

Unmet Need for Family Planning in Developing Countries and Implications for Population Policy

JOHN B. CASTERLINE

STEVEN W. SINDING

“UNMET NEED FOR family planning,” which refers to the condition of wanting to avoid or postpone childbearing but not using any method of contraception, has been a core concept in the international population field for more than three decades. Under the label “KAP-gap,” for knowledge, attitudes, and practice regarding family planning, the concept had its origins in the first fertility and family planning surveys carried out during the 1960s. From the outset the KAP-gap was recognized as a preeminent rationale for investments in family planning programs because of its causal link to unwanted childbearing. Its central role as a justification for programmatic effort and, more fundamentally, as an organizing concept in international population had if anything solidified during the 1990s. As unmet need has come to occupy a central position, not surprisingly it has been subjected to careful scrutiny. Skepticism and criticism of the concept—its validity and its utility as a guide for policy formulation and program design—were cogently articulated and gained wide currency in the 1990s (Dixon-Mueller and Germain 1992; Pritchett 1994; Jain 1999). During the same period, a substantial body of new empirical research on unmet need for family planning was completed, and we sense that the broad significance of this research has not yet been widely recognized.

Our purpose here is to reexamine the utility of unmet need for family planning as an organizing concept for population policies and for reproductive health and family planning programs. Throughout the article our concern is the unmet need of reproductive-age women, although later in the article we briefly consider unmet need for family planning of men and, add-

ing further complexity, of couples. After reviewing the development of the concept and the debate surrounding it from the 1960s to the present, we address several questions that have been raised about the concept: (1) Is the concept valid, that is, are contradictions between fertility preferences and contraceptive behavior real? (2) Does unmet need have any bearing on the larger process of fertility transition? (3) What is the correspondence between unmet need, the demand for contraception, and the demand for family planning services? (4) Has the concept been too narrowly formulated? (5) Is unmet need amenable to programmatic action? (6) What is the role of unmet need in justifying population policies and informing the development of programs?

The first four questions address the meaning of the concept of unmet need, whereas the last two are questions about its utility. In considering these questions, we rely heavily on two sets of empirical studies conducted during the past five years. One consists of cross-national analyses of Demographic and Health Surveys (DHS) data, and the other consists of more-localized in-depth studies that have focused on unmet need for family planning and related issues. In most of the studies in this second set, survey interviews were complemented by semistructured qualitative interviews in which women and men were asked about their fertility preferences, their success in implementing them, their attitudes toward contraception, and the like.¹ It is curious that, while unmet need for family planning and equivalent concepts (e.g., KAP-gap) are now at least three decades old, rigorous investigation of the factors that account for discrepancies between fertility preferences and contraceptive use is a relatively recent development.

Background

One of the central questions in population policy has been the extent of unintended fertility and, correspondingly, the amount of unsatisfied demand for fertility regulation. The extent of demand for fertility regulation is crucial to determining strategies to reduce high fertility. The assumption, often unstated, has been that prevention of unintended pregnancies through contraception is preferred to prevention of unintended births through induced abortion, although the impact on aggregate fertility rates is for all intents and purposes the same. From the 1960s onward, most economists (e.g., Kelley 1988) and many demographers (e.g., Davis 1967; Hauser 1969) questioned whether there was sufficient unsatisfied demand for fertility control in high-fertility countries to warrant a family planning services—or “supply-side”—approach.

To deal with this skepticism and to determine the extent of demand for fertility regulation, surveys on knowledge, attitudes, and practices regarding family planning were mounted in various parts of the developing

world in the 1960s. These so-called KAP surveys (Bogue 1974) showed that in nearly all societies a discrepancy existed between some women's reproductive preferences and their contraceptive behavior, that is, there was a KAP-gap (Mauldin 1965; Berelson 1969). In most of these societies, there was no reason to believe that this gap could be readily closed through induced abortion. The identification of the KAP-gap was an important milestone in the development of population policies and programs through the 1960s, particularly in Asia. The documented existence of a significant group of women who expressed a desire to limit their fertility and who ostensibly would use family planning services if they were available inspired many governments to initiate ambitious family planning programs.

Nonetheless, much skepticism remained about the actual demand for family planning services. On the basis of analysis of women's responses to three KAP surveys in Taiwan, Ronald Freedman and colleagues (Freedman, Coombs, and Chang 1972) first identified a subset of women who they argued would be especially receptive to contraception, even without changing the number of children they wanted, because they indicated a desire to terminate childbearing but reported no use of contraception. Two years later, Freedman and Coombs (1974) used survey data from several countries to generate estimates of the size of this group. Drawing on the social psychology literature, in which the discrepancy between attitudes and behavior is firmly established (e.g., Ajzen 1993), they called the gap between the "need" for family planning services and their use "discrepant behavior."

The successor to the KAP surveys of the 1960s was the World Fertility Survey (WFS) program, which began in 1972 and ran through 1984, yielding surveys in 41 developing countries. In view of the crucial role of KAP-gap estimates in justifying support for population programs in their formative years, the limited effort of the WFS to broaden or deepen our understanding of this phenomenon is surprising. The WFS collected the pertinent information, but generating KAP-gap estimates was viewed as secondary to the goal of providing sound estimates of vital rates (fertility and mortality), the proximate determinants of fertility, and even fertility preferences. None of the 40 "comparative studies" produced by the WFS examines the relationship between fertility preferences and contraceptive use.² (The WFS did, however, devote systematic effort to the estimation of unwanted fertility; see Lightbourne 1985.) Greater attention was given to the relationship between preferences and contraceptive use in analyses of data from surveys conducted under the Contraceptive Prevalence Surveys (CPS) project, which ran from 1978 to 1984 (Anderson and Morris 1981; Morris et al. 1981).

When the first set of WFS surveys from Asia became available, Westoff (1978) produced a five-country study of "unmet need for family planning," the phrase he substituted for "KAP-gap" as an indication of his determination to develop more-refined measures of the discrepancy between

fertility preferences and contraceptive use.³ This was the first of several studies by Westoff and colleagues. In the first analyses, Westoff excluded pregnant and amenorrheic women on the grounds that they had no immediate need for contraception. This was one of a number of definitional issues that soon came to the fore. Subsequently, Westoff and Pebley (1981) showed that different definitions of unmet need (they specified 12 alternative definitions) produced estimates of the prevalence of unmet need that varied substantially (see also El-Zeini forthcoming). They also recommended that the unmet need concept be enlarged to cover the desire to space births as well as to limit childbearing (Westoff and Pebley 1981). The CPS surveys, unlike the WFS, included questions about interest in postponing or spacing births, so that it became possible to calculate the unmet need for spacing as well as for limiting births. A further broadening of the definition was advocated by Nortman, who argued that some pregnant, breastfeeding, and amenorrheic women should be included in the definition of unmet need because many would require contraception as soon as their current nonsusceptible status ended (Nortman 1982; Nortman and Lewis 1984).

The Demographic and Health Surveys became the vehicle for consolidating these refinements in the measure of unmet need. In the DHS, women who want more children are asked how soon they want to have the next birth. The DHS also asks pregnant and postpartum amenorrheic women whether their current or most recent pregnancy was intentional, mistimed, or unwanted (and also whether they were using contraception at the time of conception). With this information, Westoff and his collaborators developed an algorithm that is more complicated than the conventional KAP-gap measures of the 1960s and 1970s and more complicated than the unmet need indicators generated from the WFS, chiefly because it allows for unmet need for the spacing of births and because of the assessment of pregnant and amenorrheic women, who are included among the women with unmet need if their current or most recent pregnancy was unwanted or mistimed (Westoff 1988). This algorithm, in various formulations that differ only slightly, has been applied to several rounds of DHS surveys in the country reports and in comparative studies (Westoff and Ochoa 1991; Westoff and Bankole 1995). The DHS investment in measuring unmet need for contraception—the care taken in developing intricate algorithms and their application in numerous country and comparative reports—is indicative of the increasing importance the field has attached to unmet need and related concepts. The contraceptive prevalence rate (CPR) remains the contraception parameter of first interest in most quarters, but as time has gone by the prevalence of unmet need has assumed almost equal stature. Because unmet need joins together contraceptive behavior and fertility preferences, the concept represents a marked shift in emphasis, although it is not always recognized as such. An increasing emphasis on unmet need unavoidably

brings with it greater attention to the demand for children, a point we return to below.

By the early 1990s, unmet need for contraception was firmly established as a core concept in the family planning and population policy literature. While the concept was not without its critics—we devote much of the remainder of this article to reviewing the criticisms leveled at the concept—it appeared to demonstrate widespread demand for family planning services in many countries and a desire in nearly all societies to restrict fertility below prevailing levels. To be sure, this desire might also be attained through induced abortion, but the same survey data also contained women's admissions that substantial fractions of their recent births were unwanted (Lightbourne 1985). This remains so, to varying degrees, in most contemporary societies (Adetunji 1998), despite the large number of pregnancies that are terminated by induced abortion, both safe and unsafe, legal and illegal (Alan Guttmacher Institute 1999). Survey-based estimates of the prevalence of unmet need helped to overcome the skepticism of many scholars and policymakers about the existence and extent of demand by individuals for the information and means needed to control their fertility. Throughout the 1970s and 1980s, the concept helped to accelerate the expansion of family planning services, both as freestanding programs and as integrated components of expanded primary health care services.

As preparations began for the 1994 International Conference on Population and Development (ICPD), advocacy groups for women's health and rights, which had grown in size and determination over the previous two decades, set about using the ICPD as a means to shift the focus of population programs from demographic goals and targets to women's lives, including but not limited to their reproductive health (Sen, Germain, and Chen 1994; McIntosh and Finkle 1995). The manifesto of this women's movement became the 1994 "Women's Declaration on Population Policies," one of whose main planks was the elimination of demographic targets, quotas, and goals (International Women's Health Coalition 1993). These demographically derived targets, it was argued, led to programs that frequently directed women to obtain unwanted sterilizations and inappropriate methods of family planning, and, in their worst manifestations, resulted in coercing women to undergo sterilization or abortion (Garcia-Moreno and Claro 1994). In the event, the concerted effort to redefine the principles underlying international population policies and programs was largely successful, as plainly reflected in the ICPD Programme of Action agreed to by more than 180 governments in Cairo in 1994 (McIntosh and Finkle 1995).

