

INTRODUCTION

Unmet Need for Contraception: Issues and Challenges

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Unmet need for contraception has been a central indicator for monitoring the progress of family planning programs for 25 years. The purpose of this article is to provide a broad context for the more focused contributions that follow in this special issue. The validity and measurement of the concept of unmet need are discussed. We then present regional trends among married women since 1970. Major reductions in unmet need have been achieved, with the clear exception of sub-Saharan Africa. Less success can be claimed in addressing the needs of sexually active unmarried women, who contribute nearly 20 percent to overall unmet need in developing countries. Prominent reasons for unmet need in settings where contraceptive uptake is low include social resistance and insufficient information concerning methods. As contraceptive use increases, the importance of these reasons wanes, but concerns regarding side effects and health impact remain a barrier, and discontinued users now constitute a large proportion of those with unmet need. Drawing on these reasons, we outline measures to further reduce unmet need. (STUDIES IN FAMILY PLANNING 2014; 45[2]: 105–122)

Contraceptive services differ from nearly all other health interventions in one crucial regard. Whereas individuals can be presumed to value preventive or curative measures to protect against disease and premature death, no such assumption can be made in the case of pregnancy prevention, because most couples will wish to have children at some point. Partly for this reason, the potential impact on fertility of state-sponsored family planning programs has always attracted skepticism. Mere improved access to contraceptive methods, it is argued, will have only a trivial effect on childbearing, because the fundamental cause of fertility decline is socioeconomic change that reduces the need and desire for, or raises the costs of, large families.

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In response, supporters of the international family planning movement were obliged to demonstrate the existence of a need, or potential demand, for averting pregnancy in the poor, high-fertility countries of Africa, Asia, and Latin America and the Caribbean. As discussed by Bradley and Casterline in this issue, the initial indicator of this need was termed the “KAP-Gap,” denoting the existence of women who stated in surveys that they wanted no more children but were doing nothing to realize this wish. This term was replaced in 1978 by “unmet need for contraception” and since then the concept of unmet need has played an important role in family planning research, evaluation, and advocacy (Westoff 1978). Unmet need has proved to be an invaluable bridge between a human rights and feminist approach to fertility control and a demographic–economic rationale. Addressing unmet need is clearly consistent with human rights, and an influential study showed that the fertility reduction goals of most programs could be achieved by fulfilling the needs of women who stated a desire to avoid or postpone future births (Sinding, Ross, and Rosenfield 1994). At the 1994 International Conference on Population and Development, addressing unmet need replaced fertility reduction as the central justification for investment in family planning. Its legitimacy was further strengthened in 2007 when it was added as an indicator to the Millennium Development Goals (MDGs) and again in 2012 at the London Summit on Family Planning.

In this article, we discuss the concept and measurement of unmet need, describe levels and trends, analyze lack of access and other reasons for unmet need, and outline actions to reduce it. We introduce the specialist articles that follow and place them in the context of existing knowledge.

CONCEPT AND MEASUREMENT

Measurement Issues

Although the basic concept of unmet need is straightforward—nonuse of contraception among women stating a desire to avoid pregnancy—its precise measurement is complex and has undergone multiple variations since its origin in 1978. A recent formulation has achieved a broad consensus and acts as the basis for results presented in this article (Bradley et al. 2012).

Early on, the notion of unmet need was expanded from the unmet need to avoid any future pregnancy to include the unmet need to postpone childbirth for two or more years. The choice of two years is arbitrary but reasonable. More complex issues concerned the classification of women who were not exposed to the risk of conception at the time of measurement because they were already pregnant, or were in a state of lactational amenorrhea, sexually inactive, or infecund. All such women have a sound reason for nonuse of contraceptives regardless of future reproductive aspirations.

In the case of pregnant and amenorrheic women who gave birth in the past 24 months, it was realized that their omission would act as a downward bias on aggregate unmet need estimates because some of these recent conceptions or births were unintended and the result of a prior unmet need (Westoff and Ochoa 1991). The solution was to classify women according to their answers to a retrospective question regarding whether they wanted to become pregnant at the time of the most recent conception. Those providing positive responses are classified as having no unmet need, those who would have preferred the conception later are classified

as having unmet need for spacing, and those who wanted no more children are classified as having unmet need for limiting. Typically about 15 percent of women are classified on the basis of retrospective rather than prospective preferences, but this proportion is greater in the high-fertility countries of Africa. This adjustment is an improvement to the omission of all pregnant and amenorrheic women but is not ideal. Bradley and Casterline in this issue point out that many amenorrheic women are not wholly protected against conception and that clinical guidelines recommend that reliance on the lactational amenorrhea method (LAM) should not extend beyond six months postpartum. Classification of amenorrheic women in the period 6–23 months postpartum as exposed to risk of conception and thus potentially in need of contraception would raise substantially the levels of unmet need.

Using the current approach, infecund women are identified on the basis of both self-definition and reported behavior (Bradley et al. 2012). Specifically, women who say that they are menopausal or cannot conceive, together with those who have not menstruated for the past five years or have been married and childless for the past five years in the absence of any contraceptive use, are all classified as infecund and omitted from unmet need calculations. The possible role of induced abortion in maintaining childlessness is ignored. Deployment of these multiple criteria probably overestimates infecundity and thus reduces unmet need estimates (Bradley and Casterline in this issue). This verdict is supported by results from a prospective study in Pakistan; 13 percent of women classified as infecund at baseline gave birth in the next three years (Jain et al. in this issue).

