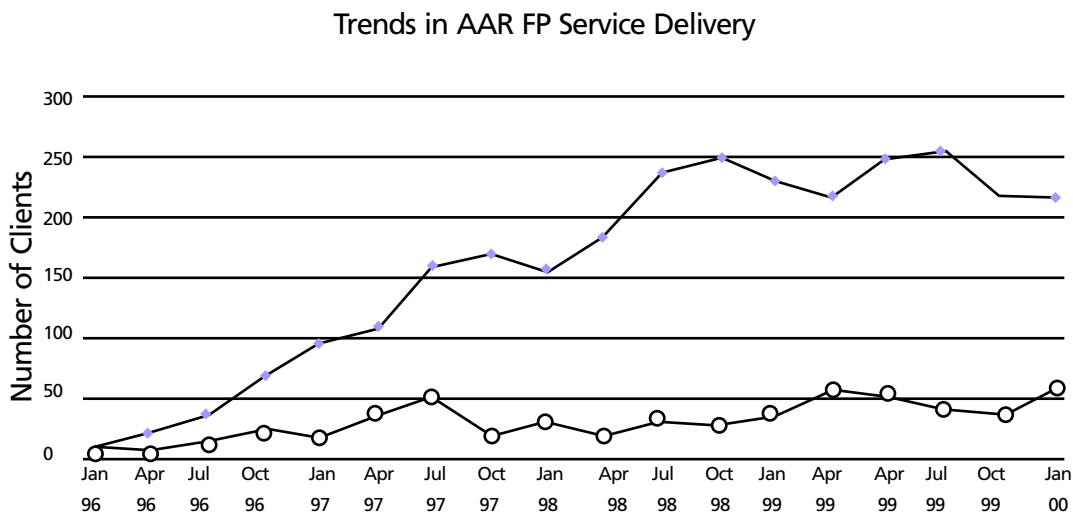
The Summa loan was very successful in integrating family planning services into AAR's prepaid package. Prior to its relationship with the Summa Foundation, AAR did not provide family planning services. AAR did not have any financial incentive to provide family planning, nor was there specific demand for such services from its members. Its staff did not have up-to-date training and AAR did not have all the required equipment and supplies.

The loan from the Summa Foundation created a financial incentive for AAR to introduce family planning services. Prior to the Summa loan, AAR had little to gain from providing family planning services. Including such services as part of its basic package of coverage may have provided a small marketing advantage over competitors, but would not have had a substantive financial impact. By bundling the provision of family planning services with access to advantageous financing, Summa was able to motivate AAR to introduce family planning services.