In retrospect, the preparations for the Cairo conference and the conference itself marked a historic redirection of the field. It is ironic that, in the highly charged political context of the early 1990s, the concept of unmet need for family planning—which had its origin in the mainstream family

planning movement of the 1960s and 1970s—assumed a new function as a bridge between the demographic and reproductive health points of view. From the standpoint of women's reproductive health rights, unmet need was taken as one indicator of the violation of such rights and one of several basic rationales for women's empowerment (McCauley et al. 1994; Germain 1997). From the demographic standpoint, an analysis published in 1994 (Sinding, Ross, and Rosenfield 1994) showed that, in nearly all countries that had specified demographic targets, fully satisfying the unmet need for contraception would result in contraceptive prevalence rates higher than the established targets. The interpretation placed on this finding was that public policies designed to satisfy existing demand for fertility regulation would obviate the need for targets that might be used as justification for activities that violated human rights.⁴ This conclusion reassured many governments, particularly European governments, that it was possible to achieve demographic goals without pursuing numbers-driven population policies. Rather surprisingly, empirical analysis seemed to have dissolved the assumed tension between individual and collective interests that had troubled the field for decades (Demeny 1986). In the ICPD Programme of Action, unmet need for family planning receives explicit mention as a core rationale for population programs, and the document goes on to say: "Governmental goals for family planning should be defined in terms of unmet needs for information and services.... All countries should, over the next several years, assess the extent of national unmet need for good-quality family-planning services..." (United Nations 1994: paragraphs 7.12 and 7.16). Reducing unmet need became a target in itself, rather than a means for achieving demographic goals (Sai 1997).

In hindsight, the period surrounding the Cairo conference may have been a high-water mark for unmet need as an organizing concept in the international population field.⁵ Some decline in enthusiasm for the concept follows inevitably from the lesser emphasis on family planning, as compared to other reproductive health issues, in the post-ICPD period. Below we consider whether unmet need for contraception has been too narrowly defined. Clearly there is scope for enlarging the concept, but it remains intrinsically a family planning concept, and thus it seems unavoidable that unmet need will become less compelling as family planning is seen as a less urgent priority and as an increasing portion of the need for family planning is satisfied.

As the term has gained wider currency, there have also been unfortunate misunderstandings of what it signifies. For many the term is not self-evident; and it is even offensive to some, especially nonspecialists. Even among specialists, many economists appear to be offended by the notion that any real need goes unmet. We consider this dispute at greater length in the next section. For others, resistance may reflect not so much a confu-

sion about the concept of unmet need for family planning as a legitimate difference in social policy priorities in the face of finite resources. For example, in research conducted in 1996, officials from selected European development agencies—nearly all of them nonspecialists—most commonly reacted to the term with the comment that there are many unmet *needs* in the development field, among which family planning services is just one (Market and Opinion Research International 1997). The ranking of more-effective fertility control (whether to serve individual or collective interests) as against other health and societal needs is a paramount public policy question that is, however, outside the bounds of this discussion.

More-focused misgivings about the concept have been articulated in the research literature, and it is to these that we devote the remainder of this article. Some of these echo skepticism about unmet need first expressed in the 1960s (with reference to the KAP-gap and repeated frequently up to the present), others are of more recent origin. In what follows, we lean heavily on recent empirical research.

Validity of the concept

Perhaps the most fundamental challenge to the concept of unmet need is the assertion that it does not refer to a valid behavioral phenomenon. This argument takes several forms, all of which share the premise that the discrepancy to which unmet need refers is illusory: it is an artifact of survey measurement and/or the algorithms that analysts apply to survey data; or, even if it accurately captures an apparent inconsistency between preferences and behavior, this contradiction exists only in the eyes of the data analyst, not in the experience of women and men, who perceive no contradiction between their fertility preferences and their reproductive behavior.

A rudimentary version of this argument dismisses survey-based measures of fertility preferences. This view was prominent in the early days of fertility surveys (Hauser 1967), but has essentially been refuted by the cumulative weight of empirical research over the past three decades showing that survey data on fertility desires possess substantial validity, as assessed either at the aggregate or the individual level (Westoff and Ryder 1977; Hermalin et al. 1979; Westoff 1990; De Silva 1991; Tan and Tey 1994; Bankole and Westoff 1998). Hence the major participants in the more recent debate about unmet need have not questioned the overall validity of preference data.⁶

Instead, the discussion has shifted to the question of whether unmet need has any correspondence with the expressed experiences of individuals or, instead, is a construct imposed on women in quantitative analysis conducted in research centers far removed from the communities where the survey interviews were carried out. Note that in the DHS and similar

surveys, women are not asked directly whether they perceive an inconsistency between their fertility preferences and contraceptive practice; rather the discrepancy is identified by the analyst through the comparison of responses to items in separate blocks of the questionnaire. In this sense unmet need is an inference on the part of the researcher, not a condition reported by the respondents themselves. The inference is twofold: that women who state a desire to postpone or terminate childbearing would like to take actions to avoid births, and that this should take the form of contraception rather than induced abortion (or any other actions women assume prevent births).

The most direct evidence that unmet need is real is the high incidence of pregnancies that are reported as unintended and—proof that induced abortion does not explain away unmet need—the large number of births that are reported as unwanted. With all the attention given to unmet need during the past decade, it is easy to forget that it is the desirability of preventing unintended pregnancies that justifies the focus on unmet need (Yinger 1998). Roughly one-fifth to one-quarter of births in the developing world are unwanted, as measured by women's direct responses in surveys to a question about the wantedness of their most recent pregnancy (Bongaarts 1997b). In all likelihood this is an underestimate of unwanted births, because longitudinal survey data reveal women's tendency for *ex post* revision of their preferences in favor of the wantedness of existing children (Bankole and Westoff 1998). Furthermore, because a substantial fraction of pregnancies are terminated through induced abortion (Alan Guttmacher Institute 1999), the fraction of pregnancies that are unwanted must be even higher than the fraction of births that are unwanted. A further fraction of recent births are reported as having occurred sooner than desired. Women's willingness to report that large numbers of recent births were unwanted or mistimed is difficult to reconcile with the argument that unmet need occurs only in the minds of researchers and policymakers.

This debate does not answer the question of whether the existence of unmet need has any immediate salience for women and men. Several recent empirical studies have been revealing on this point. As some have surmised (e.g., Pritchett 1994), a substantial minority of women classified as having unmet need perceive themselves to be at low risk of conceiving. Current practice is to exclude infecund women—that is, women who are thought to be unable to bear any (more) children—from the category of unmet need. Many women who are classified as fecund, however, may regard themselves as being at sharply diminished risk of pregnancy, either because they infrequently engage in sexual intercourse or because they feel (correctly or incorrectly) that their fecundability is low. In a comparative analysis of DHS data, Westoff and Bankole (1995) show that low perceived risk of conceiving accounts for a substantial fraction of unmet need in many

countries. In more-localized in-depth studies of unmet need, the same finding emerges in the Philippines (Casterline, Perez, and Biddlecom 1997), Guatemala (Asturias de Barrios et al. 1998), Egypt (El-Zanaty et al. 1999), and Nepal (Stash 1999) but appears to be of less importance in Pakistan (Casterline, Sathar, and Haque forthcoming). In sub-Saharan Africa, a large fraction of women classified as having unmet need for birth spacing report that they are in postpartum abstinence (Westoff and Bankole 1995). It should not be surprising that women who, correctly or incorrectly, perceive themselves at low risk of conceiving see little reason for coping with the various costs and inconveniences of using contraception. Judging from these empirical studies, perception of a low risk of conceiving typically accounts for something on the order of 10–25 percent of the estimated unmet need for family planning. This is a nontrivial percentage, but hardly enough to invalidate the concept.

Equally revealing are the qualitative interviews conducted as part of the same set of in-depth studies. One line of questioning common to these studies was to ask women and men about their fertility preferences and their success in implementing them, in effect probing into their self-perception of unmet need for more effective fertility regulation. In all settings, it is clear that many women and men feel frustrated by their inability to adopt behaviors that would effectively prevent unintended pregnancies. Some individuals articulate the obstacles (deficiencies in the service environment, social barriers, and so forth) to implementing their preferences in fertility-regulation behavior, while others express only vague frustration that easily slips into resignation. Whether or not obstacles are identified, the transcripts from these qualitative interviews leave the reader with a sense of individuals' dissatisfaction with their ability to regulate their fertility.⁷ Furthermore, a willingness to rely on induced abortion, instead of contraception, as a means of preventing unintended births is not expressed commonly in any of these settings. It is not possible from these studies to determine what fraction of women classified as having unmet need for contraception perceive themselves to be in that condition, but the cumulative impression is that it is a majority, not a minority, of such women. The argument that unmet need is entirely a fiction devised by the survey analyst is effectively refuted by this qualitative research.

It is important to establish the fundamental validity of unmet need, and in so doing respond to two sets of criticism. The first criticism, common among economists, is that the concept is illogical: if individuals truly wish to regulate their fertility, they will find a means to do so. Under conventional economic theory, unmet need (which economists understandably confuse with unmet demand) can be viewed as a temporary disequilibrium that market forces would correct in short order. By this reasoning, nonuse of contraception simply demonstrates a lack of sufficient motivation (Demeny

1975; Pritchett 1994). The second criticism is that the concept of unmet need is patronizing (Pritchett 1994).

Both criticisms originate in misunderstandings of unmet need that can be attributed to the simplistic theorizing, and in many cases sheer absence of a sound behavioral model, in much of the mainstream research on unmet need. The key concept that has not been routinely articulated in this literature is *preferences operating under constraints* or, alternatively, *competing preferences*. Social scientists who have studied the relationship between attitudes, motivation, and behavior have long recognized that strongly held preferences will often not have direct behavioral counterparts because of obstacles to the implementation of those preferences or because other preferences overrule them (e.g., see reviews in Ajzen 1993; Eagly and Chaiken 1998; Dawes 1998; and Pittman 1998).⁸ By no means does this diminish the reality of the contradiction between preferences and behavior; rather, it explains how it can come about. The in-depth empirical studies of unmet need carried out during the past five years provide concrete verification, in the case of contraception, of the validity of the decisionmaking models proposed in the social psychology literature. In diverse settings, preferences to avoid pregnancy are stymied by various constraints and obstacles, most notably fear of health side effects and social opposition (e.g., from one's spouse);⁹ hence, it is not surprising that a substantial fraction of pregnancies are reported as unintended. Stash (1999) describes the deliberate weighing of costs and benefits of using contraception in Nepal, with the frequent result that women and men do not use a method despite a clear desire to avoid pregnancy. In short, unmet need is not illogical, nor does it presume irrational decisionmaking.

Unmet need and fertility transition

A different line of argument questions the aggregate-level validity of the concept of unmet need. At issue is whether unmet need, as currently defined and measured, has any observable association with trends over time in contraceptive prevalence and fertility. If, the reasoning goes, unmet need correctly depicts a state of contradiction between fertility preferences and contraceptive practice, then adoption of contraception should be one of the common resolutions (induced abortion would be another). These individual-level decisions, in turn, when aggregated should result in an increase in contraceptive prevalence and a decrease in fertility (because of reduced rates of unintended pregnancies). If, however, changes in contraceptive prevalence and fertility rates are attributable mainly to changes in fertility desires, then unmet need would be an insignificant concept from the standpoint of explaining observed variation of fertility over time and space and, hence, of limited utility as an organizing concept for population policy.