The handling of sexual inactivity differs according to marital status. The MDG5 indicator is restricted to married or cohabiting women. For this group, no allowance in the measurement of unmet need is made for sexual abstinence, despite the following facts: a substantial minority of married women, typically 20–30 percent, report in surveys no coitus in the recent past; infrequent sex is a common reason for nonuse of contraceptives; and women citing this reason are indeed much less likely to report sex in the past three months than women giving other reasons (Wellings, Collumbien, and Slaymaker 2006; Sedgh and Hussain in this issue). Bradley and Casterline show, in this issue, that estimations of the level of unmet need would be substantially reduced by the elimination of women who list abstinence or infrequent sex as their reason for nonuse. Conversely, unmet need calculations for never-married or formerly married women may be downwardly biased. These calculations are based on those who report sex in the past one or three months, and underreporting of sex, particularly by teenagers, is likely.

In sum, the measurement of unmet need is riddled with doubtful assumptions and imprecisions, but these have offsetting effects on estimates. Provided that the same algorithm for deriving estimates is used, comparisons between countries and over time are valid. Comparability is far more important than quibbles concerning precise levels.

Classification of Traditional Methods

The MDG indicator of unmet need takes no account of differences in effectiveness of contraceptive methods. Many estimates, however, make a distinction between traditional methods, mainly coitus interruptus and periodic abstinence, which have high failure rates, and more effective modern methods (Singh and Darroch 2012). Users of traditional methods are treated as nonusers based on the implicit assumption that they lack access to, or information concern-

ing, more effective alternatives. Although this assumption may hold in many settings, it is not universally valid. In India, for instance, educated women are more likely to use traditional methods than are the less educated, and clearly this reflects a conscious preference rather than a lack of choice (Basu 2005).

Two articles in this issue contribute to this topic. Rossier, Senderowicz, and Soura draw upon data from a health survey conducted in Ouagadougou, Burkina Faso, to show that the addition of explicit probes concerning traditional methods yields much higher estimates of use than do standard Demographic and Health Survey (DHS) questions. Similar findings are apparent from the Women's Health Study of Accra (Adanu et al. 2012). Rossier, Senderowicz, and Soura suggest that many women in urban Burkina Faso may prefer periodic and other forms of abstinence to modern methods because of health concerns and fear of side effects. Machiyama and Cleland in this issue find, from analysis of Ghana DHS data, that well-educated women living in Accra are more likely to use traditional methods than are other women, again reflecting an explicit preference. These elite women are also more likely than others to cite infrequent sex as the reason for nonuse. Recent abstinence among married Ghanaian women is strongly associated with temporary spousal separation. Even after adjustment for this factor, however, the desire to avoid pregnancy is a significant predictor, suggesting that reduced coital frequency is a partial substitute for contraception.

These findings have potentially far-reaching implications for our understanding of fertility decline in Western Africa. Distrust of modern methods may be more deep-rooted and enduring there than in other parts of the world, and couples may be resorting to traditional methods that are perceived to be less harmful to health—with abortion as a backup—to achieve smaller family size. A disinclination toward using modern methods that provide continuous protection may also stem from high levels of spousal separation, caused mainly by labor migration, which results in infrequent sex.

In developing countries as a whole, 90 percent of contraceptive users report use of a modern method (UN 2013b), so the decision to include or exclude traditional method users from unmet need estimates does not typically make a huge difference. In parts of sub-Saharan Africa, however, underreported use of traditional methods of reducing pregnancy risk may play an important role in fertility regulation, and this possibility represents a ripe area for in-depth research.

Lack of Men's Perspectives

The influence of husbands on reproductive decisions and behavior has been extensively documented (Dodoo 1993; Ezeh 1993; Bankole 1995; Bankole and Audam 2011). Despite the fact that relevant data from husbands are routinely collected in DHSs, nearly all unmet need estimates are based exclusively on reports by women. This omission of men's perspectives has been noted, and calculations of unmet need from data from men and from matched couples have been produced (Bankole and Singh 1997; Ngom 1997; Becker 1999). The problem encountered, particularly in analyses of matched couples, is not that future fertility preferences may differ between spouses but that couples' reports of current contraceptive use often diverge (Becker and Costenbader 2001). A minority of women are clandestine users, but this is not the whole explanation. Husbands typically are more likely than wives to report use, especially of

male methods. No obvious method of reconciling these differences exists, and this impasse has stifled the development of unmet need calculations based on the joint testimony of spouses.

Validity of the Concept and Relationship to Fertility Decline

The major criticism of the concept of unmet need stems from the fact that it is imposed by analysts based on the discrepancy between future childbearing wishes and contraceptive use rather than from a direct expression of need by respondents (Pritchett 1994). The common assertion that women with unmet need wish to adopt contraception but lack information concerning, or physical access to, methods is an oversimplification. Large proportions of women defined as having unmet need report in surveys that they do not intend to adopt contraception in the future (Westoff 2012). Positive intentions are particularly low in those countries of Western Asia and Eastern Europe for which we have relevant data. In Middle and Western Africa, approximately half of those having unmet need state an intention to practice contraception in the future, whereas this proportion is approximately 70 percent in Eastern and Southern Africa (Westoff 2012). Clearly, unmet need cannot be equated with a pressing current demand for contraception and, no doubt, some unmet need is spurious, stemming from weak or ambivalent desires to avoid future pregnancy or from a low perceived risk of conception (Westoff and Bankole 1998).

