



Contraceptive Technologies: Responding to Women's Needs

Jacqueline E. Darroch, Gilda Sedgh and Haley Ball

HIGHLIGHTS

- In developing countries, one in four sexually active women who want to avoid becoming pregnant have an unmet need for modern contraception. These women account for 82% of unintended pregnancies in the developing world.
- Sub-Saharan Africa, South Central Asia and Southeast Asia are home to 69% of women in the developing world who have an unmet need for a modern method.
- Each year in these three regions, 49 million women have unintended pregnancies, leading to 21 million unplanned births, 21 million induced abortions (15 million of which are unsafe), 116,000 maternal deaths and the loss of 15 million healthy years of women's lives.
- Seven in 10 women with unmet need in the three regions cite reasons for nonuse that could be rectified with appropriate methods: Twenty-three percent are concerned about health risks or method side effects; 21% have sex infrequently; 17% are postpartum or breast-feeding; and 10% face opposition from their partners or others.
- In these three regions, the typical woman with reasons for unmet need that could be addressed with appropriate methods is married, is 25 or older, has at least one child and lives in a rural area.
- In the short term, women and couples need more information about pregnancy risk and contraceptive methods, as well as better access to high-quality contraceptive services and supplies.
- In the medium term, adaptations of current methods can make these contraceptives more acceptable and easier to use.
- Investment in longer-term work is needed to discover and develop new modes of contraceptive action that do not cause systemic side effects, can be used on demand, and do not require partner participation or knowledge.
- Overcoming method-related reasons for nonuse of modern contraceptives could reduce unintended pregnancy and its consequences by as much as 59% in these regions.



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The Need for Contraceptive Research and Development

Each year in developing countries, one out of every eight women aged 15–49 becomes pregnant.¹ Two-fifths of these pregnancies, 75 million in total, are unintended. Unintended pregnancies—those that occur among women and couples who had wanted to delay having a child for two or more years or who did not want to become pregnant at all—carry risks to a woman’s health and her life, and in turn can also endanger the well-being of her children and family.¹ Moreover, even an uncomplicated unintended pregnancy may hinder a woman’s ability to complete her education, work in the formal labor force and participate fully in her community.

Women and their partners can, for the most part, prevent unintended pregnancies by using modern contraceptives. Yet, in 2008, of the 818 million sexually active,* reproductive-age women in developing countries who wanted to avoid becoming pregnant, 26% (215 million) either were not using any contraceptive method or were using traditional methods, which typically have high failure rates. These women accounted for 82% of all unintended pregnancies (Figure 1, page 4).^{1,2} The remaining unintended pregnancies occurred among the 603 million women who were using a modern contraceptive and conceived because they had difficulty using their method consistently and correctly or because of method failure.

Helping women and their partners obtain and use modern contraceptive methods successfully is critical to achieving the Millennium Development Goals and other targets for improving health and reducing poverty.^{3,4} If all women who want to avoid unintended pregnancy were to use modern contraceptives, the number of unintended pregnancies in developing countries would decrease by 71%, from 75 million to 22 million annually.¹ The impact on women, their families and their countries would be great: There would be 22 million fewer unplanned births and 25 million fewer induced abortions, which in turn would result in 15 million fewer unsafe abortions, 90,000 fewer maternal deaths and 390,000 fewer children who would lose their mothers.⁵ Moreover, because of the reductions in maternal mortality and morbidity, each year women would lose 12 million fewer healthy years of life.

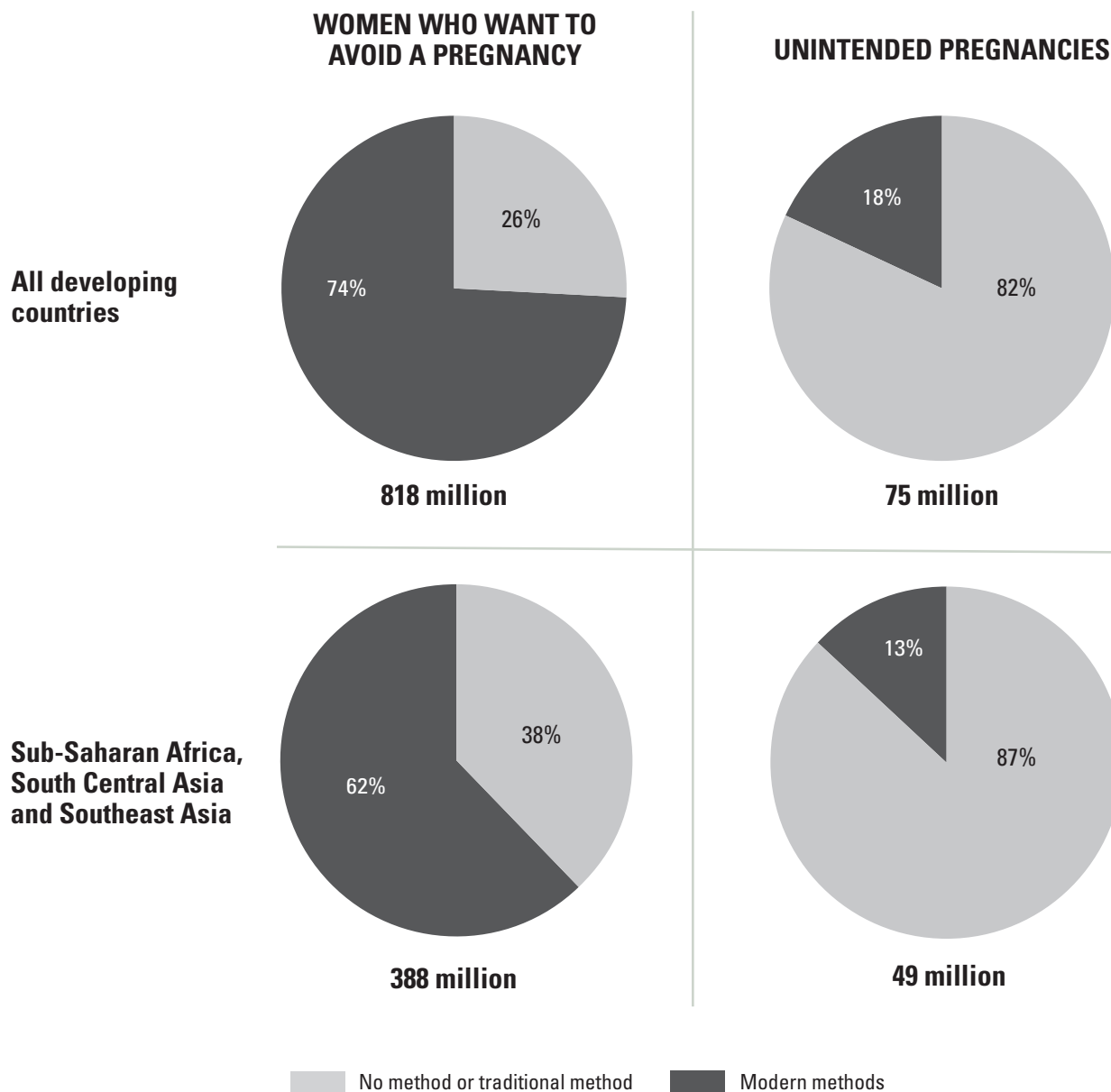
The need for contraceptive development

Helping women use modern contraceptives successfully clearly requires improving the accessibility and quality of contraceptive information and services.^{6–9} Yet women’s non-use and ineffective use of modern methods may not only reflect difficulties in obtaining such information and services, but also indicate that they are dissatisfied with current methods. New and improved contraceptive technologies might be more satisfactory than existing methods for many women, and they might alleviate some of the difficulties related to access and use—for example, new methods might reduce users’ dependence on trained providers or be better suited to women’s life circumstances.

For decades, calls for more acceptable family planning options for women and men have been stymied by the inadequate attention and resources afforded to the contraceptive research and development field, as well as by a shift in the focus of remaining efforts from discovery to adaptation.¹⁰ Most of today’s modern methods—including hormonal methods (oral contraceptives and injectables), IUDs, and nonhospital methods for vasectomy and tubal ligation—depend on mechanisms of action discovered before 1960 and on forms of delivery developed during the contraceptive revolution of the 1960s and early 1970s.^{10,11} Since then, adaptations have improved safety,¹² reduced side effects, increased options within some method categories, improved modes of delivery and made methods more suitable for low-resource settings. However, these advances have largely supplanted efforts to discover new contraceptive approaches. The methods that have emerged over the last 20 years or so—such as contraceptive implants, the patch, the female condom, copper and hormonal IUDs, the vaginal ring and newer vaginal barrier methods—have taken longer than predicted to arrive on the market, in large part because contraceptive development has garnered less attention and funding in the public and private sectors than it did during the period of greatest contraceptive innovation.

*We consider women to be sexually active if they are married or if they are unmarried and have had sex in the previous three months.

FIGURE 1. Women who want to avoid pregnancy but do not use a modern method account for a disproportionate majority of unintended pregnancies.



Sources: references 1 and 2.

Comments made nearly 40 years ago by Frederick Jaffe, a long-time leader of the U.S. family planning movement, reflect the neglect of contraceptive research and development that continues today: “The contraceptive revolution of the 1960s shows that better technology can play a decisive role in reducing the incidence of unwanted pregnancy.... If society believes that it is unacceptable for more than one-third of couples [in the United States]

to fail in their intention to have no more pregnancies, then it will allocate higher program priority and greater financial resources to biomedical research designed to improve contraceptive technology. The failure of the U.S. government and the scientific community to accept this challenge up to now is the major failure of a decade in which rapid progress otherwise has been made in public policy on fertility control and in family planning practice.”¹³

In the same year, international researchers and leaders in the population and family planning movement provided a further rationale for investing in contraceptive research: Existing methods were not well-suited for the developing world. They noted that “family planning for years to come will have to rely on technology which is too expensive, too complicated, too dependent on the medical profession, and too hard to distribute to be easily applied in low-income countries.”¹⁴

Of course, new methods alone cannot eliminate unmet need: Women and their partners face all manner of barriers to modern method use, from access issues and misinformation to inequities in social and sexual relationships, and not all of these can be overcome by developing new forms of birth control. Yet, there is an ongoing, vital need to produce new contraceptive methods. Having surveyed the state of reproductive sciences and contraceptive development in the 1970s, biomedical research and public health experts concluded that “the development of improved fertility control methods does not envision a technological panacea. Technological change, however, can have an important impact on human behavior and lead to more rapid fertility decline than would otherwise be the case... What is needed is a broad array of contraceptive methods that require less complex distribution systems and are safer and less discomforting than current methods; that combine high acceptability with high continuity of use; and that are suited to the diverse requirements imposed by the variety of conditions throughout the world.”¹⁵

The need for new types of methods and for increased scientific and financial resources for contraceptive research and development has been underscored by a number of assessments in the past four decades.^{14–23} Most of these assessments have emphasized technologies furthest along in development and methods considered most likely to fill unmet need in developing countries. The most recent U.S. Institute of Medicine assessment recommended the establishment of “incentives and mechanisms for integration of behavioral and operations research, including [incorporating] the views of providers as well as those of potential users and their partners, early in the contraceptive research and development process.” It also urged the development of research tools “that can more accurately measure acceptability and potential use, and can more accurately predict the characteristics of contraceptive methods that will be attractive to users in different settings and life stages.”²³

Several factors make this a good time to reinvigorate the field of contraceptive research and development. These include an increasing understanding among interna-

tional agencies and policymakers of the economic, social and personal costs of unintended pregnancy, and growing commitment to achieving universal access to family planning;^{4,24,25} the expansion of consumer markets in developing countries, which represent potentially profitable new markets for contraceptive products;²⁶ a rising demand for contraceptives, because the number of reproductive-age women is increasing in developing countries, and because the desire for smaller families and levels of premarital sexual activity are growing in some regions;²⁷ and advances in scientific knowledge and tools, which pave the way for the development of innovative contraceptive methods.^{10,23}

For insight into the potential for new contraceptive technologies to better serve women and couples so that they can be more successful in avoiding unintended pregnancy, we examine the social and demographic characteristics of women who want to avoid pregnancy but do not use modern contraceptive methods, investigate women’s reasons for nonuse and look at how these reasons vary according to women’s characteristics. We then estimate the number of women whose particular situation could be addressed by new modern methods. Finally, we quantify the potential impact of better meeting women’s contraceptive needs on the incidence of unintended pregnancy, unplanned birth, abortion, and maternal death and disability.

The main source for this information is the large body of national surveys of women in developing countries. It is important to acknowledge the strengths and weaknesses of these data. The information they provide on women’s childbearing intentions, need for and use of contraceptives, and reasons for nonuse is comparable across many countries. Moreover, the data are in a quantifiable form more readily suited to modeling than are data from more narrowly focused analyses and qualitative research (studies which would provide greater detail on women’s and couples’ sexual, childbearing and contraceptive motivations, intentions and behaviors). Therefore, the work presented here is neither an in-depth analysis of the variety of interacting factors that contribute to poor contraceptive use, nor an assessment of the state of contraceptive research and development. Our goal, rather, is to ascertain the levels of inadequate contraceptive use, consequences of inadequate use and broad reasons for nonuse from women’s perspectives, and, on the basis of these findings, to identify priorities for characteristics of new methods.

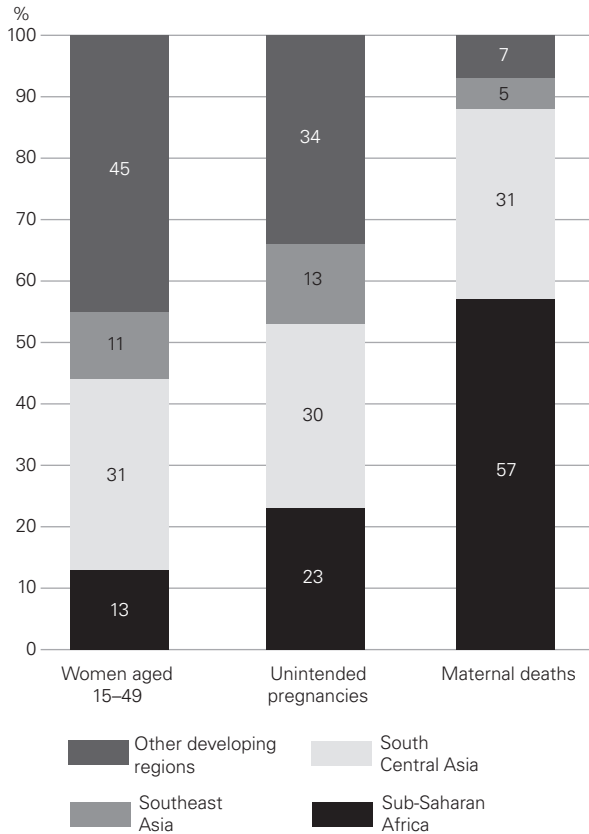
To make the best use of available data and resources, we focus on women in Sub-Saharan Africa, South Central Asia and Southeast Asia (Table 1, page 34). These three regions stand out for their large populations and their

particularly high levels of unmet need and maternal mortality. Some 38% of women in the three regions who want to avoid a pregnancy are not using modern methods, compared with 26% of those in all developing countries (Figure 1).^{1,2} The three regions are home to 55% of all developing-world women aged 15–49, but they account for 66% of unintended pregnancies and 93% of maternal deaths (Figure 2).² Between 2010 and 2050, the number of women aged 15–49 is expected to increase by 5% in Southeast Asia, 27% in South Central Asia and 129% in Sub-Saharan Africa, compared with decreases of 11% in

other developing regions and 16% in developed countries.²⁸ For these and other reasons, donors seeking to improve family planning and maternal health have given these regions high priority.^{29–32}

We hope this analysis will be useful in guiding contraceptive method development strategies, in spurring a substantial increase in resources for the development of new methods, and in encouraging more detailed research on the reasons behind and solutions to women’s and men’s difficulties avoiding unintended pregnancy.