This point of attack is adopted by Pritchett (1994) in an influential article.¹⁰ Citing the strong cross-sectional and over-time correlation between desired and actual fertility at the country level since 1970, Pritchett concludes that fertility decline is due almost entirely to changes in fertility desires, hence there is limited scope for affecting fertility through the reductions in unwanted fertility that would follow from satisfying unmet need. Pritchett's argument is persuasive, and in fact few scholars would dispute his assertion that the fundamental force underlying fertility decline is a reduction in the number of births desired, itself a response to factors such as improvements in child survival, changes in the structure of the economy, and so forth. In building his argument Pritchett draws on evidence from a diverse set of empirical studies, using the various pieces of evidence to complement and reinforce each other. The linchpin in his case, however, is the fact that trends in actual fertility closely track trends in desired fertility. Or, equivalently, over the course of fertility transition the level of unwanted fertility is relatively stable.

From this Pritchett draws the inference that reductions in unwanted fertility must contribute very little to fertility decline. In drawing this inference he is mistaken, as Bongaarts (1997a, 1997b) shows through a simple model of reproductive behavior. Bongaarts's model distinguishes between the unwanted fertility rate calculated with all women of reproductive age serving as the denominator and the fertility rate among the smaller group of women who want to terminate childbearing (by definition the only source of unwanted births). Absent reductions in the fertility rate among this latter group of women, unwanted fertility calculated for all women will increase in the early and middle stages of fertility transition, primarily because declines in desired family size place a larger fraction of women at risk of an unwanted birth. Put otherwise, if unwanted fertility rates are relatively unchanging over time among all women of reproductive age, a reduction in unwanted fertility can only occur if fertility rates fall among the growing subset of women who want to stop childbearing. Pritchett draws the wrong conclusion from his empirical evidence: rather than demonstrating that fertility decline is almost entirely a result of reductions in the demand for children, his evidence is more consistent with a historical process in which a reduction in fertility among those at risk of unwanted births makes a disproportionate contribution to the overall fertility decline. This avoidance of unwanted births, in turn, was achieved largely through the adoption of contraception, as is plainly demonstrated through a substantial body of survey data.

A recent article provides direct empirical evidence of the decisive contribution to contemporary fertility declines of satisfaction of unmet need. Feyisetan and Casterline (2000) examine changes in contraceptive prevalence in 26 countries in Asia, Africa, and Latin America between the late 1970s and the late 1990s. Using individual-level survey data on fertility pref-

erences and contraceptive use, the authors determine what fraction of the observed change in contraceptive prevalence can be accounted for by changes in fertility preferences (i.e., demand-driven change) and what fraction is accounted for by increasing rates of use within preference categories (i.e., change due to satisfying unmet need, or, equivalently, due to increased implementation of fertility preferences). In all 26 countries, increasing rates of contraceptive use within preference categories account for a majority of the increase in prevalence (ranging from 61 percent in Ghana to 96 percent in Colombia). Changes in fertility preferences, by contrast, account for only about 20 percent of the increase in prevalence on average, and in none of the 26 countries do they explain more than 40 percent of the increase. The clear conclusion is that substantial increases in contraceptive prevalence (and, by this means, substantial declines in fertility) can be achieved in the absence of changes in the demand for children, through the satisfaction of already-existing demand for fertility regulation.¹¹

This research lends validity to the concept of unmet need and represents the aggregate-level counterpart to the individual-level phenomenon, evident in the qualitative research cited above, of a contradiction between fertility preferences and contraceptive behavior that individuals recognize and seek to resolve.

Unmet need and the demand for family planning

Beginning with the first efforts to devise survey-based estimates of unmet need, one of the most compelling incentives has been that these might serve as estimates of latent, or unsatisfied, demand for family planning (or, going a step further, demand for family planning services). Trustworthy estimates of latent demand would clearly have considerable practical utility for a number of disparate purposes (ranging from demographic projection to the allocation of program resources). Up to the present, it has been common to equate unmet need and latent demand for family planning. As one example, the penultimate DHS comparative analysis of unmet need is entitled *Unmet Need and the Demand for Family Planning* (Westoff and Ochoa 1991), and even the most recent DHS comparative analysis makes frequent use of the notion of “total demand for family planning,” which is defined as the sum of contraceptive prevalence and unmet need (Westoff and Bankole 1995). Analyses such as that of Sinding, Ross, and Rosenfield (1994), which shows that satisfaction of existing unmet need through contraception would, in itself, result in the attainment of established targets for contraceptive prevalence and fertility in most countries, implicitly assume that unmet need represents latent demand for family planning.

Several criticisms that can be leveled at the conclusions of Sinding et al. and similar exercises derive from skepticism that unmet need is equiva-

lent to latent demand for contraception. One criticism is that satisfaction of all unmet need is unattainable in the short term, rendering the hypothetical calculations in Sinding et al. of little practical value. A second criticism is that unmet need is a poor proxy for the near-term demand for family planning (and, more specifically, family planning services), as compared to other available indicators. We consider the two arguments in turn.

Beginning with the first criticism, undoubtedly many women with unmet need are unlikely to adopt contraception any time soon, not so much because of their lack of access to services but rather because of their extreme reluctance to use contraceptives, either because of their perception of a low risk of conceiving or because of social, cultural, and health concerns (Pritchett 1994). This point is buttressed by empirical research, reviewed below, on reasons for unmet need. Even if it were correct from an analytical standpoint to regard women with unmet need as having latent demand for contraception, as a practical matter the reasons many women have for not using contraceptives are so firmly established that contraceptive practice any time soon, or ever, is extremely unlikely. By this line of reasoning, the calculations in Sinding et al. exaggerate the potential demographic impact of any determined effort to satisfy unmet need. But from this does it follow that estimates of unmet need can be dismissed as simply uninformative about latent demand for family planning? A more balanced view is that some fraction of the estimated unmet need does indeed represent latent demand for family planning that is susceptible to conversion into contraceptive use.

This last view governs the DHS analysis by Westoff and Bankole (1996), who consider several scenarios in which only a subset of women with unmet need adopt contraception. In particular, if one assumes that only those women with unmet need who state an intention to use contraception in the future are prepared to adopt—arguably a conservative assumption—this still implies an increase in contraceptive prevalence of 60 percent on average (nearly 100 percent in countries in sub-Saharan Africa, where prevalence starts from low levels, and around 20 percent elsewhere), and an average decline in the total fertility rate (TFR) of 15 percent. Although this may seem a modest reduction in the TFR, in the majority of countries it represents 20 percent to 50 percent of the distance to replacement-level fertility. The primary conclusion to be drawn from Westoff and Bankole's analysis is that substantial demographic impact would follow from satisfying a fraction of existing unmet need. Under plausible (if ambitious) scenarios, a compelling demographic rationale for a focus on unmet need remains, and the key conclusions of Sinding et al. are confirmed.

The approach taken by Westoff and Bankole is ultimately unsatisfying, because the choice of the fraction of unmet need that represents a conscious demand for family planning is arbitrary. This shortcoming is a major motivation for conducting experimental studies, such as the highly influ-

ential Matlab project in Bangladesh,¹² that ascertain how women and men with unmet need respond to specific modifications of their environment. For now, we must settle for an imperfect understanding of the relationship between unmet need and the demand for family planning. Only if it were feasible to make contraceptive practice cost-free (with costs broadly defined to include cultural, social, and health costs as well as financial and time costs) would it be correct to regard all women and men with unmet need as having a latent demand for family planning that could readily become manifest. Short of that ideal and unrealizable condition, the category "unmet need" is composed of women who vary considerably in their demand for family planning. Some of these women desire to practice contraception under present circumstances or a change of circumstances that is within reach, while others would be prepared to use contraception only if significant features of their present circumstances could be modified. Some may prefer to rely on induced abortion, although there is considerable evidence that in most societies most women prefer contraception to abortion as a means of preventing births. How easily unmet need can be converted into use of contraception is a function of the nature and strength of the obstacles preventing implementation of preferences, and these will vary from setting to setting. Once this is recognized, clearly it is a mistake to link the validity of the concept of unmet need to its success in capturing demand for family planning.¹³

This leads to the second criticism of using unmet need as a proxy for demand for contraception, namely that better indicators are available. To ascertain the fraction of women and men with conscious demand, the most direct measure provided by surveys is the intention to use contraception in the future, typically an item asking the respondent whether she or he intends to use any time in the future or, more usefully, within the next 12 months. Prospective studies have demonstrated a strong correspondence between the intention to use and subsequent contraceptive behavior (e.g., Adler et al. 1990; Bhatia 1982; Curtis and Westoff 1996). Of particular relevance to our argument, recent analyses of DHS data by Ross and Heaton (1997) and Ross, Stover, and Willard (1999) show that a substantial fraction of nonusers who intend to use are not captured by conventional definitions of unmet need. If the aim is to estimate short-term demand for family planning, then the sum of contraceptive prevalence (with some allowance for discontinuation) and those intending to use is a more valid indicator than the sum of contraceptive prevalence and the prevalence of unmet need, even allowing for some failure to use among those stating an intention to use, because of the types of obstacles we have alluded to earlier.¹⁴ Note that this constitutes a departure from the logic of the algorithms developed by Westoff and colleagues. Those algorithms are assiduously cross-sectional in their frame of reference; their aim is to estimate unsatisfied need for pregnancy avoidance as of the date of the survey interview, not in the succeed-

ing months or years. When assessing the short-term demand for family planning services, in contrast, one must include sexually inactive women who might soon become active: for example, adolescents and women practicing postpartum abstinence. This concern has motivated the development of algorithms for estimating future demand that take into account reproductive dynamics (e.g., Nortman and Lewis 1984).

Broadening the definition

One criticism leveled with increasing frequency at the concept of unmet need for family planning is that the concept is too narrow. Many advocates for women's health and rights argue that unmet need is a misleading term because, as presently defined, it neglects reproductive health needs other than preventing births and neglects potential clients other than married women (Dixon-Mueller and Germain 1992; Dixon-Mueller 1993). In the sharpest versions of this criticism, unmet need is seen as a device that demographers have used to justify the expansion of family planning services for the purpose of reducing fertility—a Trojan horse for implementing demographic policies. According to these critics, reference to unmet need sustains a focus on numbers that has led to an expansion of services which do little to improve the reproductive health of women. By emphasizing demographic rather than health outcomes, proponents of unmet need perpetuate programs that serve women's health needs poorly and at worst are coercive (Hartmann 1987). Less radical versions of this criticism contend that the standard measure of unmet need fails to take into account the degree to which women are dissatisfied with their present method of contraception and with the quality of services through which methods are provided. These critics argue that unmet need should include qualitative as well as quantitative dimensions (Bruce 1990). Contraceptive users may still have family planning needs, and high contraceptive prevalence rates can coexist with the persistence of significant unmet family planning needs.