Unmet need cannot, however, be dismissed as an illusory concept, for four main reasons. First, indisputable evidence of widespread incidence of unintended pregnancies comes from the high proportion of pregnancies that are terminated, often in illegal and unsafe circumstances, together with an equally large proportion reported by women as unwanted or mistimed (Singh, Sedgh, and Hussain 2010). Furthermore, approximately 70 percent of unwanted or mistimed births arise from nonuse or discontinued use of contraceptives among women wishing to avoid pregnancy—in other words, unmet need—with the balance stemming from accidental pregnancy occurring when using a method (Bradley, Croft, and Rutstein 2011). Second, longitudinal studies, though limited in number, indicate that contraceptive need does predict subsequent behavior in the expected direction. In this issue, Jain and colleagues—in their panel study in Pakistan—report that fertility was lower and contraceptive adoption was appreciably higher among women classified at baseline as having unmet than among those with no need. Third, qualitative research reveals the existence of genuine barriers to the adoption of contraception among women wishing to avoid pregnancy (e.g., Stash 1999; Casterline, Sathar, and ul Haque 2001).

The fourth reason concerns the contribution to overall fertility decline of reductions in unmet need. If the view held by many economists is correct—that fertility decline is primarily driven by reductions in desired family size—the importance of addressing unmet need is overshadowed by broad factors of modernization that determine the costs and benefits of children. Conversely, if improved implementation of family-size preferences through the practice of contraception (and abortion) is a major contributor to fertility decline, then the concept of unmet need assumes central importance, both in terms of explanation and of policy priorities.

The article by Casterline and El-Zeini in this issue represents an important contribution to this topic, with fundamental theoretical implications. They show that, with the exception of countries in sub-Saharan Africa, trends in unmet need closely track trends in marital fertility. They apply a novel method of partitioning childbearing into wanted and unwanted com-

ponents and demonstrate, as expected, a strong association between unmet need for limiting and unwanted fertility rates and a somewhat weaker link between unmet need for spacing and wanted childbearing. Their conclusion is that improvements in the ability of couples to avoid unwanted births and, to a lesser extent, mistimed births, have made a major contribution to reductions in fertility in Latin America and the Caribbean, Asia, and North Africa.

In the Casterline and El-Zeini analysis, fertility declines in the countries of sub-Saharan Africa are a puzzle. In contrast to other regions, trends in unmet need do not track fertility trends, and increased contraceptive use is weakly associated with these reductions. The authors suggest that error in the measurement of fertility preferences is one possible reason for the lack of relationships that are so clear elsewhere. Another possible explanation is suggested by the Rossier, Senderowicz, and Soura and the Machiyama and Cleland articles in this issue: namely, that fertility declines, particularly in Western Africa, are being driven by methods—such as abortion and restrictions on sex—that are undisclosed in conventional surveys or ignored by analysts.