FIGURE 2. Sub-Saharan Africa, South Central Asia and Southeast Asia account for a disproportionate share of unintended pregnancies and maternal deaths.



Source: reference 2.

Unmet Need for Modern Contraception

While the majority of women everywhere want to have children, most also want to control the number of children they have and the timing of births, so as to meet their own needs and goals and those of their families. As a result, the vast majority of the world's women spend only a fraction of their reproductive years pregnant or trying to get pregnant, and many years wanting to avoid an unplanned pregnancy. Between ages 20 and 44, a fertile, sexually active woman is potentially capable of giving birth about 12 times, even if she breast-feeds each baby for one year.³³ Thus, to limit her family to 2–4 children, for example, while avoiding unplanned pregnancies and a need for abortion, a sexually active woman and her partner must practice birth control for 16–20 of her roughly 25 childbearing years (Figure 3, page 8).³³

Current need for contraception

At any given time, more than half of women of reproductive age want to avoid becoming pregnant; that is, they are married (or unmarried and sexually active), are fecund and do not want to have a child in the next two years (see box, page 9). They need to use some method of contraception in order to control the timing and extent of their childbearing. In 2008, some 818 million women in developing countries fell into this category, of whom 388 million lived in the three regions on which we focus in this report (Table 2, page 35).²

Currently, 56% of all women aged 15–49 in developing countries are in need of family planning. The proportion is only 40% in Sub-Saharan Africa, primarily because of higher desired family sizes in this region.³⁴ In Southeast Asia, 46% of women want to avoid pregnancy, as do 53% of those in South Central Asia. As desired family size decreases (especially in Sub-Saharan Africa and South Central Asia),^{35–37} and as changing cultural norms result in more unmarried women becoming sexually active (particularly in Southeast Asia),^{38–40} women will spend more years of their lives wanting to avoid a pregnancy, and the proportion of women and their partners who need family planning services and supplies will increase.

Current use of modern contraceptives

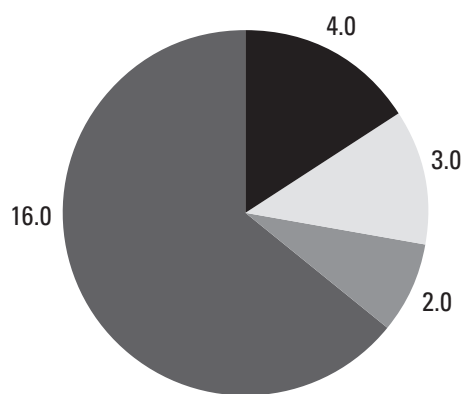
Three-quarters of women in developing countries who seek to avoid unplanned pregnancy already use a modern contraceptive method (Table 2).² In South Central and Southeast Asia, the proportion is about two-thirds (67–69%); in Sub-Saharan Africa, only 39% of women who want to avoid pregnancy use a modern method.

Women who use any contraceptive method have far lower risk of unintended pregnancies than do sexually active women who use no method (Figure 4, page 10).² However, although the decision to use a method is crucial to success in avoiding pregnancy, having a choice of methods is also important, since the risk of contraceptive failure varies widely across methods. Women using a permanent or long-acting method are much less likely to become pregnant than those who use short-acting modern contraceptives, such as the birth control pill.⁴¹ Both groups, though, experience lower rates of unintended pregnancy than do women who use traditional methods or no method. For example, 29% of women in the three regions who want to avoid a pregnancy rely on sterilization. Their risk of unintended pregnancy is so low that they have only 1% of all unintended pregnancies that occur in the three regions. In contrast, because of the risk of pregnancy is so high among women who do not use a method, these women have 70% of unintended pregnancies, even though they account for only 25% of all women who want to avoid a pregnancy.

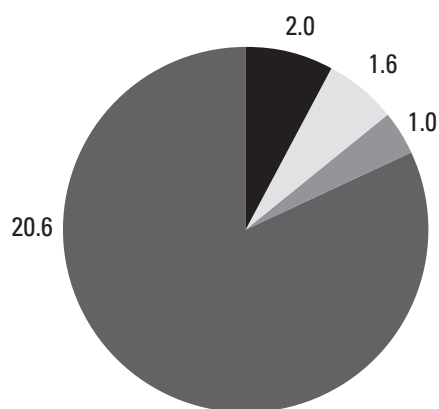
Failure rates of nonpermanent modern contraceptive methods primarily reflect the difficulty of using them consistently and correctly.⁴¹ For example, a survey from the United States found that 30% of pill users had missed two or more active pills in the prior three months, and 21% of those relying on condoms had used the method fewer than half of the times they had had sex in the prior three months.⁴² Methods that require less ongoing action by users and that do not interrupt intercourse tend to be less susceptible to user failure. Typical pregnancy rates are lowest among women using IUDs and implants, higher among those using injectables, higher still among oral contraceptive users and highest among those relying on condoms and other coitus-related methods. Still, all of these meth-

FIGURE 3. To avoid unintended pregnancies and the recourse to abortion, women must use birth control effectively for most of their childbearing years.

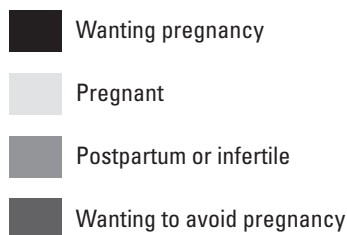
WOMEN WHO WANT FOUR CHILDREN



WOMEN WHO WANT TWO CHILDREN



Years spent:



Source: reference 33.

ods are more effective than traditional methods.

Regional differences in method-use patterns vary substantially among the 240 million women in Sub-Saharan Africa, South Central Asia and Southeast Asia who are using modern contraceptives. These differences likely reflect numerous factors, including method availability⁴³ and women’s characteristics and preferences, which in turn reflect differences in geographic and cultural contexts and in the development of family planning programs across the regions.⁴⁴⁻⁴⁶ For example, access to injectables has been rated much higher in African countries than in Asian and Central Asian countries,* while access to IUDs and female sterilization is considered better in Asian and Central Asian countries than in Africa.⁴⁷

Almost two-thirds of modern contraceptive users in Sub-Saharan Africa and Southeast Asia rely on hormonal methods (the pill, injectables and implants), while sterilization accounts for almost two-thirds of modern method use in South Central Asia (Figure 5, page 11).² IUD use is much more common in Southeast Asia than in the other two regions, and condom use is most prevalent in Sub-Saharan Africa, most likely in part because of the high levels of concern about HIV in that region.

Given that methods vary in their effectiveness, these regional differences in method-use patterns contribute to regional differences in modern method users’ success in preventing pregnancy. While most of the modern method users in Sub-Saharan Africa and Southeast Asia use highly effective hormonal methods, users in Southeast Asia have lower average use-failure rates because a higher proportion of users in that region use methods that are even more effective—sterilization and IUDs.²

Levels of unmet need for modern methods

Not all women who are sexually active, are able to become pregnant and want to avoid a pregnancy use an effective, modern method of contraception. Some of these women use no method at all, and others rely on traditional methods (such as periodic abstinence or withdrawal) that have high failure rates. Because of the high pregnancy rates experienced by users of traditional methods, we consider these women to have an unmet need for modern methods. Further research would be useful to explore the extent to which traditional methods are preferred to modern methods, are used as a fallback option when modern methods are inaccessible or are part of a transition from nonuse to modern contraceptive use.

Of the 818 million women in the developing world who

*The Asian and Central Asian countries included in the cited study are somewhat different from those included in this report.

Estimating Levels of Unmet Need for Modern Methods

We define women with unmet need for modern contraception as women aged 15–49 who want to avoid a pregnancy but are not using a method or are using a traditional method. We estimate the proportions and numbers of women with unmet need in the three focus regions using data and methods similar to those used for recent calculations covering all developing countries in 2008.^{1,51} Data on sexually active women’s need for and use of contraceptives, by marital status (currently, formerly or never married) and fertility intentions (wanting to space or limit births), were tabulated for each country using data from nationally representative Demographic and Health Surveys (DHS), U.S. Centers for Disease Control and Prevention Reproductive Health Surveys and other independent surveys (Table 1). These data were applied to estimates of the number of women aged 15–49 in each country.⁴⁹ The latest available country-specific data on the marital status (married vs. unmarried) of women aged 15–49 were taken from the 2006 revision of the United Nations Population Division’s population projections (medium variant).⁵² Tabulations from country surveys or subregional estimates were used to classify unmarried women as formerly married or never married; for countries without such data, we relied on information from similar nearby countries or used weighted subregional averages.

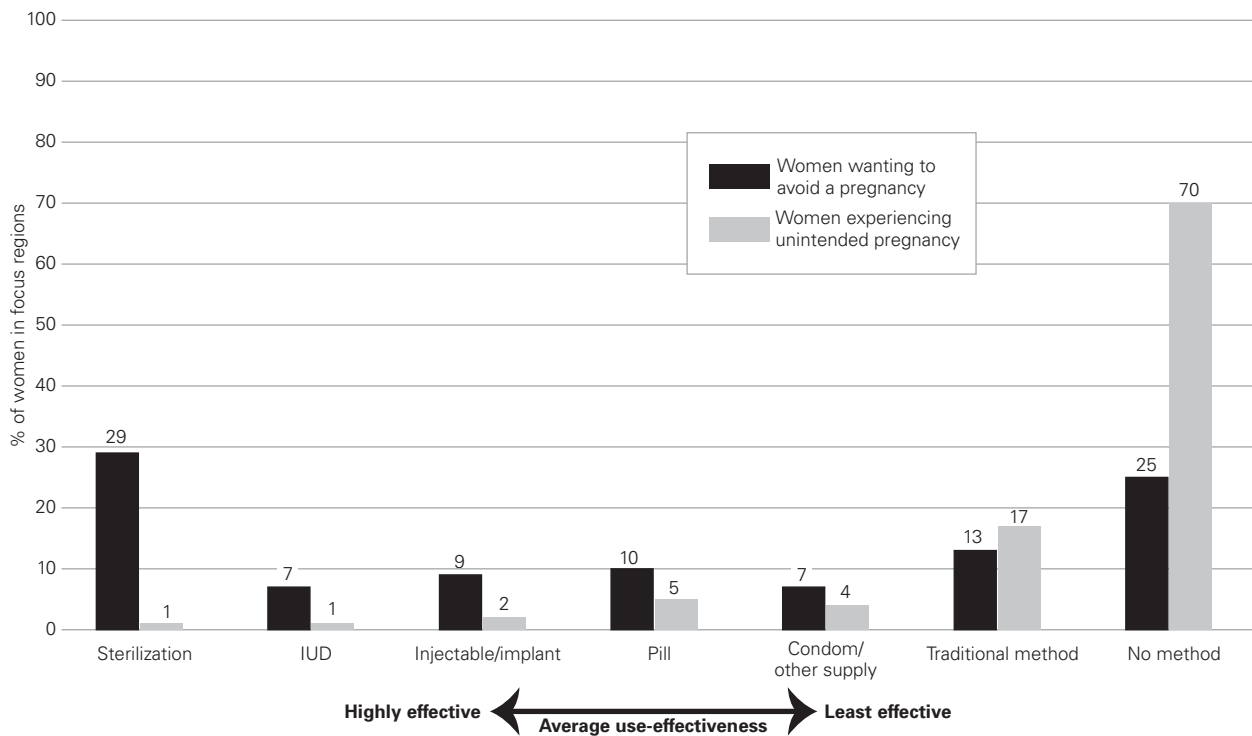
Women were classified as wanting to avoid a pregnancy if they met three criteria: They either were married or were unmarried and sexually active (i.e., they reported having had sex in the past three months); they were able to become pregnant (if not using a contraceptive method); and they wanted to stop childbearing or to wait at least two years before having a child (or another child). These women were considered to need effective contraception in order to achieve their goal of preventing unintended pregnancy. Women who wanted to avoid pregnancy and were using a traditional method (typically withdrawal or periodic abstinence) or no method were considered to have unmet need for modern contraception. We included women using traditional methods in this category because they are at much higher risk for method failure than are users of most modern contraceptives.

Our definition for women wanting to avoid a pregnancy is equivalent to the commonly used DHS measure of the sum of women practicing contraception and women with unmet need, except that the DHS variable is limited to married women (the tabulations presented here include sexually active unmarried women).⁵³ Further, DHS tabulations and measures based on them, such as the proportion of demand satisfied,⁵⁴ classify women who rely on traditional methods as contraceptive users, while we include them with nonusers as having unmet need for modern methods.

Using DHS data, we tabulated contraceptive need and use according to women’s age, household wealth, residence (urban or rural) and parity in the three regions.⁴⁸ These figures were applied to the number of women aged 15–49 in each subgroup, taken from 2008 United Nations World Population Prospects estimates (for age)⁴⁹ and weighted DHS distributions (for other subgroups). Estimates were calculated separately by marital status and women’s intention to space or limit births. Again, estimates for countries without relevant DHS data were based on weighted averages from countries in the subregion with data. The resulting numbers of women in each country were summed to subregional totals for each subgroup and method-use group. Country numbers were then adjusted so that their sum equaled the subregional total number of women, by marital status, fertility intention and method use previously calculated for each subregion.¹

Women were categorized as poor if they lived in a household whose assets placed it in the poorest two-fifths of the country’s households. Women who wanted to avoid a pregnancy but wanted to have a child in the future were classified as wanting to delay childbearing if they had not yet had children, and as wanting to space births if they already had one or more children.

FIGURE 4. Unintended pregnancies occur at a disproportionately high rate among women who are not using a modern contraceptive method.



Source: reference 2.

were in need of a contraceptive method in 2008, 26% were not using a modern method and thus had an unmet need (Table 2).² This proportion was somewhat higher in Southeast and South Central Asia (31–33%), and much higher in Sub-Saharan Africa (61%).

Unmet need for modern methods is generally greatest among those subgroups of women who face financial, geographic, educational or social barriers to obtaining the reproductive health services they need. Below, we examine some of the characteristics associated with unmet need.