Some of these arguments, when examined more closely, do not identify shortcomings in the concept of unmet need for family planning *per se*, nor deficiencies in the way the concept has been applied, but rather constitute a rejection of the priority placed on family planning compared with other reproductive health behaviors and services. This is a legitimate stance to take, but is outside the scope of this discussion. We assume that prevention of unintended pregnancies is a widespread goal of women and men, that contraceptive practice is a principal mechanism for pregnancy prevention, and that it is appropriate for public policies and programs to be developed that facilitate individuals' avoiding unintended pregnancies. How this goal ranks against other reproductive health goals—for individuals, for larger collectivities—is a separate matter. We see nothing intrinsic to the concept

of unmet need for family planning that requires contraception for the purpose of pregnancy prevention to be regarded as of higher or lower priority than other health needs. Concepts analogous to “unmet need for family planning” that refer to other types of reproductive health needs can certainly be proposed, accompanied by the development of appropriate techniques for measuring their prevalence empirically (Omran et al. 1992; Short 1994). Moreover, in many settings a necessary ingredient in the improvement in the quality of family planning services is enhanced sensitivity to women’s broader reproductive health needs. Reproductive morbidity often discourages women from adopting or continuing to use contraception. In this sense, family planning and broader reproductive health agendas are not at odds with each other, indeed can be highly synergistic. A priority on reducing unmet need for family planning is by no means hostile to giving similar priority to meeting other reproductive health needs.

Beyond these larger issues of philosophy and purpose, we see considerable practical value in retaining a concept that focuses on family planning for the purpose of pregnancy prevention. In the same vein, we also favor retaining individual fertility preferences as the criterion for ascertaining the existence of unmet need for contraception. Some have proposed alternative definitions that use various health-risk criteria—for example, the woman’s age and parity, regardless of her desire to postpone or terminate childbearing (DeGraff and de Silva 1996)—but we view these as fundamentally different, albeit legitimate, bases for determining unmet need.¹⁵ The emphasis on individual reproductive aspirations is a hallmark of the concept of unmet need for family planning that emerged several decades ago.

Even given our adherence to this concept of unmet need, however, we recognize significant deficiencies in the empirical research to date. The underlying rationale for the concept is that unintended pregnancies are an undesirable outcome (Yinger 1998; Jain 1999). Obviously, married women are not the only persons at risk of unintended pregnancies: unmarried women and men (whether married or unmarried) are also at risk. Despite the calls of Dixon-Mueller and Germain (1992) and others to enlarge the definitions of unmet need to encompass these other groups, progress in this direction has been disappointing.¹⁶ The most recent DHS comparative analysis of unmet need contains estimates for unmarried women in most countries, but, as the authors concede, the estimates rest on a number of debatable assumptions (Westoff and Bankole 1995). The challenge in studying unmet need for family planning among unmarried women is, first, measuring sexual exposure (which is assumed for married women, although clearly this is not always the case) and, second, measuring fertility preferences. Both pieces of information are less easily obtained from unmarried individuals in most settings. Another practical obstacle is that ordinarily the data-collection instruments for the unmarried must be substantially differ-

ent from the instruments for the married, because questions about fertility desires, pregnancy and childbearing experience, contraceptive knowledge and practice, and so forth must be tailored to their different life situation.

The concept of unmet need for family planning is as straightforward when applied to men as to women: like women, men may wish to postpone or terminate their reproduction. Obviously, the consequences of pregnancy are different for men than for women, but this does not modify the basic concept of unmet need. The major complication with men is that they can father children with more than one woman, hence in theory their unmet need is woman-specific. This means that in empirical research information must be obtained about men's fertility preferences and contraceptive practice partner-by-partner. As with unmarried women, there has been limited empirical research on men's unmet need for family planning (for examples, see Doodoo, Luo, and Panayotova 1997; Ngom 1997).

A related topic of research is "couple unmet need" (Bankole and Ezeh 1997; Becker 1999). Given that fertility preferences are a property of individuals rather than couples, couple unmet need does not seem a useful concept, unless its formulation explicitly recognizes the possibility of spousal discordance in fertility preferences. The comparison between preferences and behavior that lies at the heart of unmet need makes no sense for dyads in which one partner can have preferences that differ from the other partner's. This is another instance of the irresolvable nature of what demographers usually term the "two-sex problem." There are many relevant topics to investigate without resorting to the concept of "couple unmet need": sex differences in levels of unmet need, the extent to which the attainment of one partner's preferences is incompatible with the attainment of the other partner's preferences, and the influence of each partner on the contraceptive attitudes and behaviors of the other (e.g., Ezeh 1993).

A final respect in which the conventional approach to unmet need has been criticized as being too narrow is the neglect of contraceptive users who are dissatisfied with their method or by some other criteria are using an inappropriate method (Dixon-Mueller and Germain 1992; Foreit and Mostajo 1993). One simple rule is to exclude less efficacious contraceptive methods—certain of the so-called traditional methods, for example—from the definition of contraceptive use, rendering women using these methods eligible for inclusion in the unmet need category. In Vietnam, applying this rule to recent survey data results in an increase in the percentage of currently married women with unmet need from 14 percent to 36 percent (Phai et al. 1996). In considering whether such refinements of the definition of unmet need are desirable, we return to the overarching goal that motivates the concept, namely the avoidance of unintended pregnancies (Yinger 1998). Contraception that provides inadequate protection from pregnancy—either because of features intrinsic to the method or because users are dissatisfied

and therefore use the method incorrectly—does not meet this goal, and by leaving users at risk of an unintended pregnancy does not completely remove them from the state of unmet need for family planning. In our view, therefore, classifying some users as having unmet need is in principle consistent with the basic concept of unmet need as it has been understood over the years. Conceptual issues remain to be resolved, particularly whether unmet need should be viewed not as a dichotomy but as a continuum, with some individuals having a greater degree of unmet need (or, better, a greater risk of an unwanted pregnancy) than others (El-Zeini forthcoming).¹⁷ There are also measurement challenges: for example, how can use-effectiveness and method dissatisfaction be ascertained in a DHS-type survey?

Unmet need and programmatic action

From the 1960s to the present, survey estimates of widespread prevalence of unmet need (or its predecessor “KAP-gap”) have been used to justify public and private investment in programs to provide family planning services to women and men, presuming that unmet need can be successfully addressed through programmatic interventions. Whether or not it can depends, first, on the nature and strength of the obstacles to the implementation of fertility preferences and, second, on the degree to which those obstacles can be weakened or even eliminated through programmatic interventions. Hence, in considering the role of unmet need in justifying and informing the design of programs, we begin with a review of evidence on the causes of unmet need.

We can point to nine in-depth studies conducted in the 1990s that entailed primary data collection (mixing qualitative and quantitative approaches),¹⁸ complemented by several DHS analyses that in effect examine the same problem (Bongaarts and Bruce 1995; Westoff and Bankole 1995). This surge in research on the causes of unmet need can be attributed to an awareness of a significant void in the empirical literature, combined with a renewed commitment by donors (including the Rockefeller Foundation, the US Agency for International Development, and the Hewlett Foundation) to advancing scientific knowledge on this problem. This research investment is indicative of a recognition on the part of these donors that a better understanding of individuals’ reproductive aspirations and the barriers to realizing those aspirations is a prerequisite if policies and programs are to be refashioned in a manner that is responsive to the Cairo agenda.

For the purpose of informing the design of programmatic interventions to reduce unmet need, the basic question is to what extent nonuse can be attributed to the properties of contraceptive methods or of family planning services, as against entrenched social and cultural barriers.¹⁹ If, for example, the primary reason that women do not act on their desire to limit fertility is the

opposition of husbands, other kin, and/or influential members of the community, then programs must develop strategies for reducing these social barriers. Or perhaps the sensible conclusion is that there is little that family planning programs can do to overcome such barriers, in which case the rationale for investment in such programs is seriously undermined. If, on the other hand, the primary reason for nonuse is a fear of side effects or other issues related to the service delivery environment, presumably informational and organizational reforms can be undertaken in response.

The usual conclusion that emerges from recent empirical research is that inadequate access to services is not one of the predominant causes of unmet need.²⁰ This finding is consistent with evidence in DHS surveys (Bongaarts and Bruce 1995; Westoff and Bankole 1995). It would be a mistake to infer from this finding that problems related to access have been eliminated. Women and men in rural Pakistan, for example, identify the remoteness of family planning services as one of the main barriers to contraceptive use (Population Council/Islamabad 1997). But in general, inadequate access to services is less often cited as a reason for unmet need than other costs of contraceptive use, most notably social opposition and health concerns, as discussed below.

In evaluating this finding, two points must be kept in mind. First, by design none of the in-depth studies of reasons for unmet need reviewed here permits a rigorous assessment of the contribution of the accessibility of services, as might be achieved, for example, through a quasi-experimental design (pre-test, intervention, post-test) or even a sample design stratified on access to services. While women rarely cite lack of access as a primary reason for not using contraceptives, a properly designed comparison of women with adequate and inadequate access might reveal substantial differences in the prevalence of unmet need. Well-designed quasi-experimental studies in several settings demonstrate that improved access can have large effects on contraceptive prevalence (for Bangladesh, see Koenig et al. 1992 and Cleland et al. 1994; for northern Ghana, see Debuur et al. forthcoming). A second and more fundamental point about the role of the family planning service environment is that many of the nonaccess barriers to use identified below can be attacked through appropriately designed programmatic initiatives (Bongaarts and Bruce 1995).

Of the causes of unmet need other than those related to access to services, three emerge from the in-depth studies as especially salient: lack of necessary knowledge about contraceptive methods, social opposition to their use, and health concerns about possible side effects.

On the matter of knowledge, there are many potential informational barriers to contraceptive use. Women must be aware of contraceptive methods, they must know where supplies of these methods can be obtained and how much they cost (with the exception of methods such as withdrawal and rhythm), and they must know how to properly use the method they

select. There are few settings in which most women possess all the necessary information. Indeed, in sub-Saharan Africa substantial fractions of women are simply not aware of any modern methods of contraception (Westoff and Bankole 1995). Elsewhere, many are aware of only one or two rather than the full range of available methods. Incomplete or erroneous information about where to obtain methods and how to use them may be even more prevalent (Robey, Ross, and Bhushan 1996). These types of information problems related to contraception are strongly associated with unmet need in cross-national analyses (Bongaarts and Bruce 1995) and in more-localized studies in Pakistan (Population Council/Islamabad 1997) and northern India (Viswanathan, Godfrey, and Yinger 1998; Mishra et al. 1999).

The second and third causes—social opposition and health concerns—are but the two most salient “costs of contraception,” to use the terminology of the Easterlin synthesis framework (Easterlin 1975; Hermalin 1983). Contraceptive costs are broadly defined to include social, cultural, psychic, and economic costs of adopting and continuing to use a method. While these costs have been recognized for some time (Bogue 1983; Nag 1984), only during the 1990s was their nature and strength investigated in a variety of settings.