LEVELS AND TRENDS IN UNMET NEED

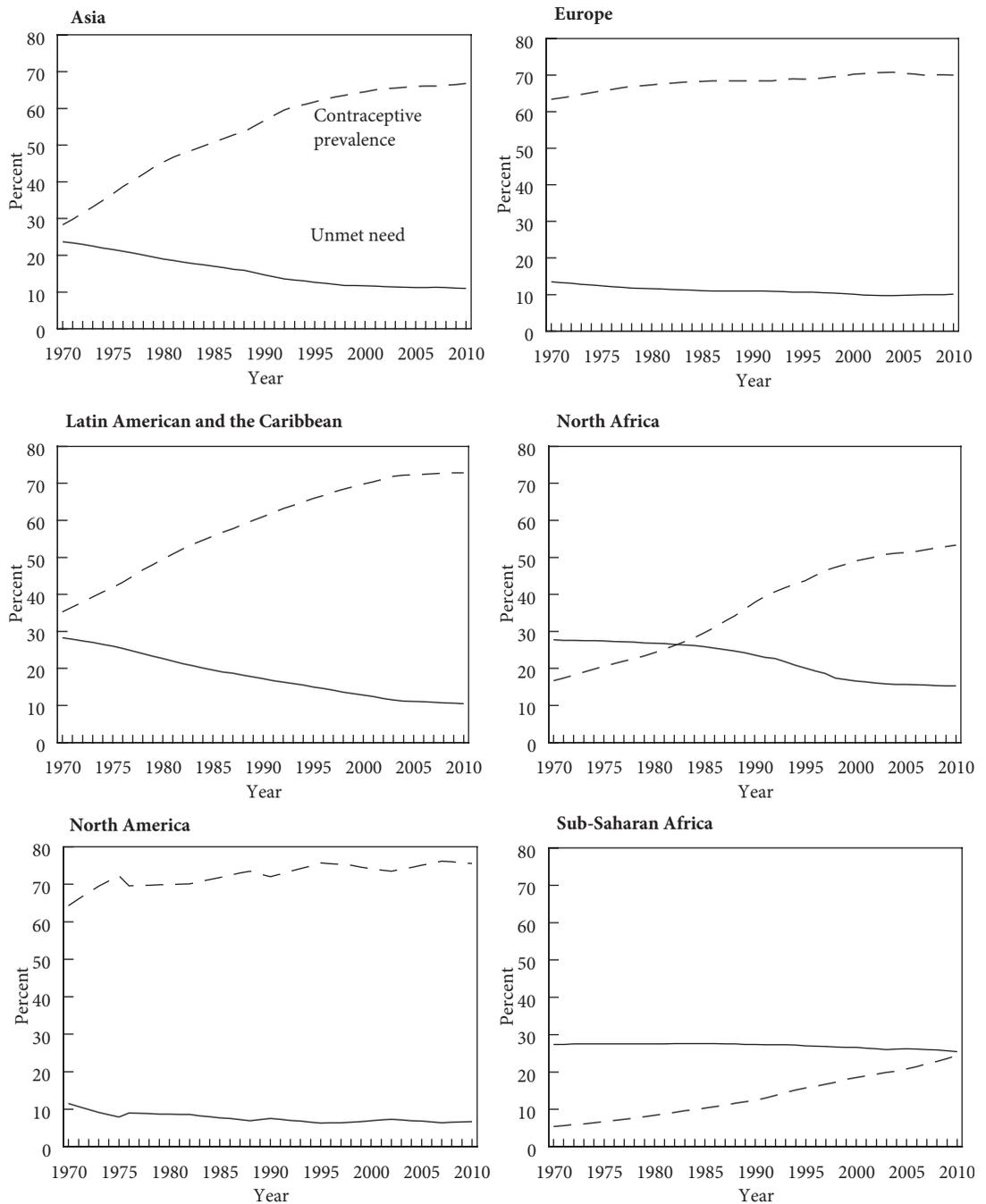
Married or Cohabiting Women: 1970–2010

The United Nations Population Division has recently compiled global, regional, and national estimates of contraceptive prevalence and unmet need among married or cohabiting women from survey data, complemented by modeling (UN 2013a). Based on this source, Figure 1 shows regional trends between 1970 and 2010 in the percentage of married or cohabiting women currently practicing any method of contraception (contraceptive prevalence) and the percentage wanting no more children for at least two years but using no method (unmet need). In general, and as expected, a rise in contraceptive prevalence is associated with a fall in unmet need across regions. Worldwide, contraceptive prevalence among married or cohabiting women has risen from 36 percent in 1970 to 63 percent in 2010 and unmet need is estimated to have fallen in the same period from 22 percent to 12 percent (UN 2013a). The absolute number of women with unmet need, however, has increased from 127 million to 142 million, because of the growth of population. As a result of its large population size, Asia accounts for 84 million women having unmet need in 2010, followed by sub-Saharan Africa at 32 million.

Since 1970, contraceptive prevalence has increased in all regions, although the pace of change has varied. The most spectacular increase in contraceptive prevalence was observed in Asia and in Latin America and the Caribbean, where the levels of contraceptive prevalence and unmet need were similar in 1970. During the next 40 years, contraceptive prevalence more than doubled in the two regions and unmet need fell from 24 percent in Asia and 28 percent in Latin America and the Caribbean in 1970 to 11 percent and 10.5 percent, respectively, in 2010. The main exceptions, with unmet need at 25 percent or higher, are Laos, Maldives, Nepal, Pakistan, and Timor-Leste in Asia, and Guatemala and Guyana in Latin America (UN 2013a). Similar changes occurred in North Africa, but contraceptive prevalence was lower (53 percent) and unmet need was higher (15 percent) in 2010 than in the other two regions.

Sub-Saharan Africa continues in 2010 to be the region with the lowest level of contraceptive prevalence (24 percent) and highest level of unmet need (25 percent), similar to the levels

FIGURE 1 Percentage of cohabiting or married women aged 15–49 who are currently using any method of contraception (contraceptive prevalence) and who wish to avoid childbearing for at least two years but are not practicing contraception (unmet need), six regions, 1970–2010



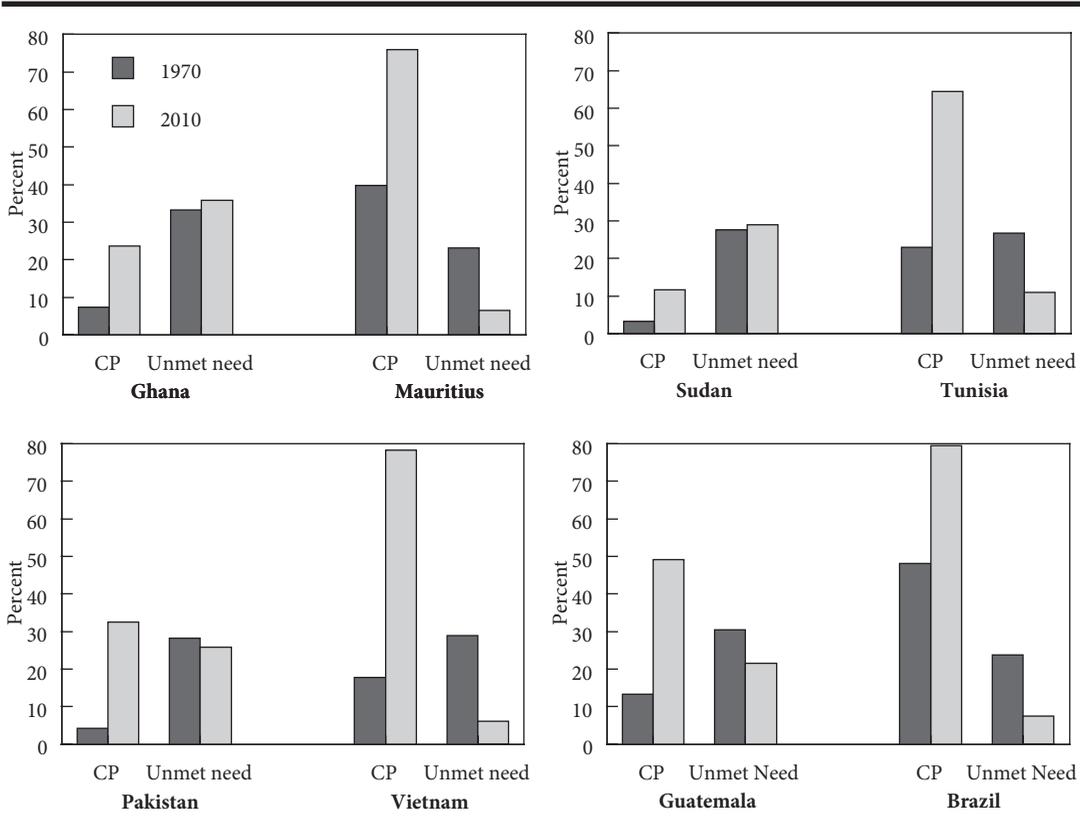
SOURCE: UN 2013a.