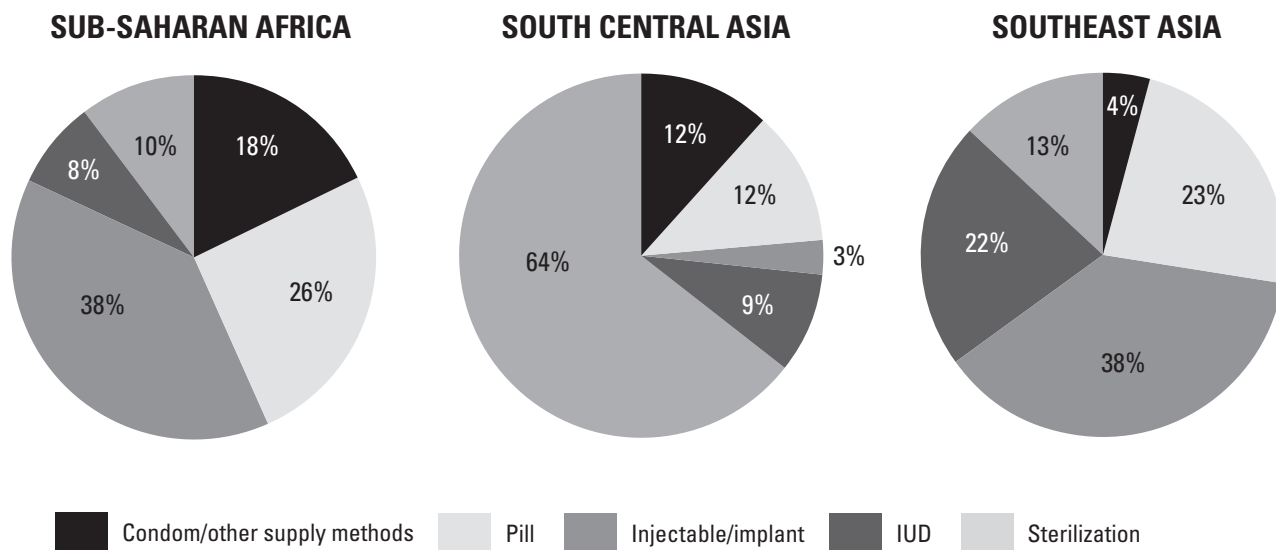
■ **Childbearing intentions.** Only 40% of women in Sub-Saharan Africa who wish to avoid a pregnancy want to stop childbearing, compared with 65% of those in Southeast Asia and 80% of those in South Central Asia (not shown).^{2,48} These differences contribute greatly to regional variation in unmet need, because levels of unmet need vary widely according to whether women want to delay having their first child, want to space subsequent births or wish to stop childbearing altogether. In Sub-Saharan Africa, for example, women who want to space their next birth have very high levels of unmet need for modern methods—70% use either no method or a traditional

method, compared with 58% of women who want to delay a first birth and 49% of those who wish to stop childbearing (Figure 6, page 12 and Table 3, page 37).^{2,48,49}

In South Central and Southeast Asia, the prevalence of unmet need is highest among women who are trying to delay having their first birth (78% and 74%, respectively).^{2,48,49} This may reflect strong cultural pressures to have children soon after marriage that make it difficult for those who want to delay childbearing to practice contraception.⁵⁰ In both regions, only 25–29% of those who want no more children have unmet need. The much lower level of unmet need among women in these areas who want to stop childbearing may reflect that these women have the option of long-term or permanent methods. In Southeast Asia, levels of unmet need are similar among women who want to space births (32%) and those who want to stop childbearing (29%).

■ **Marital status.** Among women in Sub-Saharan Africa who want to avoid a pregnancy, those who are married are more likely to have unmet need than those who are not (64% vs. 46%).^{2,48,49} This may reflect greater social pressure on a woman to have children once she is married.³⁸ In South Central and Southeast Asia, national surveys

FIGURE 5. Patterns of modern method use differ sharply among regions.



Source: reference 2.

often do not include all unmarried women,* and those unmarried women who do respond may be reluctant to report being sexually active. Therefore, we have included available data from unmarried women in these regions in the totals for the focus areas, but do not present the data by region.

■ **Age.** Among women who want to avoid pregnancy, the proportion who experience unmet need tends to decrease with age. This pattern may reflect that unmet need is relatively low among women who want to stop childbearing, and that these women, on average, are older than women who want to delay or space births. Thus, in all three regions, unmet need is highest among women younger than 20 and lowest among those aged 35 or older.^{48,49} Differences by age are greatest in South Central Asia, where sterilization is a common method of contraception for older women who want no more children: While 72% of women younger than 20 have unmet need, only 23% of those aged 35 or older do. The difference between these age-groups in the prevalence of unmet need is much smaller in Sub-Saharan Africa (68% vs. 58%) and Southeast Asia (37% vs. 30%), where permanent methods are less available and less commonly used.

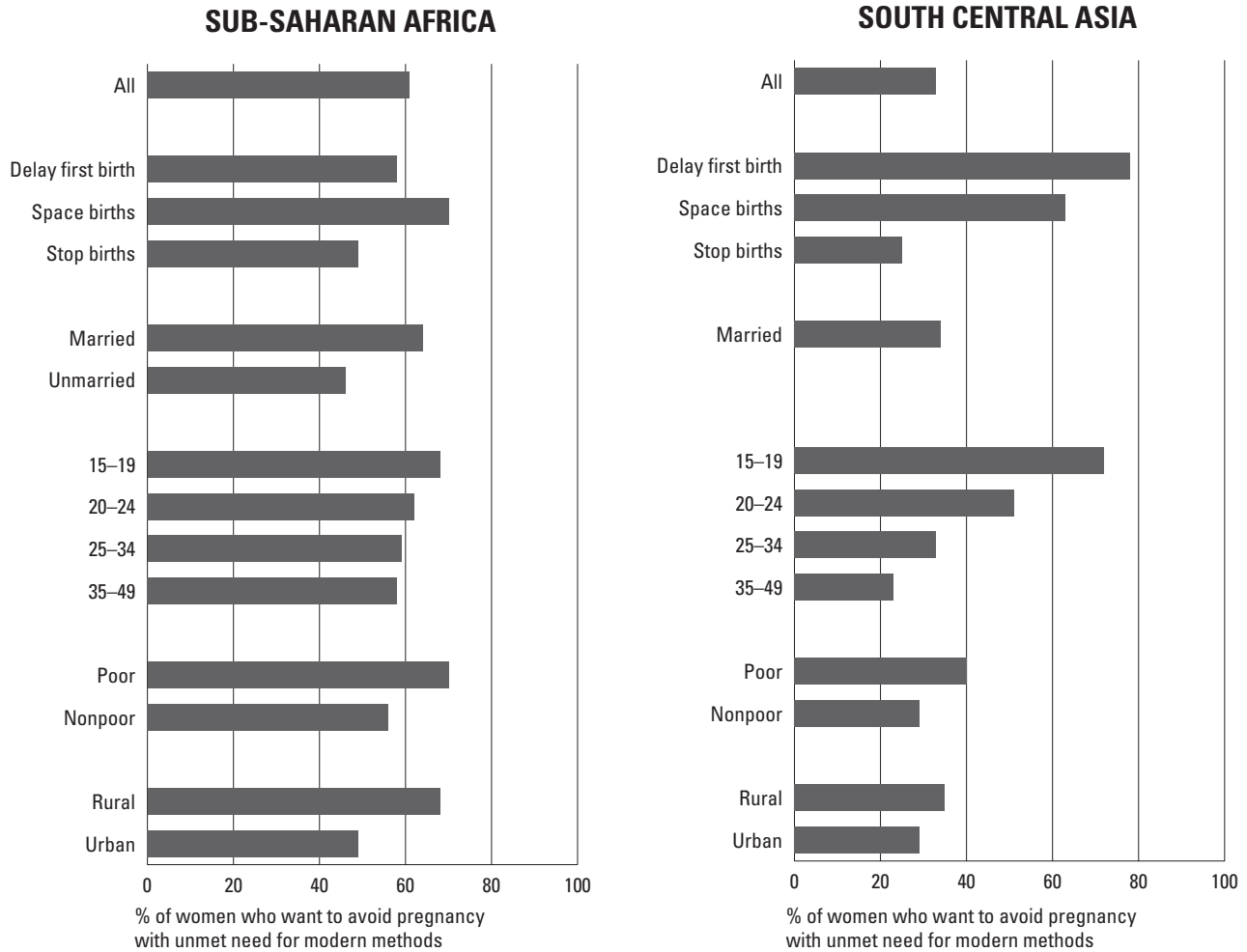
*Of the 12 DHS surveys available for countries in South Central and Southeast Asia, 10 included formerly married women and only seven included never-married women.

■ **Wealth.** In all three regions, poor women who want to avoid a pregnancy are more likely than their nonpoor counterparts to have unmet need for modern methods. The differences are wide in Sub-Saharan Africa, where 70% of poor women and 56% of nonpoor women have an unmet need, and in South Central Asia, where the proportions are 40% and 29%, respectively. In Southeast Asia, 33% of poor women and 29% of nonpoor women have unmet need.^{2,48,49}

■ **Area of residence.** Higher proportions of women in rural areas than in urban areas have unmet need in Sub-Saharan Africa (68% vs. 49%) and South Central Asia (35% vs. 29%), but in Southeast Asia the proportions are similar in rural and urban areas (30% vs. 31%).^{2,48,49}

Despite the similarities among regions in these broad patterns of unmet need for modern methods, differences among subgroups are greater in South Central Asia than in Sub-Saharan Africa or Southeast Asia. For example, among subgroups of women who want to avoid pregnancy, the range between the highest and lowest levels of unmet need is 55 percentage points in South Central Asia, compared with 24 percentage points in Sub-Saharan Africa and 45 in Southeast Asia.^{2,48,49} In South Central Asia, the availability of sterilization and its widespread use among couples who have had as many children as they want likely

FIGURE 6. Women who want to avoid pregnancy are especially likely to have an unmet need for modern methods if they wish to delay or space a birth or are young, poor or rural.



contributes to the wide differences in unmet need according to childbearing intentions and age. In Sub-Saharan Africa, the greater homogeneity across subgroups in levels of unmet need may reflect generalized lack of access to information and services providing modern methods.

Unmet need for according to subgroup size

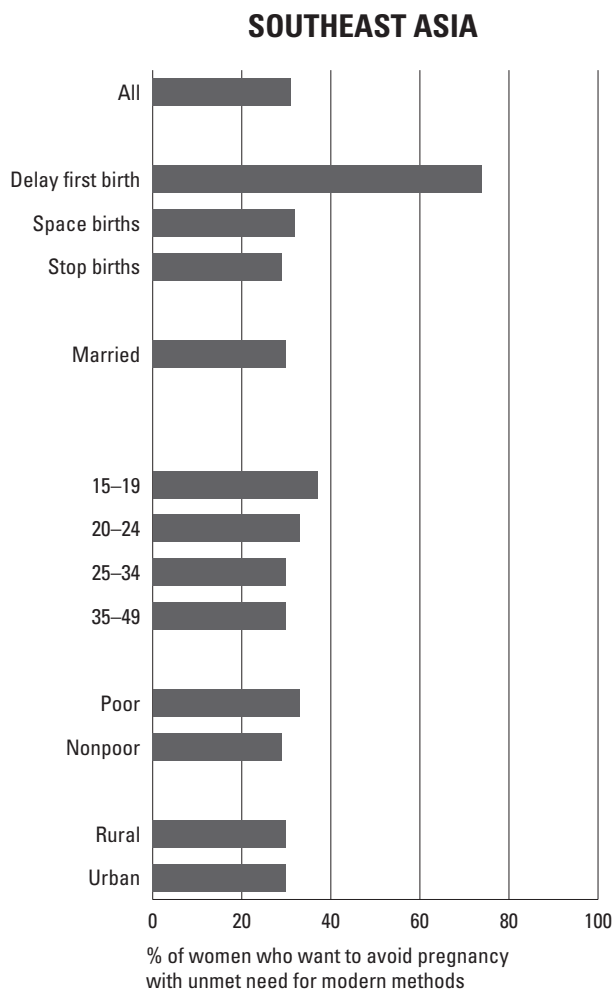
To identify which groups of women contribute most to unmet need for modern methods, we must look at both the level of unmet need in each subgroup, as we have done above, and the relative size of the subgroups. Table 4 (page 40) shows the distributions, by demographic and fertility-related characteristics, of the 148 million women in the three regions who have unmet need for modern methods.^{2,48,49}

Even though high proportions of women who want

to delay their first birth have unmet need for modern methods, such women currently make up a small proportion of all women wanting to avoid a pregnancy, and they represent only 4–11% of women with unmet need. The distribution by fertility preferences of the remaining women with unmet need for modern methods differs by region. In Sub-Saharan Africa, a greater proportion of women want to space future births (56%) than to have no more children (33%). The opposite is the case in South Central and Southeast Asia, where larger proportions want to stop childbearing (61% for both regions) rather than space births (32–35%).

Most women with unmet need for modern methods are married—84% of those in Sub-Saharan Africa and 94% in the focus regions as a whole. Their high representation among women with unmet need for modern meth-

FIGURE 6. Continued.



Sources: references 2, 48 and 49.

ods reflects, in large part, the fact that most women aged 15-49 in these regions are married and that, especially in South Central and Southeast Asia, few unmarried women are sexually active (or report in surveys that they are sexually active).

The majority of women with unmet need are 25 or older. Although more than two-thirds (68%) of women younger than 20 who want to avoid a pregnancy have unmet need, they account for only one-tenth of all women with unmet need across the three focus regions, because relatively few women in this age-group are sexually active and want to avoid a pregnancy. In all three regions, about four in 10 women with unmet need for modern methods are poor, and 57-70% live in rural areas.

Thus, in these three regions, the "typical" woman with unmet need for modern contraception is aged 25

or older, is married, has one or more children, is in the top three-fifths of the household wealth distribution and lives in a rural area. If she lives in Sub-Saharan Africa, she wants more children after a delay of two or more years, but if she lives in South Central or Southeast Asia, she has already had all the children she wants.

Reasons for Unmet Need for Modern Methods

The demographic characteristics examined in the last chapter give clues to why women with unmet need for modern contraceptives are not using a method, but examining women's stated reasons for their nonuse is key to understanding and remedying unmet need. For comparative information on these reasons, we turn to data collected in the Demographic and Health Surveys (see box, page 16). These data have the advantage of being population-based and nationally representative, and the surveys from which they are collected use comparable methods and questions across countries. However, the data on reasons for nonuse are based on a single survey question and capture only women's major reasons, without conveying the potentially complex interplay of barriers that contribute to nonuse. In presenting these findings, we recognize that more research in this area is needed, and that satisfying women's given reasons may not be sufficient to enable them to use modern methods.

In order to relate women's reasons for not using modern contraceptives to the characteristics of potential new contraceptive methods, we have grouped the reasons according to whether they can likely be addressed by providing women with methods that better fit their individual needs (see box for further explanation of these categories).

Method-related reasons for nonuse of modern contraceptives

Reasons for nonuse that we consider to be related to method characteristics include being concerned about health risks or side effects, having sex infrequently, breast-feeding or experiencing postpartum amenorrhea, and having a partner who is opposed to contraceptive use. These reasons can, at least in part, be addressed with new types of contraceptives and by improving existing methods. Women who cite concerns about health risks or side effects of methods might need better information and counseling about current methods, but they are at least as likely to need methods whose side effects are fewer than or different from those of currently available methods. While some women who cite infrequent sex, postpartum amenorrhea or breast-feeding might be at low risk for

pregnancy, separate research suggests that sizeable proportions of these women are at substantial risk.^{55,56} Thus, we assume that they are in need of methods that are compatible with their circumstances, and that they need information to help them understand their risk. Women whose partners are opposed to contraception would be well-served by efforts to help them gain partner support, but their needs may also be met by methods that can be used without their partners' knowledge.

In Sub-Saharan Africa, South Central Asia and Southeast Asia, seven in 10 women with unmet need for modern methods—a total of 104 million women—have reasons for not using modern contraceptives that could likely be satisfied by a match to appropriate methods (Table 5, page 41 and Figure 7).^{2,48,49} Women reporting method-related reasons for not using a modern method account for about two-thirds of unmet need in Sub-Saharan Africa (67%) and South Central Asia (71%), and for 79% of unmet need in Southeast Asia.