GOAL 2: INCREASE THE NUMBER OF NEW FAMILY PLANNING ACCEPTORS

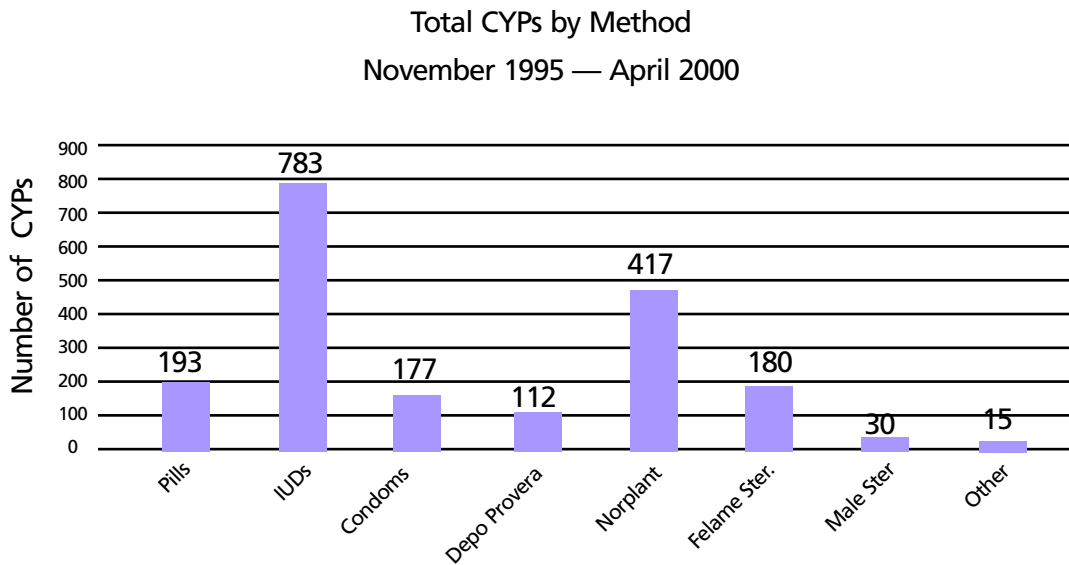
The Summa loan had a more limited success in increasing the number of new family planning acceptors. From November 1995 to April 2000, AAR served 2,846 family planning clients. Of these clients, 449 were new family planning acceptors, while 2,397 were continuing acceptors (had previously used family planning). Although the absolute family planning impact is not very large, there is a trend toward increasing family planning service delivery, as shown in Figure 1. The total number of family planning clients is increasing. While the Summa loan did not create high demand for family planning services at AAR, it did create a situation of long-term sustained demand.

FIGURE 1



The Summa loan resulted in 1,906 Couple Years Protection (CYPs) from October 1995 to April 2000.¹ The methods providing the highest contribution to CYPs were IUDs, Norplant, and pills. Long-term methods contributed to 74% of the total CYPs. Figure 2 shows the contribution of the each method to CYPs.

FIGURE 2



PROFIT had intended to assist AAR in promoting family planning through information, education, and communications (IE&C) activities, but the actual inputs were limited. PROFIT relied on AAR’s promotion efforts, which in turn focused primarily on overall services rather than specifically on family planning. In terms of promotion, AAR has information on the availability of family planning at its facilities and its staff is trained in counseling potential family planning users. Over the last two years, AAR has served approximately 200-250 family planning clients per quarter, out of approximately 20,000 members. Assuming the Kenya contraceptive prevalence rate of 41% (urban), and women of childbearing age to be 24% of the population, we can roughly estimate that 2,000 of its members use family planning.² Thus, most of its contracepting members are obtaining family planning services elsewhere. This data further confirms that AAR’s promotion efforts were not adequate in reaching non-users or in encouraging members to switch from existing providers.

There are probably two factors that resulted in AAR’s limited promotion of family planning. Firstly, this was a new service for AAR and they had no experience in conducting aggressive IE&C campaigns. AAR may have benefited from more technical assistance in this area. Secondly, the provision of family planning services is a low profit margin activity. In order to actively promote a service, a for-profit company needs to see how it will impact profitability, either through increased revenue or a reduction in costs. Family planning is an effective way to reduce costs for managed care companies that cover deliveries as part of their prepaid package of services. Unfortunately, AAR does not cover deliveries. More research could have been done by Summa in exploring ways to link family planning to an increase in revenue or a reduction in costs for AAR.

GOAL 3: CONTRIBUTE TO THE SUSTAINABLE DELIVERY OF FAMILY PLANNING IN THE PRIVATE SECTOR

Although the loan had a modest impact on creating family planning demand, by motivating AAR to introduce services, it created a continued expectation of such services from its members. Family planning has become entrenched in AAR's overall services, and is unlikely to be discontinued even after the loan is repaid.

In order to promote the sustainable delivery of family planning services over the long term, the Summa Foundation required that all doctors and nurses be trained in providing family planning services as a condition of the loan. In addition, Summa/PROFIT facilitated relationships with NGOs that conducted family planning services delivery training for AAR staff. Over the long term, such contacts will be useful for training new staff, and ensuring that skills are updated.

