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# WHY IT IS DIFFICULT TO DETERMINE RESOURCE REQUIREMENTS FOR FAMILY PLANNING

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**Summary.** This paper describes the efforts of Family Health International to develop a simple, standard and replicable methodology to estimate expenditures on family planning in developing countries. The study found that it is not possible, at least at this time, to develop such a methodology. Numerous problems were encountered in making expenditure estimates. First and most important, expenditure accounts are not always readily available. Even when these accounts are available, they may require some adjustments. In some instances, for example, the salaries of health workers who also provide family planning are in the health accounts, whereas in other cases the workers covered in the family planning accounts spend some of their time providing health services. Allocation variables then must be developed to separate spending on family planning from that on health. In some instances allocation variables were developed and used to separate family planning from health expenditures, but in this case allocation variables were not available and a cost analysis was performed. It is concluded that it takes considerable time and effort to estimate expenditures, and that the approach that was followed varied by country, reflecting the data available to make estimates.

## Introduction

According to the United Nations Fund for Population Activities (UNFPA), worldwide spending on family planning and reproductive health will reach 17 billion dollars annually by the year 2000 (UNFPA, 1995). However, this figure is not derived from an aggregation of expenditure estimates for individual countries. If countries are to plan for future spending needs and if donors are to be prepared to assist in meeting those needs, then information on current and projected spending on family planning will be required at both the country and global level.

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Not only do countries need information on total spending, but they also need to know the relative amounts spent on the different components of a population programme including monies to provide services to clients, to promote family planning, to train family planning workers, and to obtain information to improve programme performance. In other words, estimates are needed that disaggregate spending into such functional categories as the following: service delivery; training; research and evaluation; information, education and communication (IEC); and administration to support the provision of family planning services.

Countries also need to know the amounts spent on specific budget line items, especially with respect to service delivery. They will want to know what is spent on contraceptives, on the staff who provide the methods, and on the equipment and buildings in which services are provided.

Another important contribution that donors make is to provide technical assistance. Countries need to plan how to replace this assistance once it is reduced or discontinued. Thus, in addition to amounts spent to provide family planning and supporting activities within a country, it is also important to determine the amount spent on foreign technical assistance, which is unlikely to be reported in local developing country accounts.

While it is important for countries to determine what is spent on family planning, such a task would be very costly if it required technical assistance from expatriate consultants. Therefore, countries need a reasonably simple methodology to estimate spending. Moreover, the application of a similar methodology across countries would ensure the comparability of estimates.

Family Health International (FHI), with support from the EVALUATION Project of the Carolina Population Center (CPC) at the University of North Carolina and in co-operation with colleagues in various countries, set out to create and test a simple, replicable and standardized methodology to estimate family planning expenditures at the country level. The methodology was designed to sub-divide expenditures according to the functional categories outlined above and to estimate line item expenses for each category.

It is recognized that efforts are underway today to estimate spending, not just on family planning, but also on other reproductive health activities. It was decided that a narrow approach would be taken, and that family planning would be concentrated on. It was thought that this task would prove sufficiently difficult, and that lessons learned from determining expenditures on family planning could provide guidance in undertaking the more complex task of calculating expenditures on reproductive health.

The purpose of this paper is to report on the authors' experience in estimating family planning expenditures in Bangladesh, Ecuador and Ghana. These countries were chosen for several reasons. First, countries were wanted that might be interested in participating in the project. For that reason, countries in which previous research had been conducted, and for which the project could be completed quickly and at low cost were selected. It turned out that three countries were selected that had very different programmes and that were in different geographic regions.

Although not selected randomly, these three countries reflect distinct patterns of contraceptive method mix and source of supply. Ecuador has the highest contraceptive prevalence (57% of married women) and Ghana the lowest (20%).

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Ecuador is typical of many Latin American countries. Sterilization is an important method and the pharmacy is an important supplier of temporary methods. Bangladesh is typical of many Asian countries in that the non-commercial sectors dominate as suppliers of methods. Ghana has high use of traditional methods, as do many countries in sub-Saharan Africa. Although the pharmacy (and thus the commercial sector) appears to be dominant in Ghana (as in Ecuador), in reality the commercial sector is less important in Ghana because of the importance of the social marketing programme as a source of supply. Thus, while Ghana seemingly has a greater reliance on the commercial sector than do other countries in sub-Saharan Africa, in practice, like other countries in the region, household expenditures on family planning are low because programmes are highly subsidized. There is some variation among the countries in programme effort scores (Ross & Mauldin, 1996). Bangladesh has the highest score (69) and its programme is classified as moderate. Ghana and Ecuador have equal scores at 52, and their programmes are classified as weak.