Overall, concerns about health or method-related side effects account for 23% of unmet need for modern methods; the proportions range from 18% in South Central Asia to 39% in Southeast Asia.^{2,48,49} Almost as many women—21% of those with unmet need—cite infrequent sex as a reason (proportions range from 17% to 25% across regions). Some 17% of women say they are not using contraceptives because they are experiencing postpartum amenorrhea or are breast-feeding. This proportion also varies across regions, ranging from 11% of women with unmet need in Southeast Asia to 17% of those in Sub-Saharan Africa and 19% of those in South Central Asia. Opposition from women's partners and others underlies 10% of unmet need for modern methods in the three regions overall. This reason is most commonly cited in South Central Asia (12%), followed by Sub-Saharan Africa (9%) and Southeast Asia (4%).

Lack of access and other reasons for nonuse of modern methods

Other reasons for unmet need include women's opposition to contraception, unawareness of methods, inability to obtain or afford contraceptives and perceived sub-

fecundity. Women who cite these issues may benefit from improved contraceptive technology, but their reasons for not using a modern form of contraception primarily point to the need to improve access to services and build knowledge about contraceptives and pregnancy risk. Addressing these reasons for unmet need may involve providing public education activities and making available to women a range of method options, a continuous supply of their chosen method, opportunities to switch methods when their needs change, and counseling about methods and side effects.

In all, 43 million women in the three focus regions—29% of those with unmet need—cite access-related or “other” reasons for not using contraceptives.^{2,48,49} Personal opposition to contraception (possibly because of religious prohibition, social or cultural beliefs, or fatalism about getting pregnant) accounts for 16% of unmet need in the three regions. Opposition is more common in South Central Asia (20%) and Sub-Saharan Africa (14%) than in Southeast Asia (6%).

Reasons related to poor contraceptive access—including not knowing where to obtain a method, not being able to afford a method and living too far from a clinic—are cited by 8% of women with unmet need for modern methods.^{2,48,49} The proportions range from 6% in South Central Asia to 10–11% in Sub-Saharan Africa and Southeast Asia.

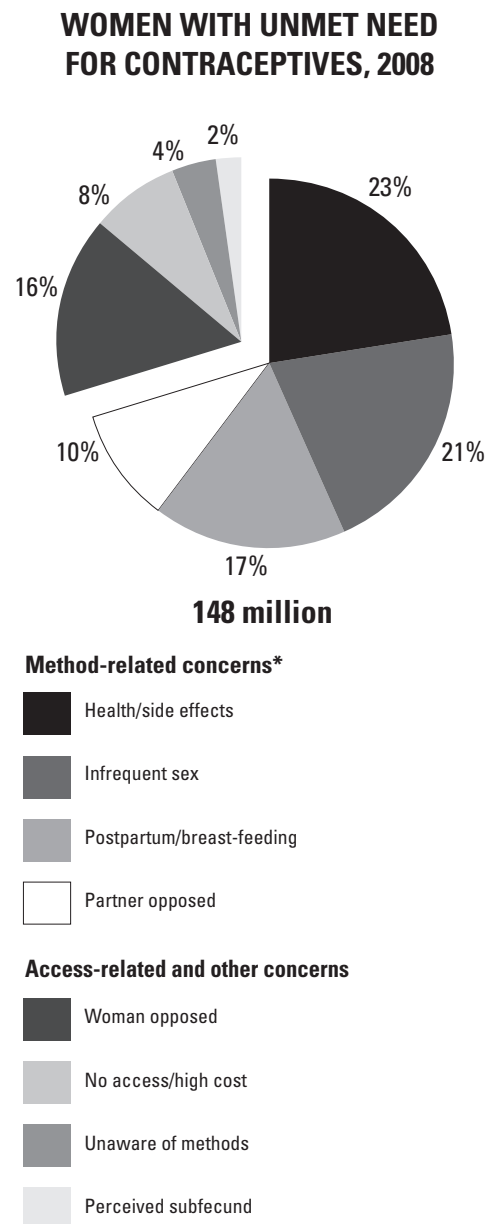
Some 4% of women in the three regions report being unaware of any modern methods.^{2,48,49} This is more common in Sub-Saharan Africa (8%) than in the Asian regions (1–2%). Another 2% of nonusers in need of a method believe they are unlikely to become pregnant; this belief may stem from a lack of accurate information concerning women’s likelihood of becoming pregnant or their ability to have a child.

It is important to underscore that the estimated levels of these reasons may be affected by the way data were collected. Most women surveyed gave only one reason for contraceptive nonuse, and the prevalence of their secondary reasons is likely underestimated in these tabulations. For example, large numbers of women who were not using a method because they had sex infrequently, because they were breast-feeding or because their partners were opposed to contraception might have indicated that they lacked access to services once their more immediate concerns had been resolved.

Subgroup differences in reasons for unmet need

Certain groups of women are especially likely to cite particular barriers to contraceptive use (Figure 8, page 18).^{2,48,49} Some patterns in women’s reasons for not using

FIGURE 7. Most women in Southeast Asia, South Central Asia and Sub-Saharan Africa with unmet need for modern contraceptives have method-related concerns.



*Concerns that can be resolved with use of appropriate methods.

Note: Percentages do not sum to 100 because of rounding.

Sources: references 2, 48 and 49.

Estimating Women's Reasons For Unmet Need For Modern Methods

The most recent Demographic and Health Survey (DHS) data on the reasons behind women's unmet need for modern methods were tabulated⁴⁸ for all countries for which such data were available—29 countries in Sub-Saharan Africa, four in South Central Asia and three in Southeast Asia (Table 1). These data were drawn from nationally representative samples of women aged 15–49, and represent 81%, 90% and 60% of married women in the three regions, respectively. Some important limitations of these surveys and of the information they provide on women's reasons for contraceptive nonuse are discussed beginning on page 27.

The surveys asked all married women (and, in Sub-Saharan Africa and some Asian countries, sexually active unmarried women) who were able to conceive, were not using any method of contraception and did not want to have a child in the next two years, to indicate their reasons for not practicing contraception. The question took the general form, "You have said that you do not want a child soon (or another child soon/ any children/any more children), but you are not using any method to avoid pregnancy. Can you tell me why?" Questionnaires included a list of more than 20 precoded responses and also allowed interviewers to enter other, uncoded reasons. We grouped these reasons into two categories: those that could be addressed in large measure, even if not entirely, by providing women with new or improved methods; and those that would likely best be addressed in other ways.

Method-related reasons were grouped into the following four subcategories:

- *Concern about health risks or side effects.* These reasons include the DHS categories "health concerns," "fear of side effects" and "interferes with body processes." They also include "inconvenient to use," a reason reported by a small number of women. Most responses fell into the first two categories.
- *Infrequent sex.* This category includes the reasons "infrequent sex" and "no sex." Although some married women may have little or no sex, we assume that all have some level of risk. These women likely need a combination of information about their risk and about methods suited to their level of sexual activity.
- *Postpartum amenorrhea or breast-feeding.* These women may think, correctly or incorrectly, that current methods are inappropriate for them.

- *Partner is opposed to contraceptive use.* Includes the reasons "partner opposed" and "others opposed" (only a small number of women reported the latter). We assume that these reasons for non-use could be addressed by providing women with a method that could be used without partners' or others' knowledge.

Access-related and other specific reasons for non-use were also grouped into four subcategories:

- *Opposed to contraception for personal or religious reasons.* Includes "respondent opposed," "fatalistic" and "religious prohibition." We assume that a woman's opposition to contraception is an indication that her values run counter to family planning and that new methods thus would not resolve her concerns.
- *Unaware of methods.* Respondent reported that she "knows no method."
- *Problems with access or cost.* Includes the responses "lack of access/too far," "costs too much" and "knows no source."
- *Perceived subfecund.* Includes the categories "infecund/subfecund" and "menopausal/hysterectomy." While infecund women are not considered by the DHS to have unmet need, some women classified as having unmet need apparently think they are unlikely to become pregnant. Some of these women may correctly assess that they are not at risk of getting pregnant, but many may actually be at risk and could be served with information and counseling about their risk.

Women whose answer fell into the unspecific categories of "other" and "don't know" were not included in our analysis.* Those who indicated that they were not using a method because they were unmarried were also excluded.† In omitting these groups of women, we assume that their reasons for nonuse are similar to those of women who gave specific reasons. More research is needed to understand whether this is an appropriate assumption or whether other factors prevent these women from using a method.

The division between the two groups of specific reasons is not absolute: Not all women with method-related reasons for nonuse would necessarily take up methods that address their concerns, and some women with reasons not relevant to method characteristics could be helped with an appropriate contracep-

continued

tive. However, this classification helps us hone in on the women most likely to respond to new or improved methods, and those most likely to respond to improvements in access to contraceptive information and services.

To estimate the proportion of women in each region whose reasons for nonuse fell into our categories, we weighted responses from women in each country in the region according to the proportion of all nonusers in the country. This was done separately for each social and demographic subgroup of non-users. Most surveys administered in South Central and Southeast Asian countries did not ask unmarried women about their sexual activity and reasons for contraceptive nonuse, and in the Asian countries that did include these questions, the vast majority of respondents reported that they were not sexually active. Therefore, separate examination of reasons for nonuse among nonmarried women in the Asian regions was not tenable.

DHS respondents could provide multiple reasons for nonuse, although most offered only one. To facilitate identifying the most important reasons for nonuse, we adjusted the prevalence of specific reasons proportionally, such that the prevalence of all reasons summed to 100% in each region and marital status group. Before being fit to 100% distributions, the sums of the specific responses from married women were 108% for Sub-Saharan Africa, 114% for South Central Asia and 99% for Southeast Asia; for never-married women in Sub-Saharan Africa, the sum was 84%. We estimated the number of women in each subgroup and reason category by applying the distribution of women with unmet need according to reason

to our population estimate of the number of women in the subgroup with unmet need.

For Sub-Saharan Africa, we assumed that the proportion of formerly married women using no method for each reason was the average of the relevant proportions among never-married and currently married women. For South Central and Southeast Asia, we assumed that the distribution of reasons for nonuse among unmarried sexually active women was the same as that among married nonusers. This may not be true, but we lacked an empirical basis for an alternate assumption; moreover, because the number of unmarried nonusers in these areas was so small, this assumption had little impact on the findings.

The DHS did not ask women using traditional methods why they do not use a modern method. These women are also considered to have unmet need for modern methods, and we assumed that their reasons mirrored those of women who wanted to avoid pregnancy but were using no method.

*Of currently married women, 2% said that they did not know why they were not using a method, and 9% cited "other" reasons.

†Among never-married women in Sub-Saharan Africa, 28% said they were not using a method because they were not married; 5% said they did not know why they were not using a method; and 5% cited "other" reasons.

modern methods are similar across regions, and some are notably different.

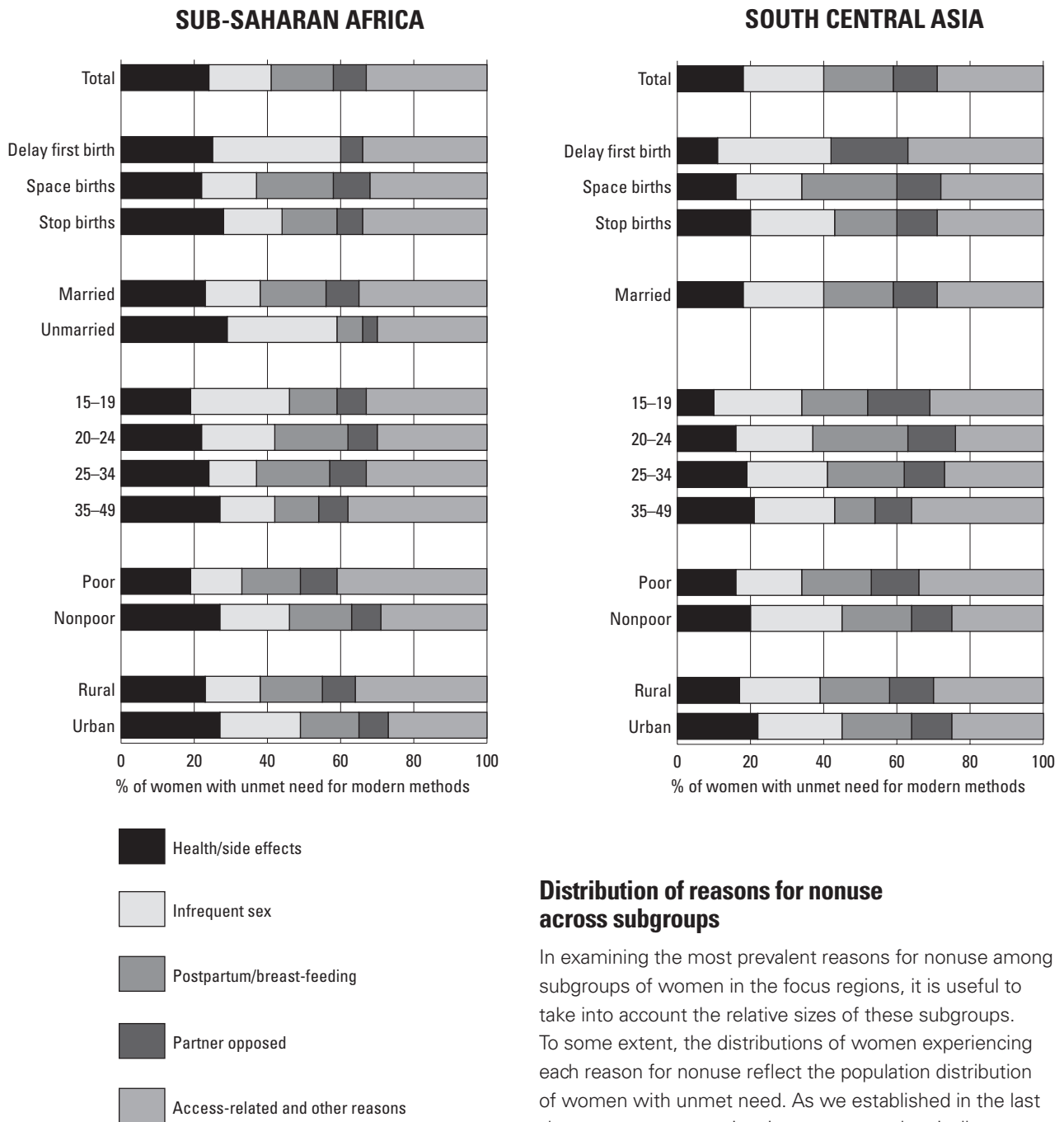
The largest discrepancies in women's reasons for nonuse are apparent when women with unmet need for modern methods are categorized according to wealth status. Across the three regions, larger proportions of poor women (35%) than nonpoor women (25%) with unmet need have reasons that are not clearly related to method characteristics (Table 5).^{2,48,49}

Conversely, in all regions, method-related reasons affect larger proportions of nonpoor than poor women with unmet need. In Sub-Saharan Africa, nonpoor women are more likely than poor women to cite concerns about

health and side effects (27% vs. 19%); in South Central and Southeast Asia, the biggest differentials are in the proportions of nonpoor and poor women who cite infrequent sex as their reason (25–29% vs. 18%, respectively).^{2,48,49}

Women with unmet need who wish to delay their first birth are particularly likely to mention having sex infrequently as their reason for nonuse; 32% give this reason, compared with 18–22% of women who want to space births or stop childbearing. A larger share of women seeking to space their births than of those who want to stop childbearing report postpartum amenorrhea or breastfeeding as a reason for nonuse (23% vs. 15%).