The recent in-depth studies have focused on unmet need among women, and, not surprisingly, opposition on the part of the husband—real or perceived—has drawn the most attention. The woman’s husband is one of many socially significant actors who might discourage or oppose a woman who wishes to use contraception, but clearly in most settings the husband is by far the most dominant influence. The husband’s opposition is identified as a major reason for nonuse in studies conducted in the Philippines (Casterline, Perez, and Biddlecom 1997), Guatemala (Asturias de Barrios et al. 1998), India (Viswanathan, Godfrey, and Yinger 1998; Mishra et al. 1999), Egypt (El-Zanaty et al. 1999), Nepal (Stash 1999), and Pakistan (Casterline, Sathar, and Haque forthcoming). Other persons who are often portrayed as hindrances to contraceptive use are parents-in-law (especially mothers-in-law) and other in-laws, neighbors, and local community leaders (political or religious).

A conclusion that emerges from these and other studies is that unmet need is as much a reflection of primary social relations as it is of individual attitudes and experiences. This “social component” takes different forms depending upon the setting. In Pakistan, most women are convinced that their husbands oppose most methods of family planning, and contraceptive practice without the husband’s approval is unthinkable. Their husbands, in turn, are concerned about the social acceptability of contraception in their social circle of extended kin and community members (Population Council/Islamabad 1997). In this sense, the husband becomes the conduit through which other actors influence women’s contraceptive decisions. In northern Ghana, most women with unmet need and their husbands are unsure about

whether their spouses, relatives, and friends approve of contraceptive use, and this uncertainty makes them hesitant to adopt a radically new technology. Women's denial of the use of contraception is common (Biddlecom, Tagoe-Darko, and Adazu 1998).

Recent empirical studies have revealed the processes through which spousal relations create barriers to using contraception. According to data from several settings, wives and husbands on balance concur in their fertility preferences and in their views about contraception (e.g., Biddlecom, Casterline, and Perez 1997; Mason and Smith 2000). How is it, then, that husbands represent barriers to their wives' use of contraception? The answer is twofold. First, wives frequently misperceive their husbands' attitudes. This is of some consequence because attitudes toward contraception are undergoing change, and spouses' mutual misperceptions seem to be repositories for outdated (and often inaccurately negative) views (Population Council/Islamabad 1997). Second, while only a minority of husbands are more strongly opposed to contraception than their wives, in these instances the husband's view typically wins out. The wives of this minority of husbands appear to account for a disproportionate share of women with unmet need (Biddlecom, Casterline, and Perez 1997).

Another widespread finding is that health concerns are a major obstacle to the adoption and continued use of contraception. (See Bongaarts and Bruce 1995; Casterline, Perez, and Biddlecom 1997; Asturias de Barrios et al. 1998; Viswanathan, Godfrey, and Yinger 1998; Yinger 1998; El-Zanaty et al. 1999; Stash 1999.) Health concerns have been cited for decades by family planning fieldworkers. Recent empirical research provides more-rigorous confirmation of the powerful influence health concerns exercise over contraceptive decisionmaking. From qualitative interviews conducted in diverse settings, it is clear that health concerns are strongly felt and are not simply a convenient excuse on the part of the women. Recent qualitative research also shows that health concerns are multidimensional, a fact often overlooked by researchers and even family planning program managers. Interviews in Egypt, Nepal, Pakistan, and Zambia reveal that fear of the health side effects of contraceptives dissuades women from using a method, not only because of aversion to the expected physical discomfort (and worse) but also because of the expected time and financial costs of managing the side effects, the potential loss of labor productivity, the possibility of interference with spousal sexual relations, and a sense that the side effects signify divine disapproval. Once the multidimensional nature of this cost of contraception is recognized, it becomes clear why health concerns present an imposing barrier to use.

From the standpoint of the design of effective programs, what are we to make of these findings about the causes of unmet need? There is little solid evidence about what specific tactics programs can employ to reduce

obstacles to contraception that result from social opposition and health concerns (so-called nonaccess barriers). In certain settings increased density of services and improvements in the quality of services are followed by substantial increases in contraceptive use, and much of this increase is the result of greater use among already-motivated women, that is, satisfaction of unmet need (on Bangladesh, see Koenig et al. 1992 and Cleland et al. 1994; for northern Ghana, see Debpuur et al. forthcoming). If access to services has the same low ranking among the causes of unmet need in these settings as in the research just reviewed, then it follows that the program impact observed in these experimental studies must be due in large part to the reduction or elimination of nonaccess barriers to use. These nonaccess effects of programs have long been recognized (Cleland and Wilson 1987; Phillips and Ross 1992; Cleland 1994) but to date have not been carefully measured. We need experimental research in which both the pre-test and the post-test incorporate a rigorous assessment of the causes of unmet need, of the sort carried out in the in-depth studies cited above, from which it would be possible to determine the extent to which the intervention affected each of the causes.

It is nevertheless clear that programs can be deliberately designed to attack nonaccess barriers. Consider health concerns about contraceptive use. A number of well-recognized programmatic strategies are available for overcoming health concerns that block the adoption and continued use of contraception. These include careful counseling of women about likely side effects at the time contraceptive supplies are obtained, periodic follow-up of adopters in which special attention is given to health side effects, and local availability of a range of methods so that, when necessary, women can switch methods. Some of these strategies, in turn, depend on sound training of fieldworkers and the development of effective educational material. And, as noted above, health services that are more attentive to women's broader reproductive needs are likely to be more responsive to women's health concerns about contraception.

Unmet need and population policy

A persistent mistake during the past three decades has been to equate population policy with the singular aim of improving family planning services (i.e., through family planning programs) (Jain and Bruce 1994). There are of course important population issues worthy of concern other than high fertility. And fertility levels are certainly influenced by a host of social, cultural, and economic factors, as recognized at both the 1974 World Population Conference at Bucharest and the International Conference on Population at Mexico City in 1984 (United Nations 1974 and 1984). Despite this, many countries have pursued population policies virtually as if family plan-

ning were the only thing that mattered. While most countries have articulated policies that acknowledge the importance of increasing female schooling, reducing infant and child mortality, and empowering women, in most cases the population policies that were implemented consisted of little more than the mounting of family planning programs. Only in the period since the International Conference on Population and Development at Cairo in 1994 has a deeper appreciation developed of the importance of these other policy goals, both as indirect measures to reduce fertility and as desirable population policy aims in their own right (for an overview see Ashford and Makinson 1999).

It has been argued, as we said above, that a focus on the prevention of unintended pregnancies maintains the emphasis in population policy on family planning programs and that, as a result, the broader social policy reforms called for at Cairo will continue to be neglected. Some even fear that governments might reinstate unethical and coercive approaches to family planning.²¹ In our view, however, this line of argument ignores the distinctive features of the unmet need concept. In joining contraceptive behavior and fertility preferences, the unmet need concept also joins family planning and broader development approaches to population policy. This is so for two reasons. First, if policymakers accept the challenge of reducing unmet need, then they are forced to confront the causes of unmet need. The accumulating research, reviewed above, shows that social and cultural obstacles figure more prominently than simple access to services as causes of unmet need. By forcing policymakers and program managers to confront the question of why apparent demand is not expressed in contraceptive practice, unmet need can encourage a more-balanced assessment of the full range of obstacles, ignoring neither access to services nor the nonaccess factors (Bongaarts and Bruce 1995).

The second and more general means through which unmet need links family planning to broader development approaches is by keeping fertility preferences squarely in the picture. In so doing, it has the further virtue of retaining in the policy discourse the basic issue of individual versus collective goals (Demeny 1986). If unmet need were to be discarded as a guiding concept, the field might revert to almost exclusive reliance on the contraceptive prevalence rate and the total fertility rate as the key measures of success, irrespective of individual childbearing goals. Far better, if a broad view of population policy is to be sustained, is the fundamental distinction between the prevalence of non-use among those who want to avoid pregnancy and the prevalence of a desire to avoid pregnancy. An equivalent distinction is central to Bongaarts's decomposition of future population growth, in which unwanted fertility and wanted fertility are separable components of total fertility rather than being regarded as alternative sources of high fertility (Bongaarts 1994). Fertility reduction through the prevention of unintended pregnancies follows from the satisfac-

tion of individual goals, whereas any further decline deemed in the collective interest must come about either through transformation of individual child-bearing aspirations or through various coercive means, the latter deemed unacceptable in most societies. There is then considerable value in maintaining these distinctions, which the concept of unmet need brings to the fore. Population policies are not in principle compelled to choose one or the other (reduction in unmet need or in fertility desires). Rather they can and should address both components.²²

One further justification for retaining unmet need as a cornerstone of population policy has already been touched on but bears reemphasizing. In making the reduction of unmet need a primary goal, population policies are insisting that helping individuals achieve their personal aspirations is a primary objective of public policy. Indeed, we argue that this is the most widely accepted rationale for the establishment of public policy (Sinding, Ross, and Rosenfield 1994; United Nations 1994). This contention does not address the more difficult question of which public policies are defensible when the fulfillment of individual aspirations appears to run counter to collective interests (Demeny 1986; Lee 1990; MacKellar 1997). In considering population policies at the beginning of the twenty-first century, most developing countries have the luxury of not having to grapple head on with this question, because in nearly all of them the elimination of unmet need would produce fertility outcomes that are consistent with generally agreed definitions of the public good.

In more practical terms, unmet need results in unwanted pregnancies, which in turn more often than not lead to unwanted births, because in most societies a large proportion of unwanted pregnancies are carried to term. Unwanted fertility remains a more substantial problem than is acknowledged by political leaders in many developing countries and by donor agencies around the world. As noted above, roughly one-fifth to one-quarter of births in the developing world are unwanted, with the number of pregnancies that are unwanted even higher. The impression persists in many capitals that family planning should be placed well down the list of priorities for publicly provided services because demand for such services is low and because, in any case, investments that will stimulate demand for smaller families must come first. This impression harks back to the time, before the extensive series of surveys that began with the WFS, when many social scientists assumed that large families were desired and were skeptical about the extent of unsatisfied demand for fertility regulation. That many of these attitudes persist indicates how wide the gap can remain between new evidence and the premises that guide policymakers. Indeed, most of the current generation of senior policy officials were students two or three decades ago and maintain an outdated view of fertility in developing countries.