recorded in Asia and Latin America 40 years earlier. Among the 35 countries in sub-Saharan Africa, 24 have unmet need of more than 20 percent, and in 7 of these it was more than 30 percent in 2011 (UN 2013b). Sub-Saharan Africa is also the region in which unmet need has remained rather static since 1970. In this region, the majority of unmet need stems from women who wish to postpone the next birth, whereas in Asia and Latin America unmet need results primarily from those who want to cease childbearing altogether (Westoff 2012).

In Europe and North America, prevalence was already high and unmet need low in 1970, and changes since then have been modest. Among all subregions, unmet need in 2010 is estimated to be the lowest (4 percent) and contraceptive prevalence the highest (82 percent) in Eastern Asia (UN 2013a). Eastern Asia is also the region characterized by the most rapid rise in contraceptive prevalence and a drastic decline in unmet need.

The data for the eight countries shown in Figure 2 illustrate that the link between trends in contraceptive prevalence and unmet need varies considerably at the national level. In Mauritius, unmet need had fallen by 2010 to one-fourth of its 1970 level, and contraceptive prevalence had risen from 40 percent to 76 percent. In Ghana, however, unmet need remained

FIGURE 2 Percentage of cohabiting or married women aged 15–49 who are currently using any method of contraception (contraceptive prevalence) and who wish to avoid childbearing for at least two years but are not practicing contraception (unmet need), eight regions, 1970 and 2010



SOURCE: UN 2013a. CP = Contraceptive prevalence.

largely static despite a threefold rise in contraceptive prevalence. The same contrasting pattern emerges for the two North African countries of Tunisia and Sudan. The former shows a rapid increase in contraceptive use and a major decline in unmet need, compared with Sudan, where a negligible change in unmet need was seen (from 28 to 29 percent) despite an increase in contraceptive prevalence from 3 to 12 percent. In Pakistan, a rise in contraceptive prevalence from a mere 4 percent in 1970 to 33 percent in 2010 was associated with little change in unmet need. In contrast, Vietnam witnessed a sharp decline in unmet need, from 29 percent in 1970 to 6 percent in 2010, corresponding to a rise in contraceptive prevalence from 18 percent to 78 percent. A similar contrast emerges for Guatemala, a country with high unmet need and low contraceptive prevalence, when compared with Brazil, which shows a substantial decline in unmet need and a rise in contraceptive prevalence.

A number of articles in this issue discuss how an increase in contraceptive prevalence may not yield a concomitant decline in unmet need (see, for example, Bongaarts; Casterline and El-Zeini; Jain et al.; Machiyama and Cleland). Bongaarts indicates that if family planning services lag behind rapidly changing demand for smaller family sizes, unmet need can rise. Casterline and El-Zeini, however, show that intersurvey increases in unmet need from the mid-1970s to the recent period in 45 countries were exceptions. Only in one-fifth of intersurvey periods was an increase in unmet need found, and in more than half of these cases the cause was a decline in contraceptive use rather than increased demand. The UN model-based estimates show that unmet need for family planning rose from 1970 to 2010 in Angola, Benin, Bhutan, Burundi, Cambodia, Cote d'Ivoire, Ethiopia, Haiti, Laos, Liberia, Senegal, Sierra Leone, Togo, and Uganda, among other countries (UN 2013a).

It is also true that trends in unmet need for limiting and spacing may differ. Using DHS data, Westoff (2012) analyzed unmet need for modern methods and identified some countries (e.g., Cambodia, Cameroon, India, and Pakistan) where unmet need for limiting rose but unmet need for spacing fell. Jain and colleagues in this issue show that, in the short span of three years, from 2008–2009 to 2011–2012, unmet need for ceasing childbearing increased in their Pakistani study area from 22 percent to 24 percent, whereas unmet need for spacing declined from 15 percent to 11 percent. The limited number of methods available to meet the needs and preferences of users and the high rates of discontinuation of use may also confound the relationship between contraceptive prevalence and unmet need (Ali, Cleland, and Shah 2012; Cleland and Shah 2013).

Unmet need for contraception among young married women is often neglected both by researchers and service providers. The article by Jejeebhoy, Santhya, and Zavier in this issue fills this gap in knowledge. The authors show that in India, where women continue to marry young, the greatest need for contraception is to postpone the first pregnancy. Among young women interviewed in six Indian states, 51 percent reported that they had wanted to delay the first pregnancy. Among them, only 10 percent (5 percent of the full sample) used any method of family planning prior to the first pregnancy. Therefore, 46 percent of the young women sampled had experienced an unmet need for contraception to delay first pregnancy. The authors note that the young women's premarital awareness of sexual and reproductive matters, and specifically of contraceptive methods and services, determined their use of contraceptives to delay first pregnancy. Agency, spousal communication, and quality of sex education were also critical in enabling young women to delay first pregnancy by using a contraceptive method.