AAR intends to continue providing family planning services and its members expect such services to continue. Unlike more traditional family planning delivery interventions, this loan will continue to have family planning impact for years to come. Outcomes that can be reasonably expected in the future are included in assessing total family planning impact. Analysis of past performance is used to make projections regarding future family planning service delivery.

Two scenarios of projected family planning delivery are prepared – one is a baseline scenario, while the other represents a worst-case scenario. Figure 3 describes the assumptions of the two scenarios.

FIGURE 3

| Assumptions Used in Family Planning Delivery Projections | | |
|---|--|--|
| Assumptions | Baseline Scenario | Worst- Case Scenario |
| Members | Assumes 5% annual growth in membership, based on compounded annual growth from 1997-2000. | Assumes static membership based on average membership from 1997-2000. |
| Total FP Clients | Based on FP clients as percent of total membership from 1999-2000, which has shown to be stable. | Based on FP clients as a percent of total membership from 1997-2000, which includes the lower-volume growth years. |
| Number of New Acceptors | Based on NA as percent of FP clients from 1999-2000, which has been stable. | Based on NA as percent of FP clients from 1997-2000, including lower volume growth years. |
| Couple Years Protection (CYPs) | Based on CYPs per FP client from 1997-2000, because there is no clear trend. | Based on CYPs per FP client from 1997-2000, because there is no clear trend. |
| Clients Switching from Public Providers | Based on percent of clients switching from public providers in 1999-2000, which has been stable. | Based on percent of clients switching from public providers in 1997-2000, including more erratic growth years. |
| Duration of Impact | Another 10 years. Given AAR's successful 16 year history, it is reasonable to assume that it will continue to provide FP for 10 years. | Another 3 years. Worst case outlook if management were to change, business declines, and the Kenyan economy significantly slows. |

Applying the above assumptions, projections of future family planning outcomes are made for the next 10 and 3 years, depending on the scenario. The baseline and worst-case results are shown in Figure 4:

FIGURE 4

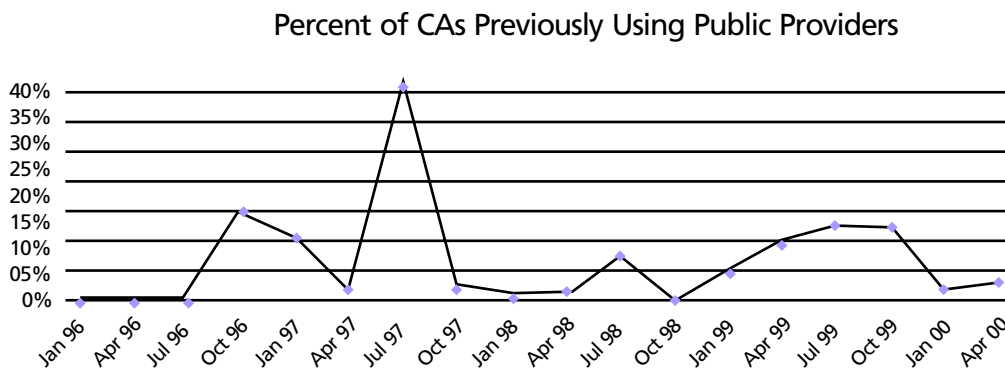
| Projected Family Planning Outcomes | | |
|---|--------------------------|----------------------------|
| | Baseline Scenario | Worst Case Scenario |
| Total FP Clients | 13,230 | 2,101 |
| New Acceptors | 2,389 | 308 |
| Clients from Public Sector | 978 | 145 |
| Total CYPs | 8,862 | 1,407 |

Total CYPs projected under the baseline scenario are 8,862. Even under the worst case scenario, the future family planning outcomes are significant and must be incorporated into analysis of total family planning impact and cost-effectiveness.