Beyond the question of whether and how much attention should be given to unmet need for family planning in designing population policies,

there are two concrete programmatic issues concerning unmet need. The first is, what accounts for unmet need? We argued earlier that a balanced understanding of the causes of unmet need is a prerequisite for developing effective programs to reduce it, and for this reason we advocate an institutionalization of local social science research on this topic. The temptation among program managers and policymakers is to perceive family planning programs as primarily a matter of improving access to services. In-depth research on reasons for nonuse can be a powerful antidote to this narrow-minded view of what programs can accomplish. This should not be a one-time undertaking: as fertility transition proceeds in each country, the relative dominance of the various obstacles to contraceptive use can be expected to shift. A second issue is, how feasible is it for programs to target their efforts at individuals (women and men) with unmet need? While recommending such an approach would appear to follow naturally from the arguments in this article, in fact designing programs in this fashion is not likely to prove practical or cost-efficient, for two reasons. First, individuals move rapidly in and out of the unmet need state (Ross 1994; Robey, Ross, and Bhushan 1996; Westoff and Bankole 1998; Biddlecom, Tagoe-Darko, and Adazu 1998; Jain 1999), making the unmet need subgroup a moving target (El-Zeini forthcoming). Second, it is asking a great deal of health and family planning workers to monitor individuals' fertility preferences.²³ Rather than attempting to pinpoint women and men with unmet need, the more-effective programmatic strategy is to be well informed about the societal-specific causes of unmet need and, accordingly, develop interventions to overcome those obstacles.

Notes

This research was supported by the Rockefeller Foundation, the Mellon Foundation, and the Hewlett Foundation. Comments on earlier drafts by John Bongaarts, Laila El-Zeini, Ronald Freedman, James McCarthy, and Charles Westoff are gratefully acknowledged.

1 Most of these in-depth studies were conducted under two multi-country projects on unmet need: one based at the Population Council, directed by John Casterline and funded primarily by the Rockefeller Foundation (studies in Ghana, Pakistan, and Zambia); and a second project based at the International Center for Research on Women, directed by Nancy Yinger and funded by USAID (studies in Guatemala, India, and Zambia). Among the more rigorous studies cited in this article that were outside the scope of those two projects are: Casterline, Perez, and Biddlecom (1997)

in the Philippines; El-Zanaty et al. (1999) in Egypt; Jain (1999) in Peru; and Stash (1999) in Nepal.

2 The 1980 WFS Conference in London included in its program a paper by Palmore and Concepción on the relationship between fertility desires and contraceptive practice (Palmore and Concepción 1981). Moreover, several of the numerous analyses of WFS data were directed at this relationship, for example Ochoa (1982); Pullum, Immerwahr, and Cabigon (1984); and Johnson-Acsádi and Szykman (1984).

3 See also Brackett (1978). Apparently the term "unmet need for family planning" originates with Stokes (1977).

4 The notion that achievement of individuals' reproductive aspirations would also

largely satisfy societal goals hardly originated with the preparations for the ICPD, although it received renewed emphasis during this period. One precursor, usually neglected in international population discussions, is the work of the US Commission on Population and the American Future; see Westoff (1973).

5 As one quantitative indicator of this judgment, El-Zeini (forthcoming) shows that the number of documents in the population literature with “unmet need” in the title or abstract surged in the two years leading up to the Cairo conference, and fell off in the succeeding years.

6 Even Pritchett (1994), one of the most outspoken critics of the concept of unmet need, acknowledges the validity of survey data on fertility desires.

7 In the studies conducted in sub-Saharan Africa (Mushingeh and Kurz 1998; Biddlecom, Tagoe-Darko, and Adazu 1998; Biddlecom and Kaona 1998), however, a far lower fraction of the women and men classified as having unmet need expressed frustration with their inability to practice contraception or other deliberate means of fertility regulation. In this region, self-perception of unmet need appears to be rarer than elsewhere, despite comparable (or higher) survey estimates of the prevalence of unmet need.

8 A few empirical studies by social psychologists have examined the consistency between fertility preferences and contraceptive behavior. See, for example, Jaccard et al. (1990).

9 These findings are reviewed at greater length below.

10 In addition to the argument described here, Pritchett questions the validity of the concept on other grounds, citing entirely different types of evidence. We consider these lines of attack in other sections of this article.

11 An equivalent exercise is carried out by Bongaarts (1993), who decomposes fertility decline during the 1980s in 12 developing countries. He calculates that increased implementation of preferences accounted for 66 percent of the observed fertility decline on average. Several other single-country studies demonstrate that changes in factors associated with the demand for children—such as school-

ing, structure of the economy, and child survival—appear to account for most of the observed change in contraceptive use and/or fertility: for Indonesia in the 1980s, see Gertler and Molyneaux (1994); for Iran from the 1950s to the 1970s, see Raftery, Lewis, and Aghajanian (1995). However, these same factors can also influence the implementation of preferences, thus these studies do not speak directly to the question of how much of the fertility change can be attributed solely to changes in fertility desires. In a study of Prussia in the late nineteenth century, Lee, Galloway, and Hammel (1994) conclude that while reductions in the demand for children account for the largest part of the fertility decline, “readiness to contracept” also makes a substantial contribution (accounting for one-sixth to one-third of the decline, under various specifications). In a less formal, more interpretative analysis of the countries of South Asia, Shah and Cleland (1993) argue that considerable unsatisfied demand for fertility regulation exists in these societies, and hence in the short term substantial fertility decline could occur with little or no change in fertility desires.

12 In a personal communication to the authors, Ronald Freedman calls Matlab “a major landmark,” undertaken in a setting deemed to be highly unfavorable to fertility decline, because its proponents had ascertained through survey research that there was substantial “latent demand.” Freedman writes: “In the course of the experiment it was established: (1) that there was unmet need; (2) that their efforts did not decrease desired fertility compared to controls; (3) that the program designed...was shown to be able to overcome...several kinds of barriers...; [and] (4) that it crystallized latent demand; that is, it changed the situation from latent demand with little use of contraception to an increasing contraceptive use and fertility decline.” We have more to say below on Matlab and the Bangladesh experience.

13 In a similar vein, alternative algorithms for estimating unmet need based on the intention to use contraception run the risk of being untrue to the underlying concept (Becker 1999). Becker’s definition restricts unmet need to those nonusers who want to avoid pregnancy and who intend to use contraception within 12 months. He excludes those who want to avoid pregnancy but do not intend to

use contraceptives, a radical departure from the usual concept of unmet need (which, surprisingly, Becker does not justify as an effort to tie unmet need more closely to the demand for family planning). Interestingly, Westoff (forthcoming) has also proposed an alternative algorithm for unmet need that depends on the intention to use. In contrast to Becker, and more consistent with the usual concept of unmet need, Westoff classifies as having unmet need those women *not* intending to use contraceptives despite a desire to avoid pregnancy (other conditions must be met as well), whereas most women intending to use are excluded from his unmet need category, under the assumption (confirmed by many empirical studies) that they are likely to carry through with this intention. One of Westoff's aims in proposing a new algorithm is to achieve a better fit between unmet need and the demand for family planning.

14 The tabulations of DHS data in Ross, Stover, and Willard (1999) demonstrate, however, that these quantities are typically nearly the same at the national level, because the number of non-intenders among those women with unmet need roughly equals the number of intenders among those without unmet need.

15 In this judgment we concur with Westoff (forthcoming). One could, at the cost of greater complexity of language, refer to "preference-based unmet need for family planning," "health-risk-based unmet need for family planning," and so forth.

16 Exceptions are Biddlecom and Kaona (1998) and the ICRW studies in Guatemala and Zambia (Asturias de Barrios et al. 1998; Mushingeh and Kurz 1998).

17 How to treat less effective methods is admittedly a complex question. Many couples are, in fact, highly successful in avoiding pregnancy through use of methods classified as less effective by medical criteria, because they are highly motivated to avoid becoming pregnant and are concerned about the health side effects of the more effective methods. This can be the case with withdrawal, for example. Further, where safe and reliable induced abortion is available as a backup, users of less effective methods are at greater risk of unintended pregnancies but possibly not unintended births, an important distinction that we discuss elsewhere

in the article. Rarely, however, is safe abortion readily available and inexpensive, and hence it is an empirical regularity that users of less effective methods experience higher rates of both unintended pregnancy and unintended births as compared to users of modern effective methods.

18 These nine are Casterline, Perez, and Biddlecom (1997) for the Philippines; Population Council/Islamabad (1997) for Pakistan; Biddlecom, Tagoe-Darko, and Adazu (1998) for Ghana; Biddlecom and Kaona (1998) for Zambia; El Zanaty et al. (1999) for Egypt; Stash (1999) for Nepal; and three studies conducted under the ICRW project (Yinger 1998) for Guatemala, India, and Zambia.

19 This section draws on the review of empirical research presented in United Nations (1999).

20 By no means is there unanimity on this point. See, for example, Ross's (1995) critique of Bongaarts and Bruce (1995). In the case of Pakistan, Shelton et al. (1999) have made the case, through an analysis of the impact of the expansion of family planning services in certain communities, that lack of access to services is a major reason for unmet need in that country.

21 Few of these criticisms have been published in recent years, although Hartmann and Sen contributed op-ed articles along these lines at the time of the "Cairo+5" meetings at the Hague and at the UN in New York in February and June 1999, respectively. Nonetheless, in numerous meetings and symposia in the post-Cairo years, these concerns have surfaced frequently.

22 A further strategy for fertility reduction is increased induced abortion. As has been stressed throughout this article, contraception is a means for preventing unintended *pregnancies*, thereby also preventing unintended births. Induced abortion is an alternative means for avoiding unintended births and must enter into policy deliberations, if for no other reason than the fact that a large fraction of pregnancies are terminated by induced abortion, both safe and unsafe, legal and illegal (Alan Guttmacher Institute 1999). In some settings where it is acceptable on legal and moral grounds, induced abortion is the primary direct means of birth control (e.g., Eastern Eu-

rope and countries of the former Soviet Union, East Asia). On medical grounds there are many reasons for preferring contraception to induced abortion, and there is considerable evidence that this medical judgment conforms with women's own preferences. However, it is equally clear that in many circumstances women will opt for induced abortion rather than bear an unwanted child. The availability of safe abortion for unwanted pregnancies, whether the result of contraceptive failure or nonuse of contraception, remains a crucial issue in reproductive health policy.

23 But see Jain (1999) for practical suggestions along these lines. Ross (1994) and Robey, Ross, and Bhushan (1996) note that although individuals move in and out of the unmet need state, the demographic and socioeconomic characteristics of persons with unmet need may be rather stable. This provides some basis for targeting, once research has established the dominant characteristics of persons with unmet need in a particular setting.