## Methods

The bulk of most of the expenditures on family planning are made at four points. Donor agencies make large expenditures on contraceptive supplies, and equipment and other supplies that are transferred to the local government and non-governmental organizations (NGO). Local governments, typically through the Ministry of Health (MOH), make large expenditures on personnel, facilities, and supplies to support the provision of family planning services as well as other family planning functions including training, IEC and administrative support. Finally, donors make expenditures on technical assistance, which are not reported in local government or NGO accounts. It should be kept in mind that expenditure data measure the current flow of resources into family planning activities. In many instances this flow of funds is in direct relation to the flow of services provided by those expenditures. This is the case for personnel, contraceptives, consumable supplies and so forth. Other resources – buildings, equipment, vehicles, for example – provide services over long periods of time so that current expenditures on these items do not represent the current benefits received from these items.

In each test country, information on family planning expenditures was obtained from major providers including governments, International Planned Parenthood Federation (IPPF) affiliates and other NGOs. In addition, information was obtained from donors on family planning spending that supplemented in-country expenditures but did not appear in local accounts.

Readily available programme information was relied upon to fill in the boxes in Table 1, where Table provides an example of a partially completed matrix using information from public sector accounts for Bangladesh. The completeness of the matrix for each organization varied. To obtain total expenditures for the country, matrices were summed across, once double-counted funds were eliminated.

### *Definitions of programme functions*

Family planning expenditures are defined as outlays for activities undertaken by institutions for the purpose of providing, promoting and supporting the limiting and

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**Table 1.** Some estimates of family planning expenditures by the public sector in Bangladesh (1990–94)

| Line item expenditure | Programme function | | | | | |
|---|---|---|---|---|---|---|
| | Service provision | Training | Research and evaluation | IEC | Administration | Total |
| Salaries (medical, paramedical) | 8,122,001 | 0·00 | 0·00 | 0·00 | 0·00 | 8,122,001 |
| Contraceptives | 562,624 | 0·00 | 0·00 | 0·00 | 0·00 | 562,624 |
| Capital goods | 216,398 | 0·00 | 15,736 | 10,886 | 171,145 | 314,165 |

spacing of births by couples. The five types of functional category expenditures listed in the matrix are defined as follows (Herrin *et al*., 1996).

*Service Provision* refers to expenditures made for the purpose of providing family planning methods and services to clients. These expenditures include the salaries and benefits paid to clinic personnel, contraceptives and related medical supplies, maintenance and operation of service provision facilities and administration directly related to service provision. The dissemination of family planning information by service providers is classified as service provision as it is an essential part of providing services.

*Training* includes all expenditures made in the course of training family planning providers.

*Research and Evaluation* includes monies spent on studies focusing on family planning and assessments of existing family planning programmes.

*Information, Education and Communication (IEC)* includes expenditures made at the non-service provision level for the purpose of disseminating family planning information through mass media campaigns, conferences, promotions, etc. In addition, IEC expenditures include the development of educational material disseminated at the service provision level.

*Administration* includes administrative expenditures that support all of the functional categories in a family planning programme, and are above the level of the service delivery point (SDP).

### *Approaches for estimating family planning expenditures*

Ideally, each organization would maintain a separate account of its family planning expenditures, which would be organized according to the matrix shown above. Of course, few organizations record spending in this way, and most do not maintain separate accounts for family planning. Because programmes are often integrated, they combine spending on family planning and health. Therefore, the challenge was to organize programme accounts according to the matrix and to create an approach for separating family planning from health expenditures.