Sexually Active Single and Formerly Married Women

Data regarding the sexual activity and contraceptive practices of single and formerly married women are routinely collected in the DHS and similar nationally representative surveys in Latin America and sub-Saharan Africa, but not in Asia or Northern Africa, where prohibitions on premarital sex remain strong. Estimates for the latter two regions have been made from examination of localized studies, however, and these are shown in Table 1. The table compares current use of any method and unmet need among married and unmarried women aged 15–49 who reported coitus in the three months preceding the survey. The contribution made by unmarried women to overall unmet need is also shown. For developing countries as a whole, an estimated 52 percent of sexually active unmarried women are current users, and unmet need is 22 percent. Of the total number of women with unmet need, 18 percent are unmarried sexually active women.

In Middle, Southern, and Western Africa, current practice of contraception among unmarried women is much higher than among married women, but unmet need is similar because far fewer unmarried than married women want a child soon. In Eastern Africa, levels of use and unmet need are similar. Current use among the unmarried is thought to be much higher in Eastern and Southern Asia than in the other subregions of Asia, but in all subregions use is lower than among the married and unmet need is higher. Similarly, current use is lower among unmarried than among married women in the Caribbean and in Central and South America, and unmet need is higher.

The contribution of sexually active unmarried women to total unmet need depends on the number of such women, their reported level of contraceptive use, and the level of unmet need

TABLE 1 Percentage of sexually active unmarried and married women aged 15–49 currently using any method or having unmet need, and percentage of unmarried women among those with unmet need, by region and subregion, Africa, Asia, and Latin America, 2012

Region	Women using any method		Women having unmet need		Unmarried women among those with unmet need
	Unmarried ^a	Married	Unmarried ^a	Married	
All developing countries	51.7	63.3	21.9	12.4	18.4
Africa	41.6	29.9	23.4	22.7	27.4
Eastern	30.1	33.8	25.4	25.5	32.6
Middle	32.1	18.7	25.0	25.7	35.0
Northern	28.5	49.9	18.9	15.3	23.6
Southern	78.3	58.3	12.8	15.2	35.0
Western	36.5	14.4	29.8	24.4	19.4
Asia	51.5	68.0	22.4	10.8	13.2
Central	34.5	56.9	22.6	13.5	24.9
Eastern	57.7	88.5	28.0	2.5	22.9
Southeastern	35.2	62.8	24.2	13.5	15.5
Southern	53.3	54.1	15.7	15.3	9.5
Western	26.6	53.8	12.7	14.7	15.1
Latin America and the Caribbean	66.5	72.7	19.1	11.9	22.7
Caribbean	53.9	60.0	26.2	17.8	22.0
Central America	53.2	70.1	17.2	12.6	26.6
South America	69.8	76.1	18.7	10.8	21.4

^a Unmarried women include those who were never married and those who were formerly married.

SOURCE: Tabulations by the Guttmacher Institute drawn upon in Singh and Darroch 2012.

among married women. The contribution is estimated to be highest in Eastern, Middle, and Southern Africa (at more than 30 percent in each), but lower in Western Africa (19 percent), where early marriage reduces the number of single women at risk. In Northern Africa and in Latin America and the Caribbean, between 21 and 27 percent of those with unmet need are unmarried women. Similar contributions are made in Eastern and Central Asia.

In conclusion, unmarried sexually active women constitute an important component of total unmet need for contraception in most parts of the world, and increases in age at marriage and/or in premarital sex would increase this proportion. The importance of addressing these needs is underscored by the fact that an unintended pregnancy usually carries more serious consequences for the unmarried than for the married.

Men/Husbands

Efforts to produce estimates of unmet need for contraception among men that are comparable to those among women have been plagued by a number of measurement issues. Some of the data needed to estimate unmet need for men that are comparable to the standard estimate for women are often not collected in surveys, either because these surveys focus on women or because of the difficulty of obtaining from men certain types of data, such as fecundity or the planning status of the most recent birth (Ngom 1997; Becker 1999; Pearson and Becker, forthcoming). As a result, studies that have attempted to estimate unmet need for men and husbands and to compare these estimates with those for women and wives have had to use a definition that requires fewer data inputs than the standard algorithm for estimating unmet need for women (Ngom 1997; Becker 1999; Odumosu et al. 2005; Imasiku 2013; Pearson and Becker forthcoming).

Using data from the 1988 and 1993 DHSs for Ghana and Kenya, Ngom (1997) estimated unmet need for modern methods among married individuals who do not want to have any more children (limiters) and compared these estimates for men and women and for husbands and wives. He derived estimates of unmet need among men that were 4–8 percentage points lower than those for women in both countries. For instance in Kenya men's unmet need was 32 percent in 1988 and 24 percent in 1993, compared with 37 percent and 32 percent, respectively, for women. Ngom also found substantial discrepancies in the contraceptive need statuses of husbands and wives. For example, among Ghanaian women who had unmet need in 1993, 25 percent had husbands who were classified as having no need for contraception. The corresponding proportion in Kenya in 1993 was 27 percent.

Becker (1999) and Pearson and Becker (forthcoming) estimated unmet need among husbands and wives using algorithms that were closer to those used for measuring unmet need among women than was the algorithm used by Ngom. For instance, Becker (1999) restricted the group having unmet need to those who intended to practice contraception in the next 12 months and excluded those who were unsure of their fertility desires. In calculating unmet need for husbands and wives, Pearson and Becker (forthcoming) measured fecundity and postpartum amenorrhea from the reports of wives, but they redefined contraceptive use to include wives' reports of use of any method plus husbands' reports of use of condoms or withdrawal. Becker (1999), applying his definition to DHS data in Bangladesh, the Dominican

Republic, and Zambia, found results that were similar in pattern to those from Ngom (1997). The estimates of husbands' unmet need were lower than were those for wives by 5 percentage points in Bangladesh, 3 percentage points in the Dominican Republic, and 11 percentage points in Zambia. Pearson and Becker (forthcoming) applied their definition to DHS data in Benin, Burkina Faso, and Mali, and derived estimates that are consistent with those obtained by Ngom (1997) and Becker (1999). Unmet need among husbands was lower than that for wives in all three countries.