References

- Adler, Nancy E., Susan M. Kegeles, Charles E. Irwin, and Charles Wibbelsman. 1990. "Adolescent contraceptive behavior: An assessment of decision processes," *Journal of Pediatrics* 116(3): 463-471.
- Adetunji, Jacob A. 1998. *Unintended Childbearing in Developing Countries: Levels, Trends, and Determinants*. Demographic and Health Surveys Analytical Reports No. 8. Calverton, MD: Macro International Inc.
- Ajzen, Icek. 1993. "Attitude theory and the attitude-behavior relation," in D. Krebs and P. Schmidt (eds.), *New Directions in Attitude Measurement*. Berlin: Walter de Gruyter, pp. 41-57.
- Alan Guttmacher Institute. 1999. *Sharing Responsibility: Women, Society and Abortion Worldwide*. New York: Alan Guttmacher Institute.
- Anderson, John E. and Leo Morris. 1981. "Fertility differences and the need for family planning services in five Latin American countries," *International Family Planning Perspectives* 7(1): 16-21.
- Ashford, Lori and Carolyn Makinson. 1999. *Reproductive Health in Policy and Practice*. Washington, DC: Population Reference Bureau.
- Asturias de Barrios, Linda et al. 1998. *Unmet Need for Family Planning in a Peri-Urban Community of Guatemala City*. Washington, DC: International Center for Research on Women.
- Bankole, Akinrinola and Alex Chika Ezeh. 1997. "Unmet need for couples: A conceptual framework and evaluation with recent DHS data," paper presented at the Annual Meeting of the Population Association of America, Washington, DC, March.
- Bankole, Akinrinola and Charles F. Westoff. 1998. "The consistency and validity of reproductive attitudes: Evidence from Morocco," *Journal of Biosocial Science* 30(4): 439-455.
- Becker, Stan. 1999. "Measuring unmet need: Wives, husbands or couples?" *International Family Planning Perspectives* 25(4): 172-180.
- Berelson, Bernard. 1969. "Family-planning programs and population control," in Bernard Berelson (ed.), *Family-Planning Programs: An International Survey*. New York: Basic Books, pp. 291-303.
- Bhatia, Shushum. 1982. "Contraceptive intentions and subsequent behavior in rural Bangladesh," *Studies in Family Planning* 13(1): 24-31.
- Biddlecom, Ann E., John B. Casterline, and Aurora E. Perez. 1997. "Spouses' views of contraception in the Philippines," *International Family Planning Perspectives* 23(3): 108-115.
- Biddlecom, Ann E. and Fred Kaona. 1998. "The nature of unmet need for contraception in an urban African setting," paper presented at the IUSSP Seminar on Fertility Transition in sub-Saharan Africa, Nairobi, November.

- Biddlecom, Ann E., Eva Tagoe-Darko, and Kubaje Adazu. 1998. "Unmet need for contraception in a traditional West African setting," manuscript, Policy Research Division, Population Council, New York.
- Bogue, Donald J. 1974. "Population perspectives: Some views from a sociologist," *Population Dynamics Quarterly* 2(2): 2–20.
- . 1983. "Normative and psychic costs of contraception," in R. A. Bulatao and R. D. Lee (eds.), *The Determinants of Fertility in Developing Countries*, Volume 2. New York: Academic Press, pp. 151–192.
- Bongaarts, John. 1993. "The supply–demand framework for the determinants of fertility: An alternative implementation," *Population Studies* 47(3): 437–456.
- . 1994. "Population policy options in the developing world," *Science* 263: 771–776.
- . 1997a. "The role of family planning programmes in contemporary fertility transitions," in G. W. Jones, R. M. Douglas, J. C. Caldwell, and R. M. D'Souza (eds.), *The Continuing Demographic Transition*. New York: Oxford University Press, pp. 422–443.
- . 1997b. "Trends in unwanted childbearing in the developing world," *Studies in Family Planning* 28(4): 267–277.
- Bongaarts, John and Judith Bruce. 1995. "The causes of unmet need for contraception and the social content of services," *Studies in Family Planning* 26(2): 57–75.
- Brackett, James W. 1978. "Family planning in four Latin American countries: Knowledge, use, and unmet need," *International Family Planning Perspectives and Digest* 4(4): 116–123.
- Bruce, Judith. 1990. "Fundamental elements of the quality of care: A simple framework," *Studies in Family Planning* 21(2): 61–91.
- Casterline, John B., Aurora E. Perez, and Ann E. Biddlecom. 1997. "Factors underlying unmet need for family planning in the Philippines," *Studies in Family Planning* 28(3): 173–191.
- Casterline, John B., Zeba Sathar, and Minhaq ul Haque. Forthcoming. "Obstacles to contraceptive use in Pakistan: A study in Punjab," Policy Research Division Working Paper. New York: Population Council.
- Cleland, John. 1994. "Different pathways to demographic transition," in F. Graham-Smith (ed.), *Population—The Complex Reality*. Golden, CO: North American Press, pp. 229–247.
- Cleland, John, James F. Phillips, Sajeda Amin, and G. M. Kamal. 1994. *The Determinants of Reproductive Change in Bangladesh: Success in a Challenging Environment*. Washington, DC: The World Bank.
- Cleland, John and Christopher Wilson. 1987. "Demand theories of the fertility transition: An iconoclastic view," *Population Studies* 41(1): 5–30.
- Curtis, Sián L. and Charles F. Westoff. 1996. "Intention to use contraceptives and subsequent contraceptive behavior in Morocco," *Studies in Family Planning* 27(5): 239–250.
- Davis, Kingsley. 1967. "Population policy: Will current programs succeed?" *Science* 158: 730–739.
- Dawes, Robyn M. 1998. "Behavioral decision making and judgment," in D. T. Gilbert, S. T. Fiske, and G. Lindzey (eds.), *The Handbook of Social Psychology*, Volume I. Boston: McGraw-Hill, pp. 497–548.
- Debpuur, Cornelius et al. Forthcoming. "The impact of the Navrongo Community Health and Family Planning Project on reproductive preferences, knowledge, and use of modern contraceptives," Policy Research Division Working Paper. New York: Population Council.
- DeGraff, Deborah S. and V. de Silva. 1996. "A new perspective on the definition and measurement of unmet need for contraception," *International Family Planning Perspectives* 22(4): 140–147.
- Demeny, Paul. 1975. Letter to the editor, *Scientific American* 232(5), May.
- . 1986. "Population and the invisible hand," *Demography* 23(4): 473–487.

- De Silva, W. Indralal. 1991. "Consistency between reproductive preferences and behavior: The Sri Lankan experience," *Studies in Family Planning* 22(3): 188-197.
- Dixon-Mueller, Ruth. 1993. *Population Policy and Women's Rights: Transforming Reproductive Choice*. New York: Praeger.
- Dixon-Mueller, Ruth and Adrienne Germain. 1992. "Stalking the elusive 'unmet need' for family planning," *Studies in Family Planning* 23(5): 330-335.
- Dodoo, F. Nil-Amoo, Y. Luo, and E. Panayotova. 1997. "Do male reproductive preferences really point to a need to refocus fertility policy?" *Population Research and Policy Review* 16(5): 447-455.
- Eagly, Alice H. and Shelly Chaiken. 1998. "Attitude structure and function," in D. T. Gilbert, S. T. Fiske, and G. Lindzey (eds.), *The Handbook of Social Psychology*, Volume I. Boston: McGraw-Hill, pp. 269-322.
- Easterlin, Richard A. 1975. "An economic framework for fertility analysis," *Studies in Family Planning* 6(3): 54-63.
- El-Zanaty, Fatma, Ann Way, Sunita Kishor, and John Casterline. 1999. *Egypt Indepth Study on the Reasons for Nonuse of Family Planning*. Cairo: National Population Council.
- El-Zeini, Laila O. Forthcoming. "Categorizing the need for family planning: A story of evolution," in S. Szreter, A. Dharmalingam, and H. Sholkamy (eds.), *Qualitative Demography: Categories and Contexts in Population Studies*. Oxford: Oxford University Press.
- Ezeh, Alex Chika. 1993. "The influence of spouses over each other's contraceptive attitudes in Ghana," *Studies in Family Planning* 24(3): 163-174.
- Feyisetan, Bamikale and John B. Casterline. 2000. "Fertility preferences and contraceptive change in developing countries," *International Family Planning Perspectives* 26(3): 100-109.
- Foreit, Karen and Patricia Mostajo. 1993. "Prevalence is not enough: The importance of appropriateness of contraceptive method in evaluating unmet need for contraception," paper presented at the Annual Meeting of the Population Association of America, Cincinnati, April.
- Freedman, Ronald, Lolagene C. Coombs, and M. C. Chang. 1972. "Trends in family size preferences and practice of family planning: Taiwan, 1965-1970," *Studies in Family Planning* 3(12): 281-296.
- Freedman, Ronald and Lolagene C. Coombs. 1974. *Cross-cultural Comparisons: Data on Two Factors in Fertility Behavior*. New York: Population Council.
- Garcia-Moreno, Claudia and Ampara Claro. 1994. "Challenges from the women's health movement: Women's rights versus population control," in Gita Sen, Adrienne Germain, and Lincoln C. Chen (eds.), *Population Policies Reconsidered: Health, Empowerment, and Rights*. Cambridge, MA: Harvard University Press, pp. 47-62.
- Germain, Adrienne. 1997. "Addressing the demographic imperative through health, empowerment, and rights: ICPD implementation in Bangladesh," *Health Transition Review* 7(4)(Supp): 33-36.
- Gertler, Paul J. and John W. Molyneaux. 1994. "How economic development and family planning programs combined to reduce Indonesian fertility," *Demography* 31(1): 33-63.
- Hartmann, Betsy. 1987. *Reproductive Rights and Wrongs: The Global Politics of Population Control and Contraceptive Choice*. New York: Harper and Row.
- Hauser, Philip M. 1967. "Family planning and population programs: A book review article," *Demography* 4(1): 397-414.
- _____. 1969. "Population: More than family planning," *Journal of Medical Education* 44 (11, Part 2): 20-29.
- Hermalin, Albert I. 1983. "Fertility regulation and its costs: A critical essay," in R. A. Bulatao and R. D. Lee (eds.), *The Determinants of Fertility in Developing Countries*, Volume 2. New York: Academic Press, pp. 1-53.
- Hermalin, Albert I., Ronald Freedman, T. H. Sun, and M. C. Chang. 1979. "Do intentions