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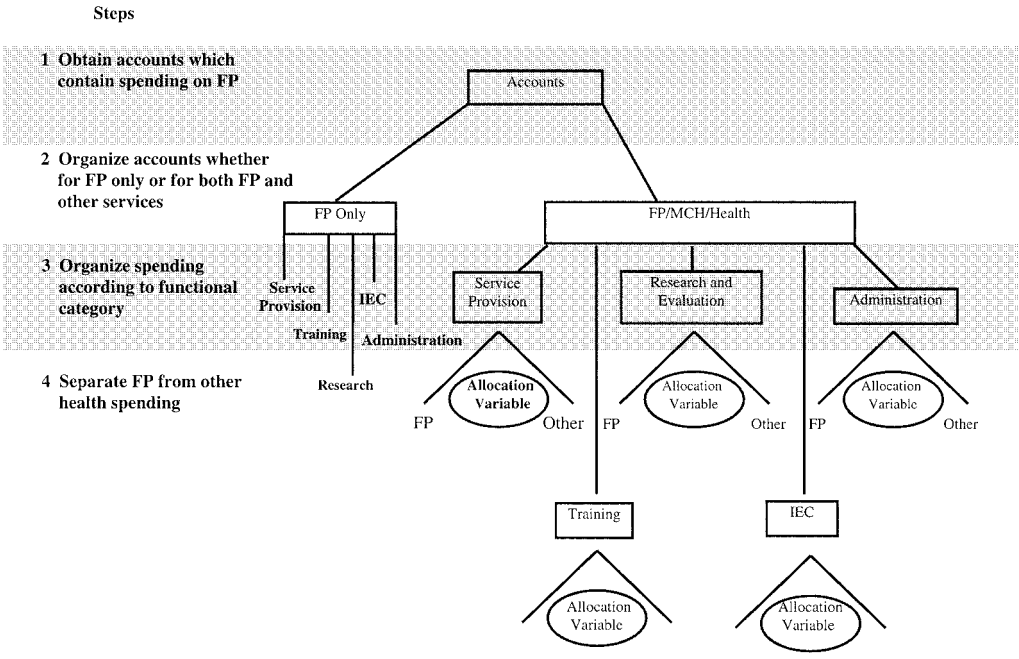



**Fig. 1.** Methodology: estimating family planning expenditures.

Figure 1 outlines the general methodology used to estimate family planning expenditures. In Step 1, programme accounts that contained family planning spending were identified. Accounts that did not contain any spending on family planning were excluded from analysis. In Step 2, accounts that contained spending on family planning were separated according to whether they contained only spending on family planning or also included spending on other health services. In Step 3, all accounts were sub-divided according to functional category.

Step 4 involved separating resources shared among family planning and health using allocation variables for each functional category. These allocation variables were based on data from programme service statistics.

*Expenditures not included in local accounts*

Donors play an important role in financing population programmes in developing countries. Contributions usually include donations of contraceptives, outlays to support programme functional components, and provision of technical assistance and supporting services. Because the nature of the task did not include a detailed analysis of how donors spent their money, a simple assumption was made: donor monies that paid in-country costs to support a programme's functional components were captured in the developing country's expenditure accounts. Adding donor funds that supported local spending would have resulted in double-counting; therefore these types of

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contributions were excluded from the analysis. However, payments for donated contraceptives, valued at the price paid by donors, and for home office technical assistance and supporting services were included. The adequacy of this assumption needs to be tested. While the authors feel confident that the assumption works well for service delivery, as the main service providers were included in the data collection, it may work less well for research and policy activities as the local expenditures for these activities may not have been included, so that spending on these activities may have been undercounted. The estimates do not include expenses incurred by various donor organizations (USAID, UNFPA, The World Bank) as these organizations did not provide information on their costs to support country programmes.

*Data sources*

Information used to make family planning spending estimates was obtained from the following sources: (1) local programme expenditures accounts or executed budgets; (2) foreign donor accounts; (3) local programme service statistics; and (4) interviews with local programme managers.

## Results

Examples from Bangladesh, Ecuador and Ghana illustrate how the steps outlined in Fig. 1 were implemented. For more information about these studies, see Thompson & Janowitz (1996a, b and c). A description of the steps taken to estimate family planning expenditures follows.

*Step 1. Obtaining accounts which contain family planning expenditures*

The first step (see Fig. 1) was to obtain the accounts which recorded family planning spending and then to organize the line items in those accounts to match those of the expenditures matrix. Since the purpose of this project was to make estimates using readily available information, it was important that each organization maintain programme accounts in a central location to facilitate data collection.

Although the accounting systems of each organization differed, most of the family planning programmes reviewed maintained detailed and accessible spending records. However, it was easier to organize the expenditures of some organizations than of others. For example, the Government of Bangladesh (GOB) recorded all of its family planning expenditures in the ledgers of its Population Programme, which consisted of 40 project accounts, most of which contained at least some spending on family planning. Moreover, expenditures in these accounts were aggregated over a 5-year period. This concentration of family planning spending data into a small number of accounts greatly facilitated the analysis. At the other extreme, the MOH in Ecuador spread its annual expenditures on family planning over 139 executed budgets, which were too numerous to analyse individually. Therefore, various assumptions were used to simplify the analysis of these accounts. Consequently, estimates from Ecuador on government spending may be less precise than those for Bangladesh.