GOAL 4: SHIFT FAMILY PLANNING SERVICE PROVISION FROM THE PUBLIC TO PRIVATE SECTOR

The Summa loan to AAR was less successful in shifting family planning service provision from the public to the private sector. Of the continuing acceptors, 7.2% previously sought services from public providers, while the remaining 92.8% previously obtained services at private or NGO providers. It is noteworthy that the percentage of family planning clients who previously used private providers is so high, given that 58% of family planning services are provided by the public sector in Kenya.³ A total of 173 FP clients switched from public sector providers to AAR. There has not been a discernable trend in the percentage of clients who switched from public providers. Figure 5 shows the percentage of clients each quarter that had previously obtained services from public providers. It would be interesting to research this issue in order to understand why there was no significant shift from the public sector. This information would be useful for designing future interventions.

FIGURE 5



GOAL 5: ASSIST AAR TO ENTER A LOWER INCOME MARKET

The Summa loan was successful in assisting AAR to enter a lower income market. Before the Summa loan, AAR almost exclusively served an upper income market, targeting their prepaid package of high quality services to managers of multinational corporations and other high income population groups. AAR was interested in expanding down market to lower income groups because they saw that large companies were interested in providing health benefits for more of their workforce. AAR also realized that by increasing volume, they would be able to increase their revenue. Entering this new market, however, was risky and it required a considerable investment on AAR's part. AAR needed to invest in learning about this new market and developing an appropriate package of services and facilities. Summa's loan, with its preferential terms, motivated AAR to make this investment. Lord Andrew Enniskillen, the CEO of AAR, recently acknowledged that while the actual financing was important, the "moral support" of working with Summa to initiate this new initiative was even more important. The Summa loan allowed AAR to open two clinics in an industrial, lower income part of Nairobi. The Odyssey Plaza clinic treats approximately 90 patients per day. The Kariobangi Outreach Clinic treats approximately

250 patients per month. These patients are primarily lower and middle income and they now have access to high quality services that did not previously exist in their communities.

Figure 6 shows the increase in membership in AAR’s prepaid health plans over time. The Platinum, White, Bronze, Silver, and Gold plans are higher priced and target a higher income population. The MC plan has a lower price and is more affordable to a lower income population. Note the massive increase in MC members has driven and redefined AAR growth during the loan term.

FIGURE 6

| Year | Platinum | White | Bronze | Silver | Gold | MCU | MC | Total |
|-------------|----------|-------|--------|--------|--------|-----|--------|--------|
| 1995 | | 1 052 | 0 | 6970 | 6259 | 99 | 8951 | 23,331 |
| 1996 | | 1 456 | 0 | 1 3093 | 8517 | 79 | 1 4545 | 37,689 |
| 1997 | | 1 485 | 0 | 1 9529 | 11 448 | 99 | 1 9689 | 52,250 |
| 1998 | | 1 381 | 800 | 1 9635 | 1 2260 | 98 | 21 445 | 55,619 |
| 1999 | | 1 510 | 2590 | 1 8416 | 1 2856 | 82 | 201 44 | 55,598 |
| 2000 (7/31) | 2 | 1 321 | 2587 | 1 8938 | 1 3758 | 76 | 24911 | 61,593 |

GOAL 6: ASSIST AAR TO ADOPT MANAGED CARE PRINCIPALS

The loan was also very successful in assisting AAR to adopt managed care principals. AAR used the loan to establish a gate keeper system with the Kariobangi Outreach Clinic that is staffed by a nurse, referring more complicated cases to Odyssey Plaza for treatment. This was one of the first experimentations with managed care in Kenya and an important first step for AAR in learning to control costs and to streamline operations. Due to the success of this initiative, AAR is planning to take this concept to the next level by franchising.

Summary of Success in Achieving Goals

Figure 7 provides a summary of how the Summa loan addressed the six goals. Overall the Summa loan was highly effective in meeting four of its six goals. While it did not fail to meet the remaining two goals, the success was more limited. This will be discussed in more detail in the Lessons Learned section.