- predict fertility? The experience in Taiwan, 1967–74," *Studies in Family Planning* 10(3): 75–95.
- International Women's Health Coalition (IWHC). 1993. *Women's Voices '94—Women's Declaration on Population Policies*. New York: IWHC.
- Jaccard, James et al. 1990. "Individual differences in attitude–behavior consistency: The prediction of contraceptive behavior," *Journal of Applied Social Psychology* 20(7): 575–617.
- Jain, Anrudh. 1999. "Should eliminating unmet need for contraception continue to be a program priority?" *International Family Planning Perspectives* 25(Supp): S39–S43.
- Jain, Anrudh and Judith Bruce. 1994. "A reproductive health approach to the objectives and assessment of family planning programs," in Gita Sen, Adrienne Germain, and Lincoln C. Chen (eds.), *Population Policies Reconsidered: Health, Empowerment, and Rights*. Cambridge, MA: Harvard University Press, pp. 193–209.
- Johnson-Acsádi, Gwendolyn and Maurice Szykman. 1984. "Selected characteristics of 'exposed' women who wanted no more children but were not using contraceptives," in J. A. Ross and R. McNamara (eds.), *Survey Analysis for the Guidance of Family Planning Programs*. Liège: Ordina, pp. 175–217.
- Kelley, Allen C. 1988. "Economic consequences of population change in the Third World," *Journal of Economic Literature* 27: 1685–1728.
- Koenig, Michael A. et al. 1992. "Contraceptive use in Matlab, Bangladesh in 1990: Levels, trends, and explanations," *Studies in Family Planning* 23(6): 352–364.
- Lee, Ronald D. 1990. "Comment: The second tragedy of the commons," *Population and Development Review* 16 (Supp): 315–322.
- Lee, Ronald D., Patrick R. Galloway, and Eugene A. Hammel. 1994. "Fertility decline in Prussia: Estimating influences on supply, demand, and degree of control," *Demography* 31(2): 347–373.
- Lightbourne, R. E. 1985. "Individual preferences and fertility behaviour," in J. Cleland and J. Hobcraft (eds.), *Reproductive Change in Developing Countries: Insights from the World Fertility Survey*. Oxford: Oxford University Press, pp. 165–198.
- Market and Opinion Research International. 1997. *Population Issues: Survey Among Key Policy-makers*. Report prepared for the Rockefeller Foundation. New York.
- Mason, Karen Oppenheim and Herbert L. Smith. 2000. "Husbands' versus wives' fertility goals and contraceptive use: The influence of gender context in five Asian countries," *Demography* 37(3): 299–312.
- Mauldin, W. Parker. 1965. "Fertility studies: Knowledge, attitude, and practice," *Studies in Family Planning* 1(7): 1–10.
- MacKellar, F. Landis. 1997. "Population and fairness," *Population and Development Review* 23(2): 359–376.
- McCauley, P., Brian Robey, Ann Blanc, and J. Geller. 1994. "Opportunities for women through reproductive choices," *Population Reports*, Series M, no. 12. Baltimore, MD: Johns Hopkins University.
- McIntosh, C. Alison and Jason L. Finkle. 1995. "The Cairo Conference on Population and Development: A new paradigm?" *Population and Development Review* 21(2): 223–260.
- Mishra, Vinod K., Robert D. Retherford, P. S. Nair, and Griffith Feeney. 1999. "Reasons for discontinuing and not intending to use contraception in India," *National Family Health Survey Subject Reports*, No. 13. Mumbai, India: International Institute for Population Sciences.
- Morris, Leo et al. 1981. "Contraceptive prevalence surveys: A new source of family planning data," *Population Reports*, Series M, no. 5. Baltimore, MD: Johns Hopkins University.
- Mushingeh, Chiponde and Kathleen Kurz. 1998. *Unmet Need for Family Planning in Lusaka and Mansa, Zambia*. Washington, DC: International Center for Research on Women.
- Nag, Moni. 1984. "Some cultural factors affecting costs of fertility regulation," *Population Bulletin* no. 17. New York: United Nations.

- Ngom, Pierre. 1997. "Men's unmet need for family planning: Implications for African fertility transitions," *Studies in Family Planning* 28(3): 192–202.
- Nortman, Dorothy L. 1982. "Measuring the unmet need for contraception to space and limit births," *International Family Planning Perspectives* 8(4): 125–134.
- Nortman, Dorothy L. and Gary L. Lewis. 1984. "A time model to measure contraceptive demand," in J. A. Ross and R. McNamara (eds.), *Survey Analysis for the Guidance of Family Planning Programs*. Liège: Ordina, pp. 37–73.
- Ochoa, Luis Hernando. 1982. "Prevalence of contraceptive use in Colombia: Determinant factors and policy," in A. I. Hermalin and B. Entwisle (eds.), *The Role of Surveys in the Analysis of Family Planning Programs*. Liège: Ordina, pp. 85–110.
- Omran, A. R., J. Yunes, J. A. Solis, and G. Lopez. 1992. *Reproductive Health in the Americas*. Washington, DC: Pan American Health Organization.
- Palmore, James A. and Mercedes B. Concepción. 1981. "Desired family size and contraceptive use," in *World Fertility Survey Conference 1980: Record of Proceedings*, Vol. 2. Voorburg, Netherlands: International Statistical Institute, pp. 519–542.
- Phai, Nguyen Van, John Knodel, Mai Van Cam, and Hoang Xuyen. 1996. "Fertility and family planning in Vietnam: Evidence from the 1994 Inter-censal Demographic Survey," *Studies in Family Planning* 27(1): 1–17.
- Phillips, James F. and John A. Ross. 1992. "Family planning programmes and fertility effects: An overview," in J. F. Phillips and J. A. Ross (eds.), *Family Planning Programmes and Fertility*. Oxford: Clarendon Press, pp. 325–332.
- Pittman, Thane S. 1998. "Motivation," in D. T. Gilbert, S. T. Fiske, and G. Lindzey (eds.), *The Handbook of Social Psychology*, Volume I. Boston: McGraw-Hill, pp. 549–590.
- Population Council/Islamabad. 1997. *The Gap Between Reproductive Intentions and Behaviour: A Study of Pakistani Men and Women*. Islamabad: Population Council.
- Pritchett, Lant H. 1994. "Desired fertility and the impact of population policies," *Population and Development Review* 20(1): 1–55.
- Pullum, Thomas W., George E. Immerwahr, and Josefina V. Cabigon. 1984. "Fertility preferences and contraceptive use in the Philippines," in J. A. Ross and R. McNamara (eds.), *Survey Analysis for the Guidance of Family Planning Programs*. Liège: Ordina, pp. 147–174.
- Raftery, Adrian E., Steven M. Lewis, and Akbar Aghajanian. 1995. "Demand or ideation? Evidence from the Iranian marital fertility decline," *Demography* 32(2): 159–182.
- Ravenholt, R. T. and John Chao. 1974. "Availability of family planning services: The key to rapid fertility reduction," *Family Planning Perspectives* 6(4): 217–223.
- Robey, Bryant, John Ross, and Indu Bhushan. 1996. "Meeting unmet need: New strategies," *Population Reports*, Series J, no. 43. Baltimore, MD: Johns Hopkins University.
- Ross, John. 1994. "Program implementation of the unmet need approach," paper presented at the Annual Meeting of the Population Association of America, Miami, May.
- . 1995. "The question of access," *Studies in Family Planning* 26(4): 241–242.
- Ross, John and Laura Heaton. 1997. "Intended contraceptive use among women without an unmet need," *International Family Planning Perspectives* 23(4): 148–154.
- Ross, John, John Stover, and Amy Willard. 1999. *Profiles for Family Planning and Reproductive Health Programs*. Glastonbury, CT: The Futures Group.
- Sai, Fred T. 1997. "The ICPD Programme of Action: Pious hope or workable guide?" *Health Transition Review* 7(4) (Supp): 1–5.
- Sen, Gita, Adrienne Germain, and Lincoln C. Chen (eds.). 1994. *Population Policies Reconsidered: Health, Empowerment, and Rights*. Cambridge, MA: Harvard University Press.
- Shah, Iqbal H. and John G. Cleland. 1993. "High fertility in Bangladesh, Nepal, and Pakistan: Motives vs. means," in Richard Leete and Iqbal Alam (eds.), *The Revolution in Asian Fertility: Dimensions, Causes, and Implications*. Oxford: Clarendon Press, pp. 175–207.
- Shelton, James D. et al. 1999. "Putting unmet need to the test: Community-based distribution of family planning in Pakistan," *International Family Planning Perspectives* 25(4): 191–195.

- Short, R. V. 1994. "Contraceptive strategies for the future," in F. Graham-Smith (ed.), *Population: The Complex Reality*. Golden, CO: North American Press, pp. 323–339.
- Sinding, Steven W., John A. Ross, and Allan G. Rosenfield. 1994. "Seeking common ground: Unmet need and demographic goals," *International Family Planning Perspectives* 20(1): 23–27, 32.
- Stash, Sharon. 1999. "Explanations of unmet need for contraception in Chitwan, Nepal," *Studies in Family Planning* 30(4): 267–287.
- Stokes, B. 1977. "Filling the family planning gap," *World Watch Paper* 12. Washington, DC: World Watch Institute.
- Tan, Poo Chang and Nai Peng Tey. 1994. "Do fertility intentions predict subsequent behavior? Evidence from Peninsular Malaysia," *Studies in Family Planning* 25(4): 222–231.
- United Nations. 1974. *World Population Plan of Action*. New York.
- . 1984. *Report of the International Conference on Population, 1984*. New York.
- . 1994. *Programme of Action of the International Conference on Population and Development*. New York.
- . 1999. *Levels and Trends of Contraceptive Use as Assessed in 1998*. New York.
- Viswanathan, Hema, Sona Godfrey, and Nancy Yinger. 1998. *Reaching Women: A Study of Unmet Need in Uttar Pradesh, India*. Washington, DC: International Center for Research on Women.
- Westoff, Charles F. 1973. "Recent developments in population growth policy in the United States," in Charles F. Westoff and others, *Toward the End of Growth: Population in America*. Englewood Cliffs, NJ: Prentice-Hall, pp. 161–177.
- . 1978. "The unmet need for birth control in five Asian countries," *Family Planning Perspectives* 10(3): 173–181.
- . 1988. "The potential demand for family planning: A new measure of unmet need and estimates for five Latin American countries," *International Family Planning Perspectives* 14(2): 45–53.
- . 1990. "Reproductive intentions and fertility rates," *International Family Planning Perspectives* 16(3): 84–89, 96.
- . Forthcoming. "Unmet need revisited," in A. Tsui, J. Phillips, and L. Rosero-Bixby (eds.), *Methods for Evaluating Family Planning Programs*. Oxford: Oxford University Press.
- Westoff, Charles F. and Akinrinola Bankole. 1995. *Unmet Need: 1990–1994*. Demographic and Health Surveys Comparative Studies No. 16. Calverton, MD: Macro International Inc.
- . 1996. "The potential demographic significance of unmet need," *International Family Planning Perspectives* 22(1): 16–20.
- . 1998. "The time dynamics of unmet need: An example from Morocco," *International Family Planning Perspectives* 24(1): 12–14.
- Westoff, Charles F. and Luis H. Ochoa. 1991. *Unmet Need and the Demand for Family Planning*. Demographic and Health Surveys Comparative Studies No. 5. Calverton, MD: Macro International Inc.
- Westoff, Charles F. and Anne R. Pebley. 1981. "Alternative measures of unmet need for family planning in developing countries," *International Family Planning Perspectives* 7(4): 126–136.
- Westoff, Charles F. and Norman B. Ryder. 1977. "The predictive validity of reproductive intentions," *Demography* 14(4): 431–453.
- Yinger, Nancy V. 1998. *Unmet Need for Family Planning: Reflecting Women's Perceptions*. Washington, DC: International Center for Research on Women.

