Growing demand for family planning services in the developing world continues to drive up the total cost of providing services. The United Nations Population Fund recently projected the costs of family planning and reproductive health in the year 2000 at US $17 billion.1 With ever-larger cohorts entering their reproductive years, it is unclear where the funds to satisfy the demand for services will come from.

Most current funding for family planning programs comes from three principal sources: government revenues, donor contributions, and fees collected from clients. Although government funding for family planning programs may increase in the near term, most of this support will be targeted to programs run by ministries of health. Donor funding for family planning appears to be declining in real terms; in some countries, the U.S. Agency for International Development (USAID) is phasing out its contributions.2 Therefore, non-governmental organizations, which often depend heavily on donor funds, may have no choice but to increase fees for family planning or other services. Even government programs may be forced to institute or increase user charges for family planning to offset deficits caused by stagnant tax revenues and competition between government agencies for scarce public resources.

But increased reliance on user fees is controversial. Lewis’s review of the literature on the impacts of user fees in family planning has shown that demand is sometimes sensitive to price changes.3 Fees may reduce access to services, especially among poor women, and may lead to declines in contraceptive prevalence. In addition, many programs measure success in terms of the number of clients served, and so declines in demand resulting from price increases are unacceptable to program managers.

Before establishing or increasing fees for family planning services, program managers need to know the likely impact of price changes on demand. Several new studies have appeared since Lewis’s review, and their authors generally have either used econometric models to analyze cross-sectional data or attempted to carry out experimental or quasi-experimental studies in which demand responses to price changes are observed over time.

The Modeling Approach

Three studies have used econometric modeling techniques to attempt to show how the choice of a contraceptive method is affected by a range of variables, including the method’s price, the socioeconomic characteristics of users and the interactions of these and other variables.4 The data used in the models are cross-sectional, and come mainly from large-scale surveys such as the Demographic and Health Surveys (DHS).

A general conclusion of these studies is that the demand for contraception is not very responsive to price changes. In two analyses conducted in Thailand using different methodologies, Akin and Schwartz5 and Ashakul6 found inelastic demand for most contraceptive methods. Jensen, using an econometric model for Indonesia, found that the elasticity of demand was generally low, except for injectable contraceptives.7 However, elasticity of demand is not a constant; for example, Jensen found larger demand elasticity at higher private-sector prices than at public-sector prices. Moreover, Jensen found that the impact of some price changes was greater for poorer individuals, which should not be surprising given that any price increase has a larger relative impact on the ability of the poor to buy goods and services.

A basic problem with the modeling approach is a lack of consensus on whether model outputs can be used to predict the real impact of price changes. Creese, referring to the literature on health, argues that “professional disagreement about the appropriate way to model demand reveals the relative infancy of this analytical approach in the special context of predicting health behavior.”8 The very same critique could be made with respect to family planning, a field in which even fewer demand studies have been conducted. Griffin, who surveyed the literature on the pricing of health services, cautions that the modeling approach, with its reliance on cross-sectional data, cannot account for changes in consumer behavior.9 “Over time, consumers will adjust their consumption patterns to the new prices, and the higher public health sector prices will elicit a supply response from private providers.”

Aside from this more general issue, specific methodological problems in the three studies raise questions about the applicability of study conclusions. For example, all three models require data not only on the price of the contraceptive method used by the client, but also on prices of methods not used. This information was generated by asking respondents what they thought they would pay for methods they were not using, or by calculating mean prices for narrowly defined subsamples.10 However, it may not be reasonable to expect that users of one contraceptive method would be able to give accurate information on current prices of other methods. For example, younger women who use family planning to delay their next birth probably will not have priced permanent methods such as tubal ligation and vasectomy or even long-acting methods such as the IUD and the...
implant. Also, many women who are currently using a long-acting method obtained it several years ago, and therefore may lack up-to-date information on current prices of reversible methods such as the pill and the condom.

A second methodological problem is the practice of converting actual prices paid by users into prices per couple-month or couple-year of protection. For the pill, the price per couple-month of protection is the same as the price paid each month by the user for a new supply. But in the case of long-acting methods such as sterilization, the user pays the price for the entire period of protection at the time of acceptance. Thus, although the cost per couple-month of protection may be very low, the initial expense to the user is high. The conversion of actual prices into prices per month effectively obscures the difference between the immediate cost to the user of accepting sterilization and the cost of adopting the pill. Therefore, the elasticity estimates produced by the model may be distorted.

The Experimental Approach

The common characteristic of studies in the “experimental” category is that they attempt to measure demand responses to actual changes in prices. Methodologies used range from formal operations research designs with experimental and control groups to less rigorous pretest-posttest designs to simple observation of demand response in a study conducted for another purpose.11

The results of these studies suggest that demand for family planning services is sensitive to changes in price. León and Cuesta used a nonequivalent control group design to evaluate the impact of price increases at clinics run by an Ecuadorian nongovernmental organization.12

In the three months following the price increase, a larger decline in attendance was documented in clinics that raised their prices by 48–61% than in those that raised their prices by 7–16%; in clinics that did not change their prices, attendance declined but to a lesser degree. Similar findings were reported in a study conducted in Colombia with PROFAMILIA, which compared changes in demand for the implant under three different pricing schemes.13 Clinics in which implant prices decreased the most experienced the largest increases in new implant acceptors.