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The converse situation occurred in Bangladesh and Ecuador with respect to the accounts of non-governmental organizations (NGOs). In Ecuador, there are only two major family planning NGOs, both of which maintain detailed financial records. Therefore, it was relatively easy to complete the spending matrix for each. However, in Bangladesh, there are over one hundred NGOs providing family planning services; it would have required a major effort to examine the records of all of them. In order to make estimates without having to analyse each NGO separately, aggregated spending information reported by the co-operating agencies (CAs) of USAID which fund most NGOs was relied upon. These CAs receive support from USAID and disperse funds to NGOs. However, the reporting formats used by the CAs to track NGO spending were insufficient to assign expenditures to functional categories.

In Ghana, information on government expenditures was not available. The MOH did not have information on spending at SDPs because such information was not sent by the facilities to the central level. While bills and receipts could have been reviewed at a sample of SDPs, it was decided not to use this approach as it was well beyond the scope of this project; instead a simpler approach was used. In Bangladesh and Ecuador, it was determined that service providers' salaries and benefits, and contraceptives, accounted for the majority of outlays for family planning. In the MOH in Ecuador, service providers' salaries, including health and vacation benefits, and contraceptive expenditures represented 62% of total family planning spending, while for the GOB these line items represented 75% of outlays. For Ghana, therefore, obtaining spending data for these items was focused on. Salary expenditures were estimated by multiplying the average service provider's salary by the number of MOH clinics offering family planning. According to the 1994 Ghana Situation Analysis, 617 Ministry of Health SDPs offered family planning. Contraceptive expenditures were estimated using data from USAID and UNFPA, which donated all of the modern methods distributed by the MOH.

Estimates of remaining service provision expenditures were made using information from the accounts of the Planned Parenthood Association of Ghana (PPAG). The proportion of PPAG service provision expenditures that were for items other than salaries and contraceptives (39%) was used to estimate remaining service provision expenditures for the MOH. Although not ideal, this approach was used because the delivery structures of family planning services of PPAG and the MOH are similar. An alternative to using information on PPAG's line items for service delivery would have been to use MOH information for another country. In Bangladesh, for example, of expenditures on service delivery for the Ministry of Health and Family Welfare (MOHFW), 24% were for items other than salaries and contraceptives. For the MOH in Ecuador, it was 33%. Therefore, it is possible that this approach overestimated service delivery expenditures for the MOH in Ghana.

Using this approach required an understanding of how family planning services were delivered in the MOH programme. Organizationally, family planning is integrated into the Maternal Child Health/Family Planning (MCH/FP) Division. However, operationally, family planning services are provided in separate consultation rooms by, on average, one provider, whose function is dedicated to family planning. This vertical delivery structure allowed the use of a cost-per-provider

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approach to estimate family planning service provision salaries. If service providers deliver other health services in addition to family planning, this approach will overestimate expenditures.

*Step 2. Organizing expenditure accounts according to whether they were for family planning only or included other health services*

Ideally, all spending on family planning would be recorded separately from other services (see Fig. 1). This was the case for some accounts such as the Voluntary Sterilization Programme of the Government of Bangladesh's Population Programme. Other family planning organizations, such as PPAG and the Ghana Social Marketing Foundation (GSMF), conducted such a small amount of non-family-planning-related activities that it was assumed that all spending was for family planning.

However, most of the family planning programmes reviewed devoted an important share of their resources to the provision of maternal–child health (MCH) and other types of health services. For example, much of the spending made by the GOB's Population Programme was for salaries and benefits paid to family welfare visitors (FWVs), who are responsible for providing both family planning and basic MCH services in clinics. In Ecuador, the salary line item of the MOH executed budgets covered labour expenditures for all health services provided by the government, including family planning. Thus, allocation variables (see Step 4) were derived to divide expenditures according to whether they were for family planning.

*Step 3. Organizing expenditures according to functional category*

In some cases, programme accounts were already organized by functional category (see Fig. 1). For example, most of the 139 executed budgets of the MOH in Ecuador belonged to a particular functional category. Hospital, clinic and health post executed budgets supported service provision activities, while most of the central level executed budgets supported administration. However, some family planning institutions organized their accounts according to programme, not functional category. In some instances, interviews were conducted with the directors of each of these programmes in order to estimate the percentage distribution of spending according to functional category.