FIGURE 7

| Goals | Success of Intervention (Low, Medium, High) |
|---|---|
| Goal 1: Integrate family planning services into AAR's package | High: Fully integrated family planning into AAR's prepaid package of services. |
| Goal 2: Increase number of family planning acceptors | Low: There was an increase in the number of FP acceptors but this was a small percent of total members. |
| Goal 3: Contribute to sustainable delivery of FP services | High: AAR has been providing FP services for almost 6 years and plans to continue after the Summa loan is repaid because members have come to expect and demand it. |
| Goal 4: Shift from Public to Private Sector | Low: Limited impact on shifting users from the public sector. |
| Goal 5: Assist AAR to enter a lower income market | High: AAR successfully moved down scale, targeting a lower income population. |
| Goal 6: Assist AAR to adopt managed care principals | High: AAR is currently using a gate-keeper method and is considering franchising. |

Analysis of Cost Effectiveness

In order to fully analyze the success of the Summa loan to AAR, it is important to examine the cost effectiveness of the intervention. This intervention is very different from traditional public health interventions because it is a loan. The calculation of the costs must also factor in AAR's repayments. To date AAR has made full and timely repayments to the Summa Foundation. AAR's last payment is due in June 2001.

There are three ways to examine the cost of this intervention: 1) nominal cost; 2) internal rate of return (IRR); and, 3) present value of cash flows. Nominal cost is simply the total loan and technical assistance disbursements, less all repayments. The internal rate of return represents the effective interest rate earned on disbursements given the amount and timing of disbursements and repayments. Lastly, calculating the present value of cash flows (disbursements and repayments) provides a net cost using a discount rate that factors in the cost of USAID funds and AAR-specific company risk.

On a nominal basis, total Summa disbursements, including the corresponding technical assistance provided by PROFIT/Summa was \$473,700. The total repayments from AAR through June 30, 2000 have been \$516,251, with another \$88,647 to be repaid by June 30, 2001, or total nominal payments of \$604,898.4 Total repayments exceeded disbursements by \$131,198, representing the return to Summa.

The internal rate of return on this intervention is 7.77%, which means that this intervention did not cost anything for Summa. Instead, Summa earned a positive return of 7.77% on the funds it disbursed.

The third way to analyze the cost of this intervention is by calculating the present value of the cash flows. To account for inflation, required return, and risk on the value of money, all flows of funds (the loan disbursements, technical assistance funding, and the loan repayments) are discounted to reflect 1995 value.⁵ The reason for discounting is so that the repayments are not “over-valued” because they do not occur until many years after the loan disbursements. Loan repayments were made from 1996-2001.

The discount rate used for discounting cash flows is 9.07%, and reflects the cost of capital for USAID and the risk associated with this intervention.⁶ The cost of this intervention, the loan and technical assistance disbursements, totals \$464,248 expressed in September 1995 dollars. At the same time, the repayments from AAR total \$455,222, also in September 1995 dollars. Thus, the total cost of this intervention expressed in 1995 value is \$9,026.

It is important to understand the different implications in results using these three methods. Looking at only nominal values shows that this intervention was a windfall for Summa. But this method is least appropriate because money changes in value over time, so it is not accurate to compare a disbursement in 1995 with a repayment in 2001. The 7.77% IRR shows that Summa earned a positive return on its investment, so the intervention did not cost Summa anything. On the other hand, the present value of cash flows is -\$9,026, which implies there was a cost to Summa. The IRR simply calculates the return, whereas the present value calculates the value based on a minimum acceptable return. For example, an investment of \$1.00 today, which returns \$1.05 one year from today, has an IRR of 5.0%. However, the 5.0% return may not be sufficient if the inflation rate is 8.0%. Applying 8.0% as a discount rate then yields a net present value of -\$0.03.

It is debatable which type of analysis is more appropriate. In so far as health officials clearly do not seek a minimum monetary return on its investments in health, a positive IRR provides sufficient evidence that an intervention was cost-free. One could also argue, however, that a present value analysis is necessary in order to factor in the cost of funds and project risk. Because of this question, both types of analysis are presented.