In another study carried out in Ecuador, a nongovernmental organization increased prices for all of its services by 20%, and the demand response was analyzed at a convenience sample of eight clinics.14 The number of IUD acceptors declined during the period immediately following the price increase, but the same pattern of decline had occurred in the previous year and therefore could be attributable to seasonal trends rather than to the price increase.

Finally, a study examined the impact of funding decreases on access to sterilization services at nongovernmental family planning clinics in Brazil, Mexico and the Dominican Republic. The investigators reported substantial declines in the demand for sterilization at 14 of 17 nongovernmental clinics where prices had been increased.15

Although the findings reported in these four studies are reasonably consistent, certain methodological shortcomings raise concerns about the validity of their conclusions. In the case of the quasi-experiment carried out by León and Cuesta, each clinic director decided how much to increase prices; as a consequence, it is not possible to determine whether changes in demand occurred because of price changes or because of the characteristics of the clinics.16 In the PROFAMILIA study, clinic directors may have disagreed about how vigorously to promote the implant; if promotion strategies were not uniform across clinics, then the changes in demand could have been related to variations in marketing efforts as well as to price differentials.

A second issue that receives little attention in these studies is the question of method and source substitution. Opponents of price increases often argue that higher prices will lead to lower contraceptive prevalence, especially among poor women. But when a single provider of family planning services increases its prices, clients have three basic options: They can pay the higher prices, they can stop practicing contraception or they can switch to lower-priced methods or providers. Therefore, although price increases at one clinic may lead to steep declines in the number of clients served by that particular clinic, the overall impact on use of family planning may be negligible because clients can substitute other methods or service providers.

None of the four studies in this category make an effort to measure changes in demand among substitute providers, although some do acknowledge that other providers may have absorbed a portion of the demand. For example, the Haws study concludes that “the availability of nearby services may have some impact on the price elasticity of demand....”17 The Ojeda study attempts to determine the impact of price changes on use of other methods provided by PROFAMILIA but does not consider the impact of implant price reductions on the use of other sources.18 Nevertheless, other work on the implant has shown that an increase in its distribution causes women to switch sources to obtain the method.19

Two studies have attempted to determine whether price increases for a particular method or source affected overall use of contraceptives. Ciszewski and Harvey examined the impact of price increases for condoms and oral contraceptives sold by the social marketing company in Bangladesh.20 Prices were increased in April 1990 by an average of 60%. Social marketing company sales of condoms declined by 46% in the following 12 months, while the impact on sales of the pill was less dramatic. The authors concluded that the price increases negatively affected not only sales of condoms and pills by the social marketing company, but the total distribution of condoms and pills in Bangladesh.

Data from contraceptive prevalence surveys conducted in 1989 and 1991 contradict the study’s assertion of declines in overall contraceptive use. During this period, use of the pill increased from 9.1% of women in union to 13.9% and condom use increased from 1.9% to 2.5%.21

An important reason for increased use of the pill and the condom is that the government of Bangladesh substantially increased its employment of field workers who distribute these methods, thereby establishing a viable substitute to pharmacy distribution.22 The share of resupply methods provided by pharmacies declined from 44% in 1989 to 26% in 1991.23 Therefore, while fewer users of the pill or the condom purchased their method at a pharmacy, the difference was apparently more than offset by increased provision from the government program and other sources.

In the second study that examined impacts on the total market, Harvey used data from 24 countries to demonstrate a negative correlation between condom prices and sales volume in social marketing programs.24 His recommendation was that prices should be set low enough that no more than the equivalent of 1% of per capita gross national product would be needed to purchase 100 condoms. Although he
Acknowledged that condoms sold by social marketing programs are part of a larger market that includes other condoms and other methods, he did not attempt any analysis of substitution patterns. However, given that there are good substitutes for social marketing condoms, price increases might reduce social marketing sales, but not necessarily reduce distribution of all condoms or of all methods. A more thorough analysis, country by country, is required to determine how condom pricing in social marketing programs affects contraceptive use.

Conclusions
In summary, each of the studies reviewed here has methodological problems that undermine the validity of its conclusions. Thus, because we do not fully understand the impact of user fees on contraceptive use, the potential for user fees to expand resources for family planning in non-government and government programs remains unclear.

The only solution is to conduct well-designed experimental studies that assess method- and source-substitution patterns resulting from price changes. An ideal price experiment would 1) randomly allocate service delivery points for the program under study to an experimental group that raises prices or to a control group that keeps prices constant, 2) collect information on the distribution of all methods and 3) collect information on the distribution of methods by other programs.

The results of studies using this design could provide a basis for action on the part of governments, nongovernmental organizations and donors as they seek to ensure sufficient funding for family planning services in the future. Because programs may soon have to make decisions about whether and how much to increase prices, such research should be given a high priority.

References