*Step 4. Separating family planning from other health expenditures*

Allocation variables, derived from available programme statistics, were created to determine the percentage of outputs which were family planning related, as shown in Step 4, Fig. 1. This section describes how the allocation variables were created for each functional category.

*Allocation variables.* Ideally, the share of resources used for family planning would be determined by creating an allocation variable which estimated the proportion of time service providers spend on family planning. However, this information is

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unlikely to be available for many programmes. Therefore, an allocation variable using information on the distribution of visits according to type of visit was created. It is important to note, however, that this approach relies on the assumption that visits of different types are of equal duration and expend the same amount of resources.

Visit-based allocation variables were used to separate family planning from other health spending in Ecuador. From MOH statistics in Ecuador, the percentage of all annual visits conducted by MOH staff that were for family planning was calculated. In 1994, of 7,443,297 visits, 275,032 or 3·7% were for family planning (Thompson & Janowitz, 1996b).

One problem encountered with this approach was that the visit data were not available according to type of SDP. Therefore, the same allocation variable had to be used for the hospital accounts as well as for the accounts of health centres and posts. An informal review of visit records at a small sample of each type of SDP indicated that health centres and posts conducted a higher proportion of family planning visits than did hospitals. Consequently, the estimates inflated the importance of spending made by hospitals and understated spending by health centres and posts. The net result is that family planning spending for the MOH is overstated since hospital expenditures represent the largest share of MOH outlays. More detailed allocation variables were not created because this would have required a time-consuming review of visit records at a larger sample of each type of SDP.

A different approach was followed in Bangladesh. In that country, organizations tracked the number of services provided, or 'outputs', such as the number of contraceptives distributed, or surgeries performed, but not visits. Information on visits is a better measure of resource use than outputs because it reflects how resources are used to produce outputs. Therefore, for organizations such as the GOB Population Programme, data on services or outputs were converted into visits.

The Management Information Systems Unit of the Ministry of Family Health and Welfare for the Government of Bangladesh records what it refers to as 'performance' or tangible outputs. For family planning, these measures include the distribution of re-supply methods (condoms, OC cycles, injections) and the provision of sterilizations, IUDs and NORPLANT. For MCH, performance measures include antenatal and postnatal care, vaccinations and general adult and child treatment. To estimate the percentage of visits that were for family planning it was assumed that one output was provided during one visit (i.e. one vaccination provided during one visit). Exceptions included the provision of oral contraceptives (two cycles per visit) and condoms (20 per visit) (Janowitz *et al.*, 1996). Some family planning methods require follow-up visits to ensure the client's health. Therefore, it was also assumed that a total of two follow-up visits were made for sterilization, IUD and NORPLANT acceptors. Using this approach it was estimated that 60% of service provision visits made by the Population Programme were for family planning.

The results from a study of family planning service delivery costs in Bangladesh was used to determine whether the allocation variables based on converted output data are valid tools for estimating family planning expenditures (Thompson & Janowitz, 1996a). In the cost study, service providers were observed to determine the types of visits that they provided at rural clinics or the types of services that they provided to women in their homes.

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For home visits it was found that in one-third of these, no information on family planning or MCH was provided, nor were contraceptives made available. For the remaining visits, 80% were classified as family planning because information on family planning or supplies was provided (although MCH information may also have been provided). This percentage distribution was applied to all visits; thus 80% of all visits were classified as family planning. The remaining 20% of all visits were categorized 'MCH'. It was also assumed that 80% of all other resources that were used to support the home visit programme were for family planning.

For clinics, there was information on the purpose of the visit made to the main clinic providers and this information was used to allocate clinic resources. It was concluded that 16% of clinic resources supported family planning services. For resources that supported both the home visit and clinic programmes, the home visit and clinic allocation variables were combined to determine a weighted allocation variable that was then used to distribute remaining expenditures.

Results from the cost study showed that 67% of all expenditures that were used to support the home visit and clinic programmes were for family planning, which was seven percentage points higher than the estimate derived from converted output data.

While few such cost studies have been conducted in developing countries, it is comforting to know that allocation variables can be derived from readily available information and that their use leads to family planning expenditure estimates similar to those using more in-depth information.

*Costs of sterilization*. In the MOH in Ecuador, female sterilizations account for about 70% of all methods provided (CEPAR *et al*., 1995). Most sterilizations are provided in hospitals, where the procedures are conducted in the surgery wing apart from other family planning services. Consequently, MOH service statistics do not identify sterilization procedures as family planning visits, but instead as health visits, so that an allocation variable could not be created. Therefore, the allocation variables used to separate family planning expenditures from MCH and health exclude sterilizations from the family planning category. An alternative approach was used to estimate sterilization expenditures, in which the cost of conducting a sterilization procedure was roughly determined and multiplied by the annual number of procedures performed by the MOH (Thompson & Janowitz, 1996; CEPAR, 1995).