Regardless of which method of analysis is used, for a minimum cost (\$0 to \$9,026) Summa was able to achieve significant positive health outcomes. Specifically, Summa was able to integrate family planning services into a pre-paid package of services that will be delivered on a sustainable basis through the private sector. Summa was able to motivate a commercial company to offer high quality health services to a lower income population group. Summa assisted in introducing managed care principals to the private sector in order to reduce costs and improve efficiency.

Lessons Learned

While this intervention was a success, there are a number of very important lessons that can be drawn from this experience in lending to the commercial sector in order to achieve positive public health outcomes. These lessons should be considered in future interventions. These lessons are detailed below.

Providing financing to a for-profit company to motivate it to provide family planning services can be a cost-effective way to increase new family planning acceptors and deliver family planning services. Financing can remove some of the obstacles to for-profit providers' reluctance to provide certain health services. Financing is more successful at addressing process obstacles (such as lack of training or capital), than structural obstacles (such as lack of market demand or financial incentives). In some cases, it may be necessary to combine financing with targeted technical assistance in order to overcome structural obstacles.

The Summa loan was successful in motivating AAR to offer family planning services, but did not provide an incentive for AAR to promote these services. A managed care organization will promote certain services if providing such services can help avoid future more expensive treatment (for example, childhood immunization or early malaria treatment). Family planning could be comparable to other preventive services if the provider was responsible for coverage of costs related to childbirth – providing family planning is a low-cost way to prevent a more expensive delivery. AAR's benefits plan did not include coverage for costs related to childbirth, so promoting family planning meant an additional workload, with no specific benefits. In the future, Summa should consider this when it is trying to identify suitable partners. Summa should also consider how it can structure a loan to incent its partners not only to provide but to promote family planning services. More research should be conducted on how to link family planning to a significant increase in revenue or reduction in costs for a for-profit provider.

A commercial partner will expand to lower income groups if it is profitable. Financing can be used to share risk and encourage the commercial partner to enter a new market.

The intervention caused fewer clients to switch from public providers than was originally anticipated. Further research to explore the explanations for this outcome would be useful since one of the goals of working with private providers is often to encourage users to switch from public providers. Targeted promotion to public sector users may be necessary.

In order to lower the cost of this kind of an intervention or increase the positive return, it is important to consider costs when setting the interest rate and payment terms, especially US dollar repayments versus local currency repayments.

Conclusion

Depending on the method for analyzing costs, the Summa loan to AAR Health Services produced family planning and other positive health outcomes at no cost or very low cost. It also demonstrated that more innovative interventions with private providers should be considered as they can be more cost effective than traditional programs.

Financing can be used to motivate the private sector to achieve public health outcomes. Attention should be paid to how the financing is structured and to selecting the appropriate partners. The Summa Foundation can play an important role in structuring such innovative interventions to stimulate sustainable private sector involvement in priority health care.

NOTES

1 CYP factors from Handbook of Indicators for Family Planning Program Evaluation (Bertrand, Magnani, Knowles), 1994, The Evaluation Project.

2 Kenya Demographic and Health Survey 1998.

3 Kenya Demographic and health Survey 1998.

4 Future payments are calculated assuming an interest rate of 16% (the current interest rate), and future assumptions of exchange rate at US\$1=Ksh.80 at 12/31/00, and US\$1=Ksh.82 at 6/30/01.

5 The time value of money concept explains that \$1 today is worth more than \$1 sometime in the future, because money received today can be invested to generate more money in the future. Another way to look at it is that \$1 next year will likely purchase fewer goods than it does today because inflation will increase the cost of goods. For this reason, it is inaccurate to compare money disbursed in 1995 with money received in 2001. Thus, for comparability, all funds are expressed in 1995 value.

6 The discount rate of 9.07% incorporates the cost of capital and AAR company risk. The cost of capital for USAID is 6.07% (based on the yield of an extrapolated U.S. Treasury 6-year note at September 1995). The AAR-specific risk is 3.0%, which is the difference between the Kenya prime interest rate and AAR's cost of capital.



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