The results from these country-specific analyses are consistent: unmet need is lower among husbands than wives, although the margin of difference is often small. The main reason, however, is not that men want more children than women but that men are often more likely to report contraceptive use than women. For instance in Ngom's study (1997), 44 percent of monogamous husbands in the 1993 Ghana DHS reported use, compared with 33 percent of monogamous wives. The corresponding figures in the 1993 Kenya DHS were 56 percent for men and 33 percent for women. These are large differences, signifying systematic misreporting by one sex or both. Progress toward a greater recognition of men's perspectives depends on resolution of gender differences in the reporting of contraception.

ACCESS AND UNMET NEED

Policy declarations typically assume that lack of access to services is the root cause of unmet need. For instance, MDG Target 5b is to achieve universal access to reproductive health, and the goal of the 2012 London Summit is to provide access to family planning for an additional 120 million women in the world's poorest countries. The most basic and commonly understood aspect of access is physical proximity to contraceptive supplies. Reimert Ravenholt, the powerful director of the Office of Population at the United States Agency for International Development between 1965 and 1979, was convinced that proximity to supplies was the key to rapid fertility decline (Ravenholt and Chao 1978). Accordingly, Ravenholt focused assistance to international family planning programs intensively on supply, of pills and condoms in particular.

The earliest evidence, based on World Fertility Survey data, provided weak support for this emphasis; no consistent and strong effects of distance or traveling time to supply sources on contraceptive uptake were found (Jones 1984; Tsui 1985). A careful updating of post-1982 evidence by Tsui and Ochoa (1989: i), focusing on DHS data, came to a slightly more positive but nevertheless equivocal conclusion that "considerable evidence of a probable effect of service availability on contraceptive use" existed, but many measurement issues persisted. In a very accurate prediction, the authors stated, "as service delivery networks become more diverse in character and the behavioral choice of a contraceptive method becomes of greater analytical interest, the detection of clear and easily interpretable effects of service access could become more elusive" (page i). One only has to think of the diversity of those channels today—community-based provision, mobile services, social marketing, franchises, voucher systems—to see the truth of this prediction.

As pointed out by Machiyama and Cleland in this issue, physical proximity is only one component of access and is probably not the most important one. A broad conceptualization

would also include accurate information regarding methods and their health risks, “psycho-social access” (that is, the acceptability of contraception and associated services), and affordability. Whereas out-of-pocket expenditure on family planning is not a significant consideration in most countries, informational and social barriers constitute major contributors to unmet need.

Much of the evidence concerning the causes of unmet need comes from self-reported reasons for nonuse in DHS data. Sedgh and Hussain in this issue analyze such data from 51 DHSs conducted since 2006. The two dominant reasons cited by women were infrequent sex and fear of side effects/adverse effects on health. Lack of information or other access problems were rarely mentioned, except in the countries of Middle and Western Africa in which contraceptive use is low. In Southern Asian and Western African countries (but not elsewhere), social opposition by the respondent herself, the husband, and others were common reasons for nonuse. Only moderate support was apparent for the assertion that informational and social dimensions of access are important.

Though these data are valuable, subjective rationales for behavior should be interpreted cautiously. Machiyama and Cleland employ a measure of informational access—knowledge of the two most commonly used methods and awareness of a supply source—and find that lack of knowledge is probably a much more important contributor to unmet need in Ghana than is implied by self-reported reasons for not practicing contraception. Ignorance of methods and/or services fell from 53 percent in 1988 to 23 percent in 2008 among women with unmet need, but only a small minority of the 23 percent in 2008 cited lack of knowledge or access as their reason for nonuse. This result suggests that women are reluctant to identify their own ignorance as a reason for nonuse, perhaps because it impugns their self-respect.

Reluctance to try contraceptive methods because of fear of side effects or health risks can also be argued to be, in part, a consequence of insufficient or erroneous information. The fears that use of hormonal methods will result in permanent infertility and that amenorrhea is a health hazard are only two of many examples of erroneous beliefs. Clearly, however, concerns regarding health or side effects are also often based on experience rather than misinformation. Side effects are the major reason for discontinuing use, and discontinuers constitute a major component of unmet need in many countries (Jain, Obare, and RamaRao 2013).

Psycho-social obstacles to contraceptive use no doubt reflect initial opposition to a radical behavioral innovation that affects one of life’s central concerns, the nexus of sex and procreation. This dimension of access is poorly measured in DHSs. Only superficial questions concerning approval of family planning and/or intention to use in the future are included. In-depth studies are more revealing. For instance, ambivalence and fear regarding modern methods and doubts concerning the moral and social acceptability of pregnancy prevention are clearly evident in qualitative research in Pakistan and Kenya (Rutenberg and Watkins 1997; Casterline, Sathar, and ul Haque 2001). DHS data concerning approval of contraception are consistent with this qualitative evidence. In the 1990–91 Pakistan DHS, 62 percent of married women who were aware of a method “approved of” family planning, but only 36 percent believed that their husband approved. In the 1998 Kenya DHS, approval among wives was much higher (89 percent) than in Pakistan, but a large minority of wives (35 percent) thought that their husband disapproved or were uncertain about his attitude. In both surveys, the attitudes of husbands themselves were more positive than those perceived by

their spouses, suggesting that misinterpretation of the husband's views, stemming from lack of discussion, may be responsible.