FIGURE 8. Reasons for nonuse of modern contraceptives vary according to women’s characteristics.

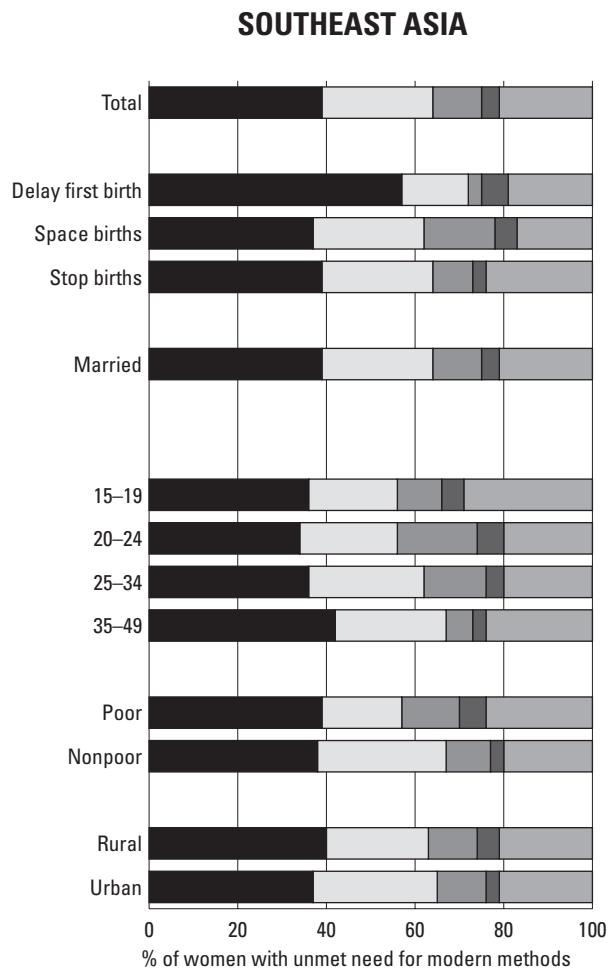


Distribution of reasons for nonuse across subgroups

In examining the most prevalent reasons for nonuse among subgroups of women in the focus regions, it is useful to take into account the relative sizes of these subgroups. To some extent, the distributions of women experiencing each reason for nonuse reflect the population distribution of women with unmet need. As we established in the last chapter, women experiencing unmet need typically are married, are at least 25 years old, are nonpoor, live in rural areas and want to stop childbearing. However, these broad patterns differ for some reasons for nonuse.

While 32% of all women in the three regions who have unmet need for modern methods live in Sub-Saharan Africa, 69% of those whose unmet need is due to their being unaware of methods and 40% of those who report having trouble with access and cost live there (Table 6, page 43).^{2,48,49} This may reflect several factors: The region

FIGURE 8. Continued.



Sources: references 2, 48 and 49.

is in a comparatively early stage of the transition to smaller families and contraceptive use; it depends heavily on hormonal methods that require ongoing contact with service providers (e.g., injectables, which account for 38% of modern method use in the region) and regular access to contraceptive supplies (oral contraceptives, condoms and other supply-dependent methods, which make up 44% of modern method use); and its family planning programs and health service infrastructures are fairly weak^{46,57} and are stressed by the HIV/AIDS epidemic.⁵⁸⁻⁶⁰

South Central Asia is home to 53% of women with unmet need for modern methods in these regions, but to only 42% of those whose nonuse is linked to concerns about health and side effects, 27% of those unaware of methods and 40% of those who have service- and access-related problems.^{2,48,49} The relatively low prevalence of these reasons for nonuse probably reflects South Central

Asian women's heavy reliance on sterilization, a method that accounts for 64% of all modern method use in region, is widely available from public sources and has few ongoing side effects. In addition, family planning programs tend to be strong in the region.⁴⁶ Women in South Central Asia make up two-thirds of those whose unmet need for modern methods is related to opposition to contraception on the part of either the respondent, her partner or others close to her.

Southeast Asia accounts for only 15% of women with unmet need for modern methods in the three regions, and for even smaller proportions of women whose unmet need is linked to opposition (6% for personal opposition and the same proportion for partner opposition) and women who are unaware of any methods (3%).^{2,48,49} However, Southeast Asia has a disproportionately large share of women reporting concerns about health and side effects (25%) and problems of access and cost (20%). Hormonal methods account for 61% of modern method use in the region, and IUDs for 22%; these methods can have ongoing systemic effects and require continual supply or ongoing services. These methods may also raise cost-related issues, because many women rely on private sources for these methods: In Cambodia, 58% of pill users and 57% of IUD users obtain their method from a private source, as do 84% of pill users and 57% of IUD users in Indonesia, and 43% of pill users and 20% of IUD users in the Philippines.⁶¹

Women 25 and older account for most of unmet need (69%), and they make up the largest share of women with each specific reason for nonuse of modern methods.^{2,48,49} These women represent 75% of those whose unmet need is due to concerns about health and side effects; this overrepresentation may reflect longer exposure to method use or to hearing about real or perceived problems of method use. Women younger than 20 account for 10% of those with unmet need for modern methods, and for similar proportions of women citing most specific reasons for nonuse of modern methods. However, they make up 17% of those whose unmet need is linked to their not being aware of methods.

The large majority of women with unmet need for modern methods are married. In Sub-Saharan Africa (the only region for which estimates according to marital status are feasible), unmarried women account for 16% of those with unmet need for modern methods, but for 27% of those with unmet need related to infrequent sex and for only 7% each of women who are breast-feeding or experiencing postpartum amenorrhea and those whose partner is opposed to contraception.^{2,48,49}

Women who want to delay their first birth account

for 8% of women with unmet need, but 14% of those unaware of methods.^{2,48,49} Women who already have one or more children and want to space future births (40% of women with unmet need) are also overrepresented in this category, making up 52% of those who are unaware of any methods. These findings likely reflect not only a lack of sex education, but also the expectation in many areas that young women will have children soon after marrying, which might keep these women from obtaining information about contraception despite their own wishes to delay or space births.⁶² Women who want to stop childbearing are less likely than other women to report nonuse linked to being unaware of methods, experiencing postpartum amenorrhea or breast-feeding, or having a partner who opposes their contraceptive use. These women—who are generally older than those who want more children—represent 52% of all women with unmet need for modern methods but 77% of those whose unmet need is related to thinking they are subfecund.^{2,48,49}

Poor women, who represent 41% of women with unmet need across the three regions, make up the majority of women with unmet need who are unaware of a method (56%) or have difficulties with access or cost (59%).^{2,48,49} A similar pattern is seen according to women's area of residence: Rural women account for 68% of all women with unmet need, but for 79% and 77%, respectively, of those with information and access problems. These findings emphasize poor and rural women's difficulty accessing services and supplies, and highlight the importance of the education and service delivery settings within which contraceptives are provided.

What else is known about reasons for nonuse?

While the data described thus far allow us to examine broad categories of reasons that contribute to the nonuse of modern contraceptives among women who need them, they do not reveal the details of women's concerns. For instance, we cannot identify the specific side effects and health risks of greatest concern among women who cite these reasons for nonuse, nor women's specific concerns about contraceptive use while breast-feeding or the manner in which infrequent sexual activity leads to nonuse. However, other research on these topics helps to shed light on some of these questions.

Concerns about health and side effects are often responses to the mechanisms by which methods work, especially those methods that alter hormonal levels and bleeding patterns (oral contraceptives, injectables, implants, and hormone-releasing rings and IUDs). Pill use, for example, may cause nausea, headaches and breast tenderness in some users, while women using progestin-

only injectables commonly experience irregular periods or the absence of periods during the first year of use.^{63,64} Use of the nonhormonal copper IUD can also lead to side effects, such as heavier menstrual periods and increased cramping.⁶³ Women who cite concerns about health problems and side effects may have experienced such negative effects from using a method, may inaccurately attribute bodily changes to their contraceptive method or may have heard about health problems that might be associated with contraceptives.⁶⁵⁻⁶⁷ Accurate or not, negative beliefs about contraceptives' effects on health can be powerful barriers to using these methods. Further, women who have mixed feelings about oral contraceptives are prone to using them inconsistently,⁴² and inconsistent use can in turn exacerbate negative feelings by increasing the likelihood of irregular bleeding.⁶⁸

Some of the same reasons for nonuse contribute to early method discontinuation.^{56,69-72} Concern about health risks is a particularly common reason among women who discontinue IUD use, and fear of side effects is especially common among women discontinuing use of injectables and oral contraceptives.^{69,73} Such concerns often prevent women from selecting these methods when they do practice contraception.^{73,74} Further research is needed to ascertain the specific side effects that prevent large numbers of women with unmet need from using a contraceptive method, and to determine the extent to which perceived side effects are actually caused by method use.^{65,66,75}

Among women who cite breast-feeding or postpartum amenorrhea as their reason for nonuse, many may think they cannot become pregnant during this period, while others may be concerned about the adverse effects of contraceptive methods on the production or content of breast milk.⁷⁶⁻⁷⁹ Lactational amenorrhea is effective as a method of contraception only for women who are exclusively breast-feeding, and only for up to six months postpartum or the duration of postpartum amenorrhea, whichever is shorter.⁵⁵ Research indicates that the prevalence of exclusive breast-feeding among infants younger than six months is only 39%, on average, in developing countries.⁸⁰ Thus, while some women are likely protected from the risk of pregnancy during the postpartum period, many others are not.

Many women prefer not to use hormonal methods during the postpartum period, because they are concerned about the effect of these methods on their health immediately after giving birth, the possible links between estrogen-containing methods and decreased milk volume (if they are breast-feeding) and the potential effects on infants exposed to these hormones while breast-feeding.

Because of these issues, neither combined nor progestin-only methods are recommended for women within six weeks postpartum, and estrogen-containing methods are not considered the best choice for breast-feeding women.⁸¹ Whatever their specific reason for nonuse during the postpartum period, women require methods they can feel safe and comfortable using while breast-feeding.

More research is needed to elucidate the extent to which women's reports of nonuse related to infrequent sex is due to their underestimation of the risk of unintended pregnancy or to their feeling that the demands of available methods outweigh their perceived pregnancy risk.⁸² However, one analysis found that substantial proportions of women who cited infrequent sexual activity as their reason for nonuse had, in fact, been sexually active in the previous three months. In South Central and Southeast Asian countries with information on sexual activity, 47–86% of women who cited infrequent sexual activity had had unprotected sex in the past three months.⁵⁶ Moreover, all of the unmarried women with unmet need in this study had sex in the three months prior to being surveyed, including the 29% who attributed their lack of contraceptive use to their infrequent sexual activity. This underscores the need for methods that are suited to varying frequencies of sexual activity.

It is important to note that current nonuse of modern methods does not necessarily imply unwillingness to use a method. In one multinational study, a significant proportion of women with unmet need—at least 50% in most countries in Sub-Saharan African, South Central Asia and Southeast Asia—said they intended to use a contraceptive method in the future.⁵⁶ Given the potential mutability of women's contraceptive behaviors, understanding women's reasons for nonuse is vital to arriving at appropriate strategies for helping them meet their contraceptive needs.

Potential Impact of New Methods

Women's characteristics, preferences, cultural environments and experiences with contraception vary widely, and there is no single or simple way to eliminate all unmet need for modern methods of contraception. Yet examining broad patterns of women's concerns about contraceptive use helps us identify how these women might be served by new types of methods. While recognizing that use is dependent on how methods are provided and how they are perceived by potential users, we focus on characteristics of the methods themselves, because the ways that methods work to prevent pregnancy and their requirements for user actions are central to their adoption and successful use. If women and men are dissatisfied with their contraceptive method, their chances of adhering to the behaviors required to use it successfully are reduced.^{42,83-85}

Table 7 (page 45) categorizes types of currently available modern contraceptives according to features that reflect concerns voiced by women with unmet need for modern methods.^{63,81} At first glance, the number of method types from which women can choose appears more than adequate. However, currently available methods do not meet all the potential needs and preferences that women and their partners have, and some methods have considerable drawbacks. Permanent and long-acting methods are only available where the necessary infrastructure is in place. Most of the highly effective, shorter-acting methods, such as the pill and the injectable, require ongoing use or provider visits that are not feasible for some women. Women using these and long-acting hormonal methods may experience worrisome side effects. Nonhormonal methods that can be used on demand (that is, around the time of intercourse) are generally difficult to use effectively, can interfere with intercourse and require partner consent or participation. Emergency contraception is designed to be used after intercourse and can be used without a partner's knowledge, but is not recommended for regular use as an ongoing contraceptive method.⁸⁶ Improving contraceptive services and increasing the availability of current methods will meet the needs of many women, but will not ensure that all women can find a satisfactory modern method.

Priorities for new methods

To estimate the number of women in each region and social and demographic subgroup whose needs might be met with new types of methods, we applied the proportions of women with unmet need who cited each method-related reason for nonuse to the numbers of women with unmet need. We based our estimates of potential use of new methods on women's stated reasons for nonuse, recognizing that more research is needed to explore details of women's concerns and that some women may have additional reasons for nonuse even when they report only one. Information on women's stated concerns suggests priorities for the development of new contraceptives that might be attractive and acceptable to women with method-related unmet need, as well as potentially to other nonusers and even to some who are currently using modern methods.

Of the 104 million women with method-related reasons for unmet need for modern contraceptives, 34 million would like methods that do not cause, or seem to cause, health problems or side effects; 31 million are in need of methods that are appropriate given that they have sex infrequently; 25 million need methods appropriate to use postpartum or while they are breast-feeding; and 14 million need methods they can use in spite of opposition from their partner (Table 8, page 46).^{2,48,49}

Women with method-related reasons for not using modern contraceptives are almost equally divided into those who want to have a child in the future and those who want no more children. While the latter can use either permanent or nonpermanent methods, women who want children in the future, or who are unsure of their plans, must select from among the reversible options.

The development of more highly effective nonhormonal options, or of methods without the types of side effects characteristic of today's hormonal methods and IUDs, may benefit the 34 million women whose unmet need for modern methods is primarily attributable to concerns about health and side effects, as well as the 25 million with unmet need related to being postpartum or breast-feeding—in all, as many as 59 million women with current unmet need for modern methods.^{2,48,49} Another

approach that would benefit breast-feeding women would be to develop nonestrogen hormonal methods, which would neither affect milk production nor be metabolized by infants.⁸⁷⁻⁹⁰

Women who report nonuse due to infrequent sexual activity—31 million women—might be satisfied with methods that can be used on demand or, possibly, methods that confer ongoing protection and carry a low burden of use.

Those who have partners (or others close to them) who are opposed to contraceptive use might be able to use a method covertly. In fact, an estimated 6–20% of current contraceptive use in Sub-Saharan Africa is covert.⁹¹ We assume that new methods that could be used without the knowledge of others could meet the needs of an additional 14 million women.^{2,48,49}

In Table 9 (page 47), we provide estimates of the number of women in different population subgroups who have unmet need for modern methods and might find new methods with specified combinations of features attractive.^{2,48,49} We characterize methods by whether or not they would have side effects and effects on breast-feeding similar to those of current hormonal methods and IUDs. We further distinguish methods by whether they require ongoing use or can be used on demand; whether they are concealable or require partner knowledge; and whether they are permanent or reversible. We then match women's reasons to methods that could resolve these reasons as described more fully above.