The labour cost of sterilization was determined using information on work time allocated to sterilizations and salaries paid to staff at a hospital in Quito. The cost of materials was obtained through interviews with hospital staff and accountants. The cost of capital items was too difficult to obtain without a full cost study. Therefore, information on these costs from a study conducted in another Latin American country was used (Bratt, Suazo & Santos, 1993). An estimate of the number of women sterilized was obtained from the 1994 survey for the period of the early 1990s (tabulations provided by Paul Stupp, CDC). The percentage of women sterilized each year was multiplied by the national population of women of reproductive age. Finally, this figure was adjusted to include only sterilizations carried out in the public sector, again using information in the ENDEMAIN survey.

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*Other functional categories*. Ideally, spending on other functional categories would be estimated using allocation variables based on outputs specific to each category. For example, spending estimates on family planning training would be made using the percentage of all training workshops that focused on family planning. Likewise, expenditures for research and evaluation would be based on the percentage of studies and assessments that targeted family planning issues.

This approach was used with limited success in the analysis of the Government of Bangladesh Population Programme. To estimate family planning spending on training, curricula for each workshop offered by the Population Programme's training division were reviewed to distribute spending among family planning, MCH and other health topics. To estimate family planning spending on research and evaluation, synopses of each study and evaluation were reviewed to determine the percentage that focused on family planning, MCH or other health topics. It was found that the process of obtaining and analysing functional output data was complex and time consuming, and it turned out that results using the visit allocation variable in Bangladesh were very similar to those using allocation variables specific to function. Therefore, to estimate spending for support functions of other organizations, allocation variables based on visit data were used.

## Major findings

*Country results*

Figure 2 shows annual family planning spending according to functional category including the contributions made by USAID co-operating agencies (CAs) for technical assistance and administrative support. The percentage distribution was similar for Bangladesh and Ecuador. The results from Ghana are not presented since expenditures on non-service provision functional categories could not be estimated for the MOH. It was not possible to organize some family planning expenditures according to line item; this spending was classified as non-allocable. For example,

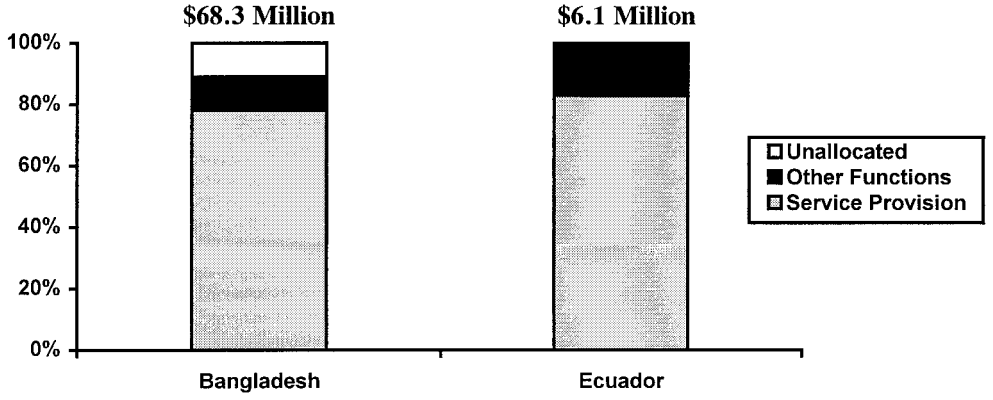



**Fig. 2.** The percentage distribution of family planning expenditures according to functional category.

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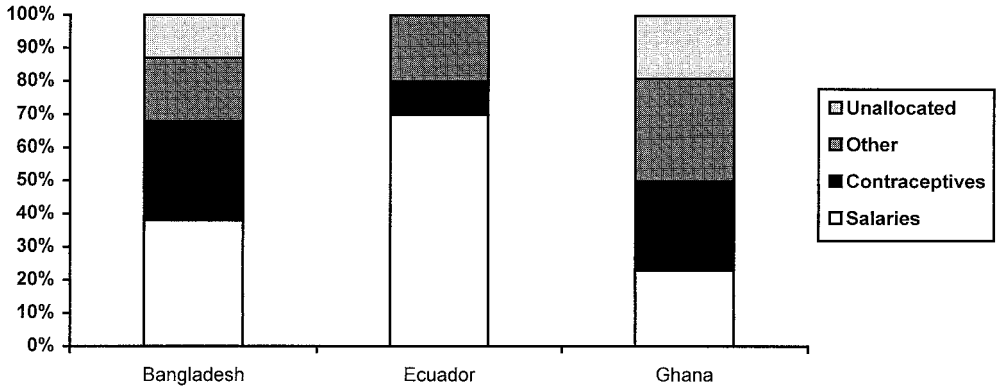