In conclusion, lack of knowledge—or partial and erroneous beliefs—concerning methods or services, together with social barriers, are key causes of unmet need in the early phase of family planning programs when contraceptive prevalence is low. The importance of these factors fades as time passes and use of modern methods becomes a familiar and commonplace part of life. Concerns regarding side effects and health, on the other hand, do not dissipate. As shown by Sedgh and Hussain in this issue, these reasons for avoidance of contraception are just as common in high- as in low-use countries, but in high-use countries these concerns are more likely to be based on personal experience than on perceptions.

PROGRAM IMPACT AND MEASURES TO REDUCE UNMET NEED

The primary aim of family planning programs is to meet the demand for contraception and thereby reduce or eliminate unmet need. Establishing the direct impact of a program on unmet need is complex, however. Bongaarts in this issue addresses this strategic topic. Using different and independent datasets, including data from Matlab and four pairs of weak and strong programs (Bangladesh/Pakistan, Indonesia/Philippines, Kenya/Uganda, and Rwanda/Burundi) and the family planning effort score, he concludes unequivocally that a well-organized family planning program having a substantial information, education, and communication (IEC) component can, on average, reduce unmet need by 10 percent and raise contraceptive use by 22 percent.

Bongaarts's stress on IEC is particularly relevant for low-use, high-unmet-need countries, which are now concentrated in sub-Saharan Africa. As shown above, social opposition and, to a lesser extent, lack of knowledge are important barriers to contraceptive uptake in such settings. Skilled use of mass media, together with more localized approaches targeting influential groups—such as school teachers and traditional and religious leaders—are required to disseminate information concerning methods and defuse initial opposition.

As contraceptive prevalence increases, the contribution of high rates of contraceptive discontinuation, especially of short-term methods, to unmet need becomes more important, but is often neglected (Ali, Cleland, and Shah 2012). Based on the analysis of data from 34 DHSs conducted between 2005 and 2010, Jain, Obare, and RamaRao (2013) estimated that 38 percent of women with unmet need comprised those who had discontinued using a modern method, and this figure rose to 50 percent or more in 16 of the 34 countries. Jain and colleagues in this issue use panel data from an intervention study in Pakistan to examine unwanted childbearing and unmet need. They point out the dynamic nature of unmet need; women with met need for contraception at baseline contributed substantially to both unmet need and unwanted fertility during the three-year follow-up period. Thus, retention of current users through provision of convenient, accessible, high-quality services offering a range of methods to facilitate switching when appropriate is an important strategy for reducing future unmet need. These same program characteristics will also be effective in attracting new users.

Much has been written concerning the merits of integrating family planning with related health services. Malarcher and Polis in this issue document substantial “missed opportunities” to address unmet need by failure to integrate services. Using 2010–11 DHS data for Nepal, Senegal, and Uganda, they show that between 67 percent and 76 percent of women having unmet need visited a health facility for any reason within the last 12 months in these three countries. Few women discussed family planning during these visits, however: 10 percent in Nepal, 15 percent in Senegal, and 26 percent in Uganda. Malarcher and Polis show how integration of family planning into a particular service (e.g., HIV-testing, STI treatment, prenatal care, skilled delivery at birth, postnatal care, or infant vaccination services) would increase access to family planning information and services. The intention to use a method in the future is high in these countries: 87 percent in Nepal, 40 percent in Senegal, and 74 percent in Uganda. They estimate that more than 20 percent of women with unmet need in Senegal could be reached through integration of family planning with any of the six health services considered in their analysis, except STI care. In Uganda, nearly 20 percent of women having unmet need could be reached through any of the six services, except for postnatal care.

As shown in Figure 1, unmet need among married women in Asia and Latin America has fallen to low levels. Thus, today’s policymakers and program managers can draw on decades of successful experience, although more recent strategies—such as vouchers, social franchising, and use of electronic technologies—require rigorous evaluation. Some stubborn problems remain, however. Early discontinuation of hormonal methods because of side effects, and failure to promptly switch to an alternative, are major sources of unmet need and are likely to increase in importance in sub-Saharan Africa, where injectables and pills dominate the method mix. Little or no progress in understanding the willingness or ability (or lack thereof) of women to tolerate side effects has been achieved during the past 30 years. Better counseling is frequently assumed to be the remedy, but the evidence to support this assumption is thin (Halpern et al. 2006). With regard to inadequate switching, the obvious remedy is to expand the range of methods that are readily available and acceptable, but this requires major efforts in logistics, staff training, and demand-creation. Examples of success in broadening the method-mix are disappointingly few in number.

Table 1 underscored the appreciable contribution to overall unmet need of sexually active unmarried women. Less agreement exists, perhaps, concerning how the needs of this group can best be addressed than regarding how to meet the needs of married women. One familiar line of argument assumes that unmarried women require the same highly effective methods of protection as do their married counterparts. This approach stresses the need for better sex education and more “adolescent friendly” services (Chandra-Mouli et al. 2014). A contrary view welcomes the fact that condoms, sourced mainly from retail outlets not clinics, are by far the most commonly used contraceptive method among young single women, both in Africa and Latin America, because this method is particularly well suited when coitus is infrequent and because it offers protection against sexually transmitted infections, including HIV (Ali, Cleland, and Shah 2004). Of course, consistent use of condoms is notoriously difficult. An appropriate program strategy is to continue to vigorously promote condoms as a family planning method but also to provide emergency contraception and pericoital methods that can be used before or after intercourse as a backup. Where permitted by law, abortion is an additional backup option.

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