A new reversible method that has negligible side effects, could be used by breast-feeding women and could be used on demand has the potential to greatly reduce unmet need for contraception by meeting the needs of at least 90 million women.^{2,48,49} If this method could be used without a partner's knowledge, it could meet the needs of all 104 million women with method-related reasons for nonuse.

On the other hand, new methods that have side effects and effects on breast-feeding similar to those of today's hormonal methods and IUDs, require ongoing use, and entail partner cooperation or knowledge meet none of the method-related concerns. Methods with real or perceived side effects similar to current hormonal methods would have a relatively small potential impact, even if they satisfy women's other concerns; the 14 million women who currently experience unmet need because their partners are opposed to contraception might take up the method if it could be used covertly.^{2,48,49} A method that has side effects but does not require ongoing use might appeal to the 31 million women who have unmet need related to infrequent sex. Thus, a total of 45 million women

could be served by a contraceptive that carries side effects but is both concealable and usable on demand.

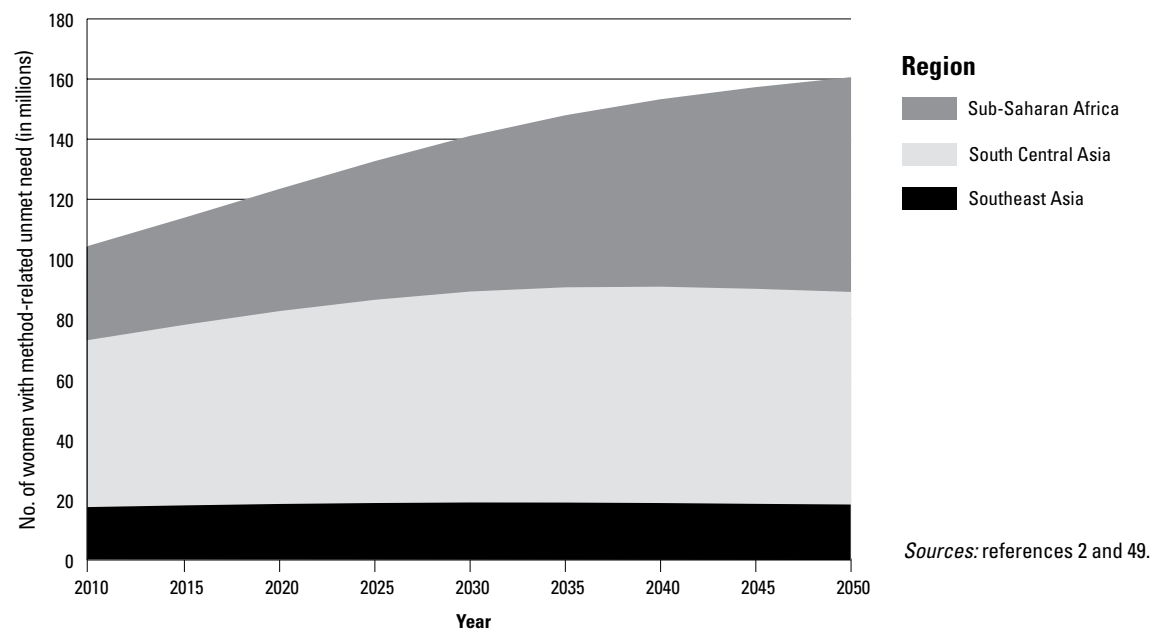
The extent to which new contraceptives can help reduce unmet need varies across subgroups of women. For example, a reversible method with side effects similar to those of current hormonal methods that would require ongoing use, and could be concealed from male partners (such as current injectable methods) could meet the needs of 10% of women in the three regions who currently have unmet need for modern methods—9% of women with unmet need in Sub-Saharan Africa, 12% of those with unmet need in South Central Asia and 4% of those with unmet need in Southeast Asia (Table 10, page 48).^{2,48,49} Moreover, in the three regions combined, it would address the needs of 13% of women younger than 20 with unmet need. A reversible method with negligible or no side effects that could be used on demand without partner knowledge could serve 71% of all women with unmet need, including 65% of poor women, 69% of rural women and 75% of both nonpoor and urban women who currently have unmet need for modern methods.

Potential impacts

These estimates of potential users assume that women would not have any knowledge- or access-related problems obtaining method supplies or services. This is undoubtedly an unrealistic assumption. For example, among married African women who are not using contraceptives, only 29% of those in western Africa and 64% of those in eastern Africa are familiar with common methods (pills and injectables) and know where to obtain family planning services.⁹² Even if highly improved contraceptives were to become available, actual uptake would depend on many factors, including cost, accessibility, the information provided formally and informally about the new methods, and any concerns women may have beyond the common ones reported in the Demographic and Health Surveys.⁹³ The impact of new methods on unintended pregnancy and its consequences is, of course, dependent on these and other factors, including method effectiveness. Given the estimated maximum numbers of potential users among those with an unmet need for a modern method, what would be the impact on unintended pregnancies, unplanned births, abortions, and maternal deaths and ill-health if methods that meet women's concerns were to become available?

While not all potential users with unmet need will necessarily adopt methods that address their reasons for nonuse, many other potential users who are not included in our estimates will likely contribute to the market for new methods. A new contraceptive option would be attractive

FIGURE 9. Without changes in desired family size and contraceptive use, the number of women in the three regions with method-related unmet need for modern methods will rise to 161 million by 2050.



to some women in the three regions who currently use modern methods, as well as to women in developing and developed regions not covered in this report who have unmet need or a desire to switch from their current method. For example, only 63% of U.S. women using reversible methods say they are very satisfied with their method,⁹⁴ and 31% of users would change to a different existing method if cost were not an issue.⁴² Further, demand for new methods is likely to grow: The estimates presented here reflect the 2008 populations of women aged 15–49 in the three focus regions—a group that is projected to grow by more than one-fifth by 2050 (Figure 9).^{2,49} The increase will be largest in Sub-Saharan Africa, where unmet need for modern methods is most common. If current levels of and reasons for unmet need were to remain unchanged, the number of women whose nonuse of modern methods is linked to method-related reasons would rise from 104 million to 161 million, a 54% increase. The number in Sub-

Saharan Africa would more than double, from 31 million to 72 million, and the number in South Central Asia would rise from 56 million to 71 million; in Southeast Asia, the number would remain fairly stable, rising only slightly from 17 million to 18 million.

To estimate the potential impact of new methods on the incidence of unintended pregnancy and its adverse outcomes, we used the methodology developed for an earlier report.¹ This methodology integrates information on the numbers and characteristics of women aged 15–49 in each developing country, according to their desire to avoid a pregnancy, intentions to space or limit childbearing, and contraceptive use; method-specific use-failure rates and estimated pregnancy rates among women who want to avoid pregnancy but do not use a method; independent estimates from country and subregional data of pregnancies by intention status and outcomes; and World Health Organization estimates of maternal mortality and disability-adjusted life years (DALYs).*

Using this approach, we found that in 2008, about 49 million pregnancies—40% of all pregnancies in the three focus regions—were unintended.⁵¹ The proportion of pregnancies that were unintended ranged from 37% in South Central Asia and 39% in Sub-Saharan Africa to 49% in Southeast Asia. Twenty-six percent of all births, 35% of maternal deaths and 42% of healthy years of life lost because of pregnancy-related causes in the three regions resulted from unintended pregnancies (not shown).†

*DALYs are a measure of the burden of disease from mortality and morbidity. One DALY roughly translates to one healthy year of life lost because of death or disability. Since the WHO estimates indicate recent decreases in maternal mortality, the DALY calculations presented here may be overestimates. More recent data for calculating DALYs are not yet available.

†Because we lacked data on whether and how maternal mortality and disability ratios differ according to women’s social and demographic characteristics or pregnancy intentions, we assumed no differences across groups. Therefore, levels of maternal mortality and morbidity may be underestimated.

Reducing unmet need would contribute substantially to reducing levels of unplanned births, induced abortions, maternal deaths and DALYs. If all women in the focus regions with unmet need were to use currently available modern methods, the number of unintended pregnancies would be reduced by 75%.^{95,96} The total number of pregnancies would decline by 30%, and maternal deaths and healthy years of life lost to death and disability would also decline by about 30% (not shown).

We estimated for each of the three regions the potential reduction in pregnancies, births, and maternal deaths and DALYs under three scenarios. They are hypothetical examples of the potential impact of developing improved contraceptive options, as well as of the burdens faced by women who lack acceptable contraceptive methods. Scenario 1 assumes that all women with method-related reasons for not using modern contraceptives (71% of all women with unmet need) adopt new methods, and that any new method would have a use-effectiveness rate equal to that of the IUD (98.4%), which is the most effective reversible method currently available.⁹⁷ Scenario 2 assumes that all women in the three regions with method-related unmet need adopt a method with 95% use-effectiveness, a rate that averages the use-effectiveness of the injectable and the pill. Scenario 3 represents a situation in which half of women with method-related unmet need adopt a method that has a 95% use-effectiveness rate.

Scenario 1 would reduce the annual number of pregnancies in the three regions by 29 million, from 124 million to 95 million (Table 11, page 50).^{2,48,49} This decrease would represent a 23% decline in the number of pregnancies and result in a 15% reduction in the number of births. Levels of unintended pregnancy would be reduced by 59%, and those of unplanned births and induced abortions by similar proportions.* Furthermore, 70,000 maternal deaths would be prevented, as would the loss of 8.2 million healthy years of women's lives.

Should new methods reach all of the women in the three regions with method-related unmet need for modern methods—but at an average use-effectiveness of 95% (scenario 2)—the reductions in pregnancies, births, maternal deaths and DALYs would still be substantial. Under this scenario, 21% fewer pregnancies and 52% fewer unin-

tended pregnancies would occur.^{2,48,49} Maternal deaths in the three regions would decrease by 63,000, because fewer women would become pregnant unintentionally and face the risks associated with pregnancy and childbirth in developing countries.

Scenario 3 assumes that half of all women with method-related reasons for unmet need would be served by new methods with an average use-effectiveness of 95%. The impact would be roughly half that of the second scenario; levels of unintended pregnancy, for example, would decline by 26%.^{2,48,49}

The potential impact of introducing new contraceptive options varies by region. For Sub-Saharan Africa, reductions in unintended pregnancy would range from 27% to 62%, depending on the scenario; for South Central Asia, reductions would range from 26% to 58%; and for Southeast Asia, reductions would fall between 24% and 55%.^{2,48,49} These differences, in large part, reflect the fact that a greater proportion of women with unmet need for modern methods use no method (rather than a traditional method) in Sub-Saharan Africa (76%) than in South Central Asia (61%) or Southeast Asia (55%; not shown). Since women with unmet need who use no method have a higher chance of becoming pregnant than those who use traditional methods, the current average pregnancy rate for women with unmet need, which forms the basis for estimating percentage change, is higher in Sub-Saharan Africa than in the other two regions.

*Adequate data for estimating differences in the outcomes of unintended pregnancies (unplanned births, induced abortions and miscarriages) by women's characteristics or contraceptive use are not available for developing regions. Therefore, we assumed that induced abortions were distributed across countries of geographic subregions in the same proportions as were unplanned births. As a result, there is little difference between estimated proportional impacts on unintended pregnancies, unplanned births, induced abortions and miscarriages from unintended pregnancies.

Moving Forward

Successfully preventing unintended pregnancy requires, at a minimum, the availability of acceptable and effective methods of contraception; access to information, supplies and services; and the motivation and ability to use contraceptives correctly and consistently. Most women in developing countries who want to avoid a pregnancy use modern contraceptive methods, but 215 million women—of whom 148 million live in the three regions covered in detail in this report—do not use modern methods. Increased efforts are needed to help these women and their partners successfully avoid unplanned births and abortions.

Immediate challenges

We can make headway immediately toward satisfying unmet need by ensuring that women who currently have unmet need for modern contraception receive accurate information about their risk of unintended pregnancy, have access to quality services that offer a range of methods, and receive counseling and care that helps them initiate and sustain method use. Information presented here on the number and characteristics of women with unmet need and their reasons for nonuse can help direct such efforts. Information about reproduction and contraception should be available in schools, through the media and in other nonclinic settings to motivate people to assess their risk for unintended pregnancy and to seek additional information and services. Accurate information about the value and safety of family planning and modern methods also needs to reach male partners and others who may influence women's use of contraceptives. And family planning providers need accurate, up-to-date information about method side effects, as well as the time and training to convey this information to clients and to answer their questions about method effects. High rates of discontinuation point to the need for ongoing support for contraceptive users, including help transitioning to different method formulations or types until users find one they can be comfortable and successful using.

Improving family planning services has the potential not only to increase and improve use of current methods, but also to successfully introduce and provide new contra-

ceptive technologies. Personnel and service delivery systems are crucial to making current contraceptive supplies and services available, and most new methods will rely on current family planning programs to provide potential users with information and access to those supplies and services.

Contraceptive research and development

Given the range of methods available today and the existing challenges of service delivery, one might ask whether it is important to invest in discovery and development of new types of contraceptive methods. Data presented in this report indicate that women and men in developing countries do need new types of methods: Women who have concerns and problems relevant to the methods available today account for the majority of those who are not using a modern method despite wanting to avoid a pregnancy. Method-related reasons for nonuse also are cited by large proportions of those who discontinue the most commonly used reversible methods—the IUD, the injectable and the pill. Moreover, many women in developed countries appear to share concerns about available methods. A variety of new methods are needed that address users' concerns and preferences, fit different stages of women's reproductive lives and are compatible with their particular life contexts.

An array of methods that have recently been approved by government agencies or are in late stages of development offer new means or schedules for the administration of contraceptive hormones. These new methods include oral contraceptives,¹² implants,^{98,99} patches, rings, injectables¹⁰⁰ and intrauterine systems,^{101,102} as well as additional forms of on-demand hormonal methods.^{103–106} Other novel methods include a hormonal vaginal ring specifically for ongoing use by breast-feeding women,⁸⁷ vaginal chemical or barrier methods for use on demand to prevent pregnancy and STIs,^{107–109} new nonhormonal IUDs¹⁰¹ and nonsurgical methods for female sterilization.^{103–105} Further development of such adaptations of current contraceptive approaches—and efforts to make these methods accessible to women in developing countries—needs to be supported.

In addition, new forms of contraception are needed. Information presented here from current nonusers sheds light on the types of new methods that could have the greatest impact on unmet need. These include methods that (a) have markedly fewer noncontraceptive effects on women's health and well-being, or on breastfeeding, than do current methods; and those that (b) are easier to use, such that they are compatible with infrequent sex, but do not interfere with intercourse or necessarily involve male partners.

Discovery and development of completely new modes of contraceptive action that will meet these requirements, and thus address the needs and preferences of growing numbers of potential users, will not happen without greater dedication of resources to this effort. Throughout the process, input from potential users can help developers ensure that new methods have the characteristics most likely to meet users' needs. Further, the impact of new contraceptive methods will be determined in part by the capacity of health systems to deliver them. Strong procurement and logistics systems are a prerequisite to the scenarios anticipated here, and investments in both the public and private sector can help ensure that health delivery systems are not a limiting factor for the roll out and uptake of new methods.