**Fig. 3.** The percentage distribution of service provision expenditures according to line item.

much of spending reported by the CAs in Bangladesh was organized by type of project instead of line item.

Figure 3 shows the distribution of service provision line items according to country. In Ecuador, where female sterilization is the most important family planning method, salaries represented a larger part of service provision expenditures than in the other countries. However, in Bangladesh and Ghana, spending on contraceptives was more important.

*Comparisons using different methodologies*

Table 2 compares estimates of government and donor spending on family planning using estimates from the FHI studies and from Population Action International (PAI). According to PAI, a number of approaches were used to estimate expenditures (Conly, Nada & Helsing, 1995): 'In most cases, aggregate expenditure or budget data were taken directly from the original source and were not adjusted to conform to any uniform definition of family planning expenditures.' The PAI used a special questionnaire that they developed and various other resources specific to the country.

The estimates are substantially different for Bangladesh. There are a number of reasons why these estimates differ. This study's estimate covers the period 1986–90, and during that period the World Bank contribution was about half as large as in 1990–91, the period of the PAI study (Rahman, Faiz & Janowitz, 1993). Since the World Bank funds made up almost half of expenditures, this difference would have accounted for a substantial part of the gap. Second, PAI used information from a World Bank document that did not differentiate between line items in budgets and the actual activities funded. The present results showed that the actual amount of resources used to support family planning was far lower than the line items noted in the family planning budgets. Salaries of clinic and home service delivery personnel are in the family planning budget, but the resources actually devoted to family planning are far lower, as these workers, as noted earlier, spend substantial amounts of time

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**Table 2.** Comparison of estimates of government and donor spending on family planning

| | FHI spending ($millions) | PAI | |
|---|---|---|---|
| | | Sources | Spending ($millions) |
| Bangladesh | 68·3 | Government–PAI questionnaire completed by USAID/ Bangladesh | 32·0 |
| | | World Bank–UNFPA programme review and strategy development report | 60·0 |
| | | Donor assistance USAID/Bangladesh | 35·2 |
| | | | 121·2 |
| Ecuador | 6·1 | Government–PAI questionnaire completed by USAID | <0·1 |
| | | World Bank: from fax listing loan commitments | 3·1 |
| | | Donor assistance: UNFPA G.P.A.R. | 3·5 |
| | | | 6·6 |

providing health services. Since the PAI estimates probably relied on budget figures, these would have overstated the cost of resources actually used for family planning.

While this study's estimate for Bangladesh was far lower than that of PAI, the two estimates for Ecuador are reasonably close. However, it cannot be concluded that the questionnaire approach can be relied upon. According to PAI, the government contribution to family planning was very small. Yet sterilization is the most important method of family planning and it is mostly provided in government facilities. Thus, government spending on family planning is not inconsequential, but a questionnaire approach may not elicit this information because spending on family planning is in the health budget.

While the questionnaire approach has the advantage of being a relatively cheap method for providing worldwide information on spending on family planning, its accuracy may be low. The methodology described in this paper is more costly to execute and far less simple, but it may be the only viable alternative if we actually want to know what family planning costs.

## Conclusions

This project set out to create a simple, standard and replicable methodology to estimate expenditures on family planning in developing countries. It was found that a standard approach does not appear to be a realistic goal, and it is not possible as yet to provide a detailed set of instructions to be used in developing countries to estimate family planning spending. The reasons why a guidebook would not be a valid approach is made clear by the findings.

First and most important, expenditure accounts are not always available. When this task was taken on, the principal concern was that the information available to

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construct allocation variables would be inadequate. However, it was found that a greater problem was that not all countries *had* expenditure accounts to which allocation variables could be applied. This turned out to be the case in Ghana. Fortunately, the structure of service delivery in Ghana allowed the use of other information to make a somewhat crude estimate of expenditures on service provision (but not on other functional programme components). Therefore, no approach using guidelines would be adequate to estimate family planning expenditures, unless it included a plan to obtain spending data from a sample of service delivery points. In fact, this was done in a study in Côte d'Ivoire, but it should not be considered a simple approach (Stewart & Koffi, 1997).

Even where adequate expenditure accounts exist, too many can defy a simple approach. In Ecuador, 139 accounts had to be aggregated into a more manageable number. Because of this shortcut, separate allocation variables could not be applied to each type of service delivery point: hospital, urban clinic and rural health post. Consequently, this study's estimates of service provision spending were not as exact as they would have been had it been possible to devote more time and effort to the task.

Once expenditures were estimated, dividing them into functional accounts was not always possible. Because the aim was not only to estimate total expenditures, but also to divide such expenditures across functional categories, the programme accounts needed to approximate the matrix of line items and functional categories. These accounts were then re-organized to match the matrix. While this task was often easily accomplished, in some cases it was impossible. For example, in Bangladesh, it would have been too time consuming to analyse the accounts of the over one-hundred NGOs. Moreover, the accounts of the USAID CAs, which provide financial support to these organizations, were not organized in such a way as to allow for the disaggregation of spending according to functional category. Only in cases, such as in Ecuador, where the number of NGO service providers is small and in which their accounts approximate those of the matrix, was it possible to organize NGO accounts in the matrix format.

Sometimes information may not be available to construct even crude allocation variables. In Ecuador, this proved to be the situation for female sterilization as no allocation variable could be constructed to separate resources used to provide female sterilizations from resources used to produce other health outputs. Ideally, an expenditure account such as 'operating room expense' would have been available, along with services statistics to determine the percentage of surgeries that were female sterilizations; however, no such information was available. Therefore spending estimates had to be based on a crude calculation of the cost of a female sterilization. While such an estimate can be made in many countries, perhaps not everyone would agree that this approach constitutes part of a 'simple, standard, and replicable methodology.' Moreover, this approach was not validated. Ascertaining expenditures on sterilization is particularly difficult in countries in which sterilizations are carried out concurrently with Caesarean sections. This is the case in Ecuador as well as in Brazil. It was simply assumed that all sterilizations were interval ones, but this is certainly not the case; however, to the authors' knowledge, there are no estimates of sterilization costs when these are done at the same time as Caesarean sections. Given the importance of female

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sterilization, additional research is needed to find low-cost methods to determine its costs according to type and timing of procedure.

This finding is of particular significance as interest expands to include estimates of what is spent, not only on family planning, but also on other reproductive health activities. This study's experience indicates that such a task will be difficult. Given that programme accounts are unlikely to include female sterilization, they are also unlikely to include reproductive health services such as 'treatment of women with complications of illegally induced abortion' or 'STD education and condoms for women attending family planning programmes' or 'emergency obstetric care'. Moreover, as the trend of integrating reproductive health services continues in developing countries, it will become even more difficult to disaggregate spending according to type of service.

The construction of allocation variables to separate expenditures on family planning from those on other health services proved feasible. Furthermore, in Bangladesh it was shown that it was possible to construct a 'visit' allocation variable using fairly standard information on output or performance indicators, and that these performed well. It is not known, however, whether this methodology should be recommended. Additional studies in which results using readily available information on programme outputs are contrasted with those using information on actual visits by purpose are needed.

The treatment of the contributions of donors was not tested. Those monies provided by donors that were used to purchase in-country resources were excluded, but expenditures to purchase resources reported in expenditure accounts of organizations outside the developing country were included. To test the validity of this approach would have required the examination of funding accounts of the various CAs. This task would have extended beyond the realm of a 'simple, standard, and replicable methodology.'

This approach did not allow information on funding to be provided. Consequently, the relative proportions of government or NGO expenditures that were financed locally and by donors could not be estimated. Such information would have required the funds provided by donors through the various intermediaries (in the case of USAID, through the various CAs) and to the local family planning programmes to be traced. This task would have been time consuming; moreover, local expenditures would still have needed to be determined. In addition, if government and international donor funding had been treated separately, it would have been necessary to derive separate allocation rules for each funding source in order to determine not only the purpose of the funding (family planning or other health services) but also the functional category.

The conclusion is that it takes considerable time and effort to estimate country-level expenditures on family planning programmes. While the uninitiated may think that all one has to do is add numbers from various accounts in order to make an estimate, in reality it is not so easy. The steps that are needed to make estimates of spending on family planning have been highlighted. While it certainly cannot be claimed that a 'simple and replicable methodology' has been derived, the additional research needed to move us closer to that goal has been pointed out.

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