Limitations and directions for further research

While the findings and recommendations presented in this report are based on important information from many thousands of women from developing countries in three major regions, the information and analysis provide limited guidance for determining specific priorities for development of new methods. In order to steer contraceptive research and development toward methods that will be highly acceptable to potential users, further information about current and potential contraceptive users is needed. The following recommendations to researchers, donors and policymakers address the key limitations of the current knowledge:

- *Explore the full range and complexity of women's method concerns.* Comparative data on reasons for nonuse are limited to women's responses to a single question, and in most cases the woman provided only one reason for nonuse. This approach likely does not capture many cases in which women have multiple concerns. For example, while a woman might cite infrequent sex as a reason for nonuse, she might also be concerned about method side effects. Further, once method-related concerns are dealt with, women face possible barriers of poor access to method supplies and services.

- *Identify how specific method characteristics hamper*

use. The general nature of survey items and responses does not identify necessary specifics about women's concerns. For example, it is not clear exactly which side effects (whether real or perceived) women are concerned about, or the manner in which infrequent sex or breastfeeding may lead to nonuse. More precise knowledge about women's reasons for nonuse would be useful in developing targeted information and services and in adapting methods that address specific needs.

- *Learn the reasons for traditional method use.* The national information that is available about nonuse of modern methods does not include the traditional method users' concerns about modern methods. While we have made the simplifying assumption that these concerns are similar to those of nonusers, the reasons some women choose traditional rather than modern methods are not clear.

- *Expand knowledge of other reasons for nonuse.* In some countries, large numbers of women gave nonspecific reasons for nonuse that were categorized by the Demographic and Health Surveys as "other." In addition, many said they did not know why they were not practicing contraception, and sizeable proportions of sexually active unmarried women simply reported that they were not using a method because they were not married. Priority should be placed on conducting in-depth research on these women's circumstances and barriers to contraceptive use.

- *Understand how women's knowledge of methods affects their reasons for nonuse.* Data on women's reasons for nonuse refer only to the methods women know about and do not take into account the current array of method types that are or could be available. Interpretation of women's reasons for not using contraceptives would be more accurate if we had a fuller understanding of which contraceptives women consider to be available and what characteristics they perceive these methods to have.

- *Explore differences between short- and long-term nonusers.* Method development, educational efforts and service provision could be made more effective by understanding where and how attitudes and needs differ between long-term nonusers and those with gaps between periods of method use.

- *Integrate the perspectives of potential users into contraceptive research and development.* Research on the acceptability of the attributes of new methods should be conducted as part of contraceptive development to capture reactions to actual aspects of method use.

- *Identify subgroup differences in impacts of nonuse.* In addition, data are lacking to account for differences among subgroups in such factors as use-failure and pregnancy rates, the outcomes of unintended pregnancies,

and the impacts of these pregnancies on women's health, well-being and life prospects. Further research is needed to elucidate differences across groups in the personal, family and societal costs of unsuccessful attempts to avoid unintended pregnancy.

Addressing the limitations described above will provide crucial information about women's contraceptive needs and preferences. In addition, in our work for this report, we have identified a number of populations in which further research is vital to the development of new contraceptive methods. Our recommendations for those working to develop such methods include the following:

- *Obtain data for other regions.* We focused on Sub-Saharan Africa, South Central Asia and Southeast Asia. More research is needed to assess whether women and couples in other areas of the world have similar or different problems and concerns with contraceptive use, and to determine how differences in context might affect the types of methods needed in those regions.

- *Broaden information on, and options for, men.* In this report, we have not investigated males' roles, attitudes and preferences, beyond their possible opposition to method use. Yet almost one in four women in developing countries who are using any type of contraception (modern or traditional) are relying on methods used by their male partners (17% use vasectomy, condoms or withdrawal) or that require males' cooperation (5% practice periodic abstinence).² Contraceptive alternatives for men are much needed, and their development has long lagged behind that of new female methods.^{110–113}

- *Account for the need for STI prevention.* We have not explored concerns about STIs, including HIV, even though

large proportions of women are at risk for these infections. In Sub-Saharan Africa, 7–53% of married men aged 25–39 are estimated to have one or more extramarital partners each year.¹¹³ Protecting women and their partners from STIs through dual-protection methods represents an additional challenge in the task of developing contraceptive methods that address the widest possible range of their concerns.

- *Address needs of women who have additional health concerns.* To identify opportunities to achieve the biggest gains in preventing unintended pregnancy and its outcomes, we have focused on examining reasons for contraceptive nonuse among the total population of women with unmet need. However, some women who want to avoid a pregnancy (e.g., those with special medical conditions) have health needs that may require additional adaptations of methods.^{12,81,114}

- *Highlight underserved subgroups.* Emphasizing the largest groups of women with unmet need may fail to address important pockets of need among social and demographic subgroups of women that are comparatively small in number but have high levels of unmet need. Such groups include women who are young and unmarried and want to delay a first birth, and urban poor women who might live near sources of contraceptives but lack the financial means and support networks needed to fully take advantage of them. Both of these groups are growing in number in many countries.^{115,116} Other women, such as those who are poor and live in rural areas, must not be excluded from the benefits of new methods by inaccessible and inhospitable services.

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TABLE 1. Countries in Sub-Saharan Africa, South Central Asia and Southeast Asia, with year of DHS data*

SUB-SAHARAN AFRICA

Eastern Africa

Burundi
Comoros (1996)
Djibouti
Eritrea (2002)
Ethiopia (2005)†
Kenya (2003)†
Madagascar (2004)†
Malawi (2004)†
Mauritius
Mozambique (2003)†
Réunion
Rwanda (2005)†
Somalia
Uganda (2006)†
Tanzania (2004)†
Zambia (2002)‡
Zimbabwe (2006)†

Middle Africa

Angola
Cameroon (2004)†
Central African Republic (1995)
Chad (2004)†
Congo (2005)†
Dem. Republic of the Congo (2007)†
Equatorial Guinea
Gabon (2000)†
São Tomé and Príncipe

Northern Africa

Sudan

Southern Africa

Botswana
Lesotho (2004)†
Namibia (2007)†
South Africa (1998)
Swaziland (2006)†

Western Africa

Benin (2006)†
Burkina Faso (2003)†
Cape Verde (2005)
Côte d'Ivoire (1999)
Gambia
Ghana (2003)§
Guinea (2005)†
Guinea-Bissau
Liberia (2007)†
Mali (2006)†
Mauritania (2001)†
Niger (2006)†
Nigeria (2003)§
Senegal (2005)†
Sierra Leone§
Togo (1998)

SOUTH CENTRAL ASIA

Afghanistan
Bangladesh (2004)†
Bhutan
India (2006)†
Iran
Kazakhstan (1999)
Kyrgyzstan (1997)
Maldives
Nepal (2006)†
Pakistan (2007)†
Sri Lanka
Tajikistan
Turkmenistan (2000)
Uzbekistan (1996)

SOUTHEAST ASIA

Brunei Darussalam
Cambodia (2005)†
Indonesia (2003)‡
Laos
Malaysia
Myanmar
Philippines (2003)§
Singapore
Thailand
Timor-Leste
Vietnam (2002)

*Years in parentheses denote the year of the country's Demographic and Health Survey (DHS) we used to determine the number of women who wanted to avoid pregnancy and their distribution by contraceptive method use. If no year is specified, DHS data were unavailable for the country, and we relied on information from weighted subregional averages or similar nearby countries. †DHS data on women's reasons for not using a contraceptive method were available for the year in parentheses. ‡DHS data on women's reasons for not using a contraceptive method are available for 2007. §DHS data on women's reasons for not using a contraceptive method are available for 2008.

TABLE 2. Number and percentage distribution of women aged 15–49, by need for contraception and contraceptive method use, according to region, 2008

Region	All	Not in need			In need (wants to avoid pregnancy)				
		All	Unmarried	Married	All	Using modern method	Unmet need		
							All	Using traditional method	Using no method
NUMBER OF WOMEN (in millions)									
All developing countries	1,448	630	376	254	818	603	215	75	140
Focus regions	799	411	209	202	388	240	148	52	96
Sub-Saharan Africa	195	117	48	69	78	31	47	11	36
South Central Asia	445	208	102	106	237	159	79	30	48
Southeast Asia	159	86	58	28	73	51	22	10	12
Other regions	649	219	167	52	430	363	67	23	44
% DISTRIBUTION OF WOMEN									
All developing countries	100	44	26	18	56	42	15	5	10
Focus regions	100	51	26	25	49	30	18	6	12
Sub-Saharan Africa	100	60	25	35	40	16	24	6	18
South Central Asia	100	47	23	24	53	36	18	7	11
Southeast Asia	100	54	37	18	46	32	14	6	8
Other regions	100	34	26	8	66	56	10	4	7
% DISTRIBUTION OF WOMEN IN NEED									
All developing countries	na	na	na	na	100	74	26	9	17
Focus regions	na	na	na	na	100	62	38	13	25
Sub-Saharan Africa	na	na	na	na	100	39	61	14	46
South Central Asia	na	na	na	na	100	67	33	13	20
Southeast Asia	na	na	na	na	100	69	31	14	17
Other regions	na	na	na	na	100	84	16	5	10

Notes: Percentages may not sum to totals because of rounding. na=not applicable. Source: reference 2.

TABLE 3. Number of women aged 15–49; percentage and number of those women wanting to avoid a pregnancy; and percentage distribution of women wanting to avoid a pregnancy, by contraceptive method use—all according to region and women’s social and demographic characteristics, 2008

Characteristic	SUB-SAHARAN AFRICA, SOUTH CENTRAL ASIA AND SOUTHEAST ASIA											
	No. (in 000s)	Women wanting to avoid a pregnancy										
		As % of all women aged 15–49	No. (in 000s)	% using modern method						% with unmet need		
				All	Permanent	IUD	Injectable/ implant	Oral contra- ceptives	Condom*	All	Using traditional method	Using no method
All	798,800	49	387,700	239,900	111,700	27,100	36,400	38,700	26,100	147,700	51,600	96,100
% distribution			100	62	29	7	9	10	7	38	13	25
Region												
Sub-Saharan Africa	194,900	40	77,600	39	4	3	15	10	7	61	14	46
South Central Asia	445,200	53	237,300	67	43	6	2	8	8	33	13	20
Southeast Asia	158,700	46	72,800	69	9	15	26	16	3	31	14	17
Fertility aspirations												
Delay first birth	na	na	17,700	32	0	0	5	8	19	68	18	50
Space births	na	na	101,700	42	0	7	15	13	7	58	15	43
Stop births	na	na	268,300	71	42	8	8	9	6	29	12	16
Marital status												
Married	567,300	64	364,800	62	29	7	9	10	6	38	13	25
Unmarried	231,500	10	22,900	63	26	2	15	7	13	37	11	26
Age												
15–19	160,400	14	21,700	32	1	1	9	10	10	68	14	54
20–24	145,400	41	59,600	49	9	6	12	13	9	51	13	38
25–34	240,000	63	151,700	63	25	7	11	12	7	37	13	25
35–49	253,000	61	154,700	70	44	8	7	7	5	30	14	16
Wealth												
Poor	289,500	48	138,400	56	28	6	10	9	3	44	13	31
Nonpoor	509,300	49	249,300	65	30	7	9	10	9	35	14	21
Residence												
Rural	506,000	49	246,400	59	30	6	9	9	4	41	13	28
Urban	292,800	48	141,300	66	26	8	10	11	11	34	14	19

*Also includes diaphragm, sponge, jelly and any other modern method not listed. *Notes:* Percentages may not sum to totals because of rounding. na=not available. *Sources:* reference 2, 48 and 49.

TABLE 3 (continued)

Characteristic	SUB-SAHARAN AFRICA											
	No. (in 000s)	Women wanting to avoid a pregnancy										
		As % of all women aged 15-49	No. (in 000s)	% using modern method						% with unmet need		
				All	Permanent	IUD	Injectable/ implant	Oral contra- ceptives	Condom*	All	Using traditional method	Using no method
All	194,900	40	77,600	30,600	3,000	2,500	11,700	7,900	5,500	47,000	11,100	35,900
% distribution			100	39	4	3	15	10	7	61	14	46
Fertility aspirations												
Delay first birth	na	na	9,000	42	0	0	10	7	24	58	18	40
Space births	na	na	37,300	30	0	2	12	10	6	70	16	54
Stop births	na	na	31,300	51	10	6	20	11	4	49	11	38
Marital status												
Married	130,900	47	61,800	36	4	4	13	10	4	64	14	50
Unmarried	64,000	25	15,800	54	3	1	22	10	18	46	15	32
Age												
15-19	43,800	21	9,100	32	0	0	11	6	14	68	15	53
20-24	38,700	42	16,200	38	0	2	16	10	11	62	14	47
25-34	59,400	49	28,900	41	2	4	17	12	6	59	15	45
35-49	53,000	44	23,400	42	10	5	14	9	3	58	14	45
Wealth												
Poor	72,300	35	25,600	30	2	4	13	7	3	70	13	57
Nonpoor	122,600	42	51,900	44	5	3	16	12	9	56	15	41
Residence												
Rural	128,400	37	48,000	32	3	3	14	8	4	68	13	54
Urban	66,500	44	29,600	51	6	3	17	13	12	49	16	33

*Also includes diaphragm, sponge, jelly and any other modern method not listed. *Notes:* Percentages may not sum to totals because of rounding. na=not available. *Sources:* reference 2, 48 and 49.

TABLE 3 (continued)

Characteristic	SOUTH CENTRAL ASIA											
	No. (in 000s)	Women wanting to avoid a pregnancy										
		As % of all women aged 15-49	No. (in 000s)	% using modern method						% with unmet need		
				All	Permanent	IUD	Injectable/ implant	Oral contra- ceptives	Condom*	All	Using traditional method	Using no method
All	445,200	53	237,300	158,800	102,200	13,300	5,800	18,900	18,500	78,600	30,400	48,100
% distribution			100	67	43	6	2	8	8	33	13	20
Fertility aspirations												
Delay first birth	na	na	7,400	22	0	0	0	7	15	78	18	60
Space births	na	na	40,000	37	0	9	3	13	12	63	17	46
Stop births	na	na	189,900	75	54	5	2	7	7	25	12	13
Marital status												
Married	336,800	69	231,300	66	42	6	3	8	8	34	13	21
Unmarried	108,400	na	na	na	na	na	na	na	na	na	na	na
Age												
15-19	21,000	15	11,200	28	2	2	3	13	8	72	15	58
20-24	63,000	26	33,600	49	17	6	3	13	10	51	14	38
25-34	176,800	36	94,300	67	39	7	3	9	9	33	12	20
35-49	184,400	41	98,300	77	60	5	2	4	5	23	13	10
Wealth												
Poor	158,800	32	84,700	60	42	4	3	8	3	40	13	27
Nonpoor	286,400	38	152,700	71	44	6	2	8	11	29	13	16
Residence												
Rural	293,000	35	156,200	65	45	4	3	8	5	35	12	23
Urban	152,200	38	81,100	71	40	9	2	7	13	29	14	15

*Also includes diaphragm, sponge, jelly and any other modern method not listed. *Notes:* Percentages may not sum to totals because of rounding. na=not available. *Sources:* reference 2, 48 and 49.

TABLE 3 (continued)

Characteristic	SOUTHEAST ASIA											
	No. (in 000s)	Women wanting to avoid a pregnancy										
		As % of all women aged 15–49	No. (in 000s)	% using modern method						% with unmet need		
				All	Permanent	IUD	Injectable/ implant	Oral contra- ceptives	Condom*	All	Using traditional method	Using no method
All	158,700	46	72,800	50,600	6,500	11,300	18,800	11,900	2,100	22,200	10,100	12,100
% distribution			100	69	9	15	26	16	3	31	14	17
Fertility aspirations												
Delay first birth	na	na	1,300	26	0	0	7	14	5	74	13	62
Space births	na	na	24,300	68	0	10	36	19	2	32	11	21
Stop births	na	na	47,100	71	14	18	21	15	3	29	15	13
Marital status												
Married	99,600	72	71,700	70	9	16	26	17	3	30	14	16
Unmarried	59,100	na	na	na	na	na	na	na	na	na	na	na
Age												
15–19	31,600	4	1,400	63	0	4	38	18	2	37	7	30
20–24	26,500	37	9,800	67	0	13	34	17	2	33	11	22
25–34	45,400	63	28,500	70	3	14	31	20	3	30	12	18
35–49	55,200	60	33,000	70	17	18	19	13	3	30	17	13
Wealth												
Poor	54,400	52	28,100	67	6	15	28	17	1	33	12	21
Nonpoor	104,200	43	44,700	71	11	16	24	16	4	29	15	14
Residence												
Rural	82,200	51	42,200	70	8	18	27	15	2	30	14	16
Urban	76,400	40	30,600	69	11	12	25	18	4	31	14	17

*Also includes diaphragm, sponge, jelly and any other modern method not listed. *Notes:* Percentages may not sum to totals because of rounding. na=not available. *Sources:* reference 2, 48 and 49.

TABLE 4. Number of women aged 15–49 with unmet need for modern methods, and percentage distribution of these women by selected characteristics, according to region, 2008.

Characteristics	All	Sub-Saharan Africa	South Central Asia	Southeast Asia
No. (in 000s)	147,700	47,000	78,600	22,200
% DISTRIBUTIONS				
Fertility aspirations				
Delay first birth	8	11	7	4
Space births	40	56	32	35
Stop births	52	33	61	61
Marital status				
Married	94	84	na	na
Unmarried	6	16	na	na
Age				
15–19	10	13	10	2
20–24	21	21	22	15
25–34	38	37	39	38
35–49	31	29	29	45
Wealth				
Poor	41	38	43	42
Nonpoor	59	62	57	58
Residence				
Rural	68	69	70	57
Urban	32	31	30	43
Total	100	100	100	100

Note: na=not available. Sources: references 2, 48 and 49.

TABLE 5. Number and percentage distribution of women with unmet need for modern contraception, by reason for nonuse, according to region and characteristics, 2008

Characteristic	No. (in 000s)	% with method-related reasons					% with access-related and other reasons					Total
		All	Health/ side effects	Infre- quent sex	Postpartum amenorrheic/ breast-feeding	Partner opposed	All	Respondent opposed	No access/ high cost	Unaware of methods	Perceived subfecund	
FOCUS REGIONS												
All	147,700	71	23	21	17	10	29	16	8	4	2	100
Region												
Sub-Saharan Africa	47,000	67	24	17	17	9	33	14	10	8	1	100
South Central Asia	78,600	71	18	22	19	12	29	20	6	2	1	100
Southeast Asia	22,200	79	39	25	11	4	21	6	11	1	3	100
Fertility aspirations												
Delay first birth	12,000	66	20	32	0	14	34	20	7	6	1	100
Space births	59,100	72	21	18	23	11	28	16	7	5	1	100
Stop births	76,700	70	24	22	15	9	30	16	9	2	2	100
Marital status												
Married	139,400	71	22	20	18	10	29	16	8	4	2	100
Unmarried	8,400	71	29	29	9	5	29	12	9	8	1	100
Age												
15–19	14,800	69	15	25	16	13	31	16	8	6	0	100
20–24	30,500	74	19	21	24	11	26	15	7	4	1	100
25–34	56,400	73	23	20	20	10	27	15	8	3	1	100
35–49	46,000	66	27	21	11	8	34	18	9	3	3	100
Wealth												
Poor	61,000	65	20	17	17	11	35	17	11	5	1	100
Nonpoor	86,700	75	25	24	17	9	25	15	5	3	2	100
Residence												
Rural	100,300	69	21	20	18	10	31	17	9	4	1	100
Urban	47,500	75	26	23	17	9	25	15	6	2	2	100
SUB-SAHARAN AFRICA												
All	47,000	67	24	17	17	9	33	14	10	8	1	100
Fertility aspirations												
Delay first birth	5,200	66	25	35	0	6	34	15	9	10	0	100
Space births	26,300	67	22	15	21	10	33	14	10	9	0	100
Stop births	15,500	66	28	16	15	7	34	13	11	7	3	100
Marital status												
Married	39,600	66	23	15	18	9	34	14	10	8	1	100
Unmarried	7,300	70	29	30	7	4	30	11	9	9	1	100
Age												
15–19	6,200	67	19	27	13	8	33	11	12	10	0	100
20–24	10,000	70	22	20	20	8	30	13	9	8	0	100
25–34	17,200	67	24	13	20	10	33	14	9	8	1	100
35–49	13,600	63	27	15	12	8	37	15	11	8	3	100
Wealth												
Poor	17,900	60	19	14	16	10	40	14	14	11	1	100
Nonpoor	29,100	71	27	19	17	8	29	14	8	6	1	100
Residence												
Rural	32,500	64	23	15	17	9	36	14	12	9	1	100
Urban	14,400	73	27	22	16	8	27	14	6	5	2	100

Notes: Percentages may not sum to totals because of rounding. Sources: references 2, 48 and 49.

TABLE 5 (continued)

Characteristic	No. (in 000s)	% with method-related reasons					% with access-related and other reasons					Total
		All	Health/ side effects	Infre- quent sex	Postpartum amenorrheic/ breast-feeding	Partner opposed	All	Respondent opposed	No access/ high cost	Unaware of methods	Perceived subfecund	
SOUTH CENTRAL ASIA												
All	78,600	71	18	22	19	12	29	20	6	2	1	100
Fertility aspirations												
Delay first birth	5,700	64	11	31	0	21	36	26	6	4	0	100
Space births	25,100	73	16	18	26	12	27	20	4	2	1	100
Stop births	47,700	70	20	23	17	11	30	19	7	2	2	100
Age												
15–19	8,100	70	10	24	18	17	30	19	6	4	1	100
20–24	17,300	76	16	21	26	13	24	17	5	2	1	100
25–34	30,700	73	19	22	21	11	27	18	6	1	1	100
35–49	22,500	65	21	22	11	10	35	24	7	2	3	100
Wealth												
Poor	33,900	65	16	18	19	13	35	21	10	3	2	100
Nonpoor	44,700	76	20	25	19	11	24	19	3	1	1	100
Residence												
Rural	55,000	69	17	22	19	12	31	20	7	2	1	100
Urban	23,600	74	22	23	19	11	26	19	4	1	2	100
SOUTHEAST ASIA												
All	22,200	79	39	25	11	4	21	6	11	1	3	100
Fertility aspirations												
Delay first birth	1,000	81	57	15	3	6	19	10	0	2	6	100
Space births	7,700	84	37	25	16	5	16	6	8	1	1	100
Stop births	13,500	76	39	25	9	3	24	6	13	1	4	100
Age												
15–19	500	71	36	20	10	5	29	11	13	4	1	100
20–24	3,300	80	34	22	18	6	20	7	10	1	1	100
25–34	8,500	81	36	26	14	4	19	6	11	1	1	100
35–49	9,900	76	42	25	6	3	24	6	11	1	6	100
Wealth												
Poor	9,300	76	39	18	13	6	24	7	14	1	2	100
Nonpoor	12,900	81	38	29	10	3	19	6	9	1	4	100
Residence												
Rural	12,700	79	40	23	11	5	21	7	11	1	3	100
Urban	9,500	79	37	28	11	3	21	6	11	1	4	100

Notes: Percentages may not sum to totals because of rounding. Sources: references 2, 48 and 49.

TABLE 6. Number and percentage distribution of women with unmet need for modern contraception, by region and selected characteristics, according to reason for nonuse, 2008

Characteristic	All	Method-related reasons					Access-related and other reasons				
		All	Health/side effects	Infrquent sex	Postpartum amenorrheic/breast-feeding	Partner opposed	All	Respondent opposed	No access/high cost	Unaware of methods	Perceived subfecund
FOCUS REGIONS											
No. (in 000s)	147,700	104,400	34,100	30,900	25,200	14,300	43,300	23,400	11,900	5,600	2,400
% DISTRIBUTIONS											
Region											
Sub-Saharan Africa	32	30	33	26	31	28	36	28	40	69	23
South Central Asia	53	53	42	56	59	66	53	66	40	27	48
Southeast Asia	15	17	25	18	10	6	11	6	20	3	29
Fertility aspirations											
Delay first birth	8	8	7	12	0	11	9	10	7	14	5
Space births	40	41	37	34	53	43	38	39	36	52	18
Stop births	52	52	56	54	46	47	52	51	57	35	77
Marital status											
Married	94	94	93	92	97	97	94	96	94	88	96
Unmarried	6	6	7	8	3	3	6	4	6	12	4
Age											
15-19	10	10	7	12	9	13	11	10	11	17	2
20-24	21	22	18	21	28	23	18	19	17	21	7
25-34	38	39	38	36	44	39	36	37	37	34	23
35-49	31	29	37	31	19	26	35	35	35	28	66
Wealth											
Poor	41	38	37	34	41	46	49	44	59	56	35
Nonpoor	59	62	64	67	59	54	51	56	40	43	65
Residence											
Rural	68	66	63	64	69	71	72	70	77	79	58
Urban	32	34	37	36	31	29	28	30	23	21	42
Total	100	100	100	100	100	100	100	100	100	100	100
SUB-SAHARAN AFRICA											
No. (in 000s)	47,000	31,300	11,300	8,200	7,900	4,000	15,600	6,500	4,700	3,900	600
% DISTRIBUTIONS											
Fertility aspirations											
Delay first birth	11	11	12	22	0	8	11	12	10	14	4
Space births	56	56	50	47	70	65	55	57	53	59	18
Stop births	33	32	38	31	28	27	34	31	37	28	79
Marital status											
Married	84	84	81	73	93	93	86	87	86	84	84
Unmarried	16	16	19	27	7	7	14	13	14	16	16
Age											
15-19	13	13	11	21	9	12	13	11	16	16	1
20-24	21	22	20	25	25	20	19	19	19	20	7
25-34	37	37	37	28	44	41	36	38	34	38	22
35-49	29	27	33	26	22	26	32	32	32	27	72
Wealth											
Poor	38	34	31	32	37	42	46	39	53	51	29
Nonpoor	62	66	69	68	64	58	54	61	46	48	72
Residence											
Rural	69	66	65	60	71	72	75	69	82	79	59
Urban	31	34	35	40	29	28	25	31	18	21	41
Total	100	100	100	100	100	100	100	100	100	100	100

Notes: Percentages may not sum to totals because of rounding. Sources: references 2, 48 and 49.

TABLE 6 (continued)

Characteristic	All	Method-related reasons					Access-related and other reasons				
		All	Health/ side effects	Infre- quent sex	Postpartum amenorrheic/ breast-feeding	Partner opposed	All	Respondent opposed	No access/ high cost	Unaware of methods	Perceived subfecund
SOUTH CENTRAL ASIA											
No. (in 000s)	78,600	55,600	14,200	17,200	14,900	9,400	22,900	15,500	4,700	1,500	1,200
% DISTRIBUTIONS											
Fertility aspirations											
Delay first birth	7	7	4	10	0	13	9	10	7	15	2
Space births	32	33	28	27	44	33	30	32	23	36	21
Stop births	61	60	67	63	55	55	61	59	69	50	76
Age											
15–19	10	10	6	11	10	14	11	10	10	22	4
20–24	22	23	19	21	30	24	18	19	17	25	10
25–34	39	40	41	39	43	37	36	36	39	27	31
35–49	29	26	33	29	17	25	35	35	33	27	53
Wealth											
Poor	43	40	38	36	43	46	51	45	68	67	44
Nonpoor	57	61	63	65	57	54	48	54	29	30	56
Residence											
Rural	70	69	64	69	70	72	73	71	82	81	62
Urban	30	31	36	31	30	28	26	29	17	19	38
Total	100	100	100	100	100	100	100	100	100	100	100
SOUTHEAST ASIA											
No. (in 000s)	22,200	17,500	8,600	5,500	2,500	900	4,700	1,400	2,400	200	700
% DISTRIBUTIONS											
Fertility aspirations											
Delay first birth	7	7	4	10	0	13	9	10	7	15	2
Space births	32	33	28	27	44	33	30	32	23	36	21
Stop births	61	60	67	63	55	55	61	59	69	50	76
Age											
15–19	10	10	6	11	10	14	11	10	10	22	4
20–24	22	23	19	21	30	24	18	19	17	25	10
25–34	39	40	41	39	43	37	36	36	39	27	31
35–49	29	26	33	29	17	25	35	35	33	27	53
Wealth											
Poor	43	40	38	36	43	46	51	45	68	67	44
Nonpoor	57	61	63	65	57	54	48	54	29	30	56
Residence											
Rural	70	69	64	69	70	72	73	71	82	81	62
Urban	30	31	36	31	30	28	26	29	17	19	38
Total	100	100	100	100	100	100	100	100	100	100	100

Notes: Percentages may not sum to totals because of rounding. Sources: references 2, 48 and 49.

TABLE 7. Characteristics of currently available contraceptive methods

Method	Potential side effects	Period of use	Suitable for postpartum and breast-feeding women	Independent of partner use or knowledge
Female sterilization	None, after recovery	Permanent	Yes	Yes
Male sterilization	None, after recovery	Permanent, after about six weeks	Yes	Male use
IUD (nonhormonal)	Bleeding, cramping	Long-acting	Depends on time postpartum	Male may know
Implant	Hormonal	Long-acting	Depends on time postpartum	Male may know
Injectable	Hormonal	Continuous, short-acting	Depends on time postpartum	Yes
Oral contraceptive	Hormonal	Continuous, short-acting	Depends on time postpartum	Male may know
LAM	No	Continuous, short-acting	Depends on time postpartum	Yes
Emergency contraception	Hormonal	On demand, not for frequent use	Yes	Yes
Condom (male)	Latex allergy	On demand, episodic	Yes	Male use
Condom (female)	No	On demand, episodic	Yes	Male knowledge
Spermicides	No	On demand, episodic	Yes	Male knowledge

Notes: Hormonal side effects vary by method and formulation, and may include menstrual changes, irregular bleeding, amenorrhea, weight gain, breast tenderness, nausea, bloating, headache, and increased risk of venous thromboembolism. LAM=lactational amenorrhea method. *Sources:* references 63 and 81.

TABLE 8. Number of women aged 15–49 in focus regions with unmet need for modern methods, by reason for nonuse, according to region and characteristics, 2008

Characteristic	No. of women (in 000s)	Method-related reasons					Access-related and other reasons				
		All	Health/side effects	Infrequent sex	Postpartum amenorrheic/breast-feeding	Partner opposed	All	Respondent opposed	No access/high cost	Unaware of methods	Perceived subfecund
All	147,700	104,400	34,100	31,000	25,000	14,400	43,400	23,500	11,800	5,600	2,400
Region											
Sub-Saharan Africa	47,000	31,300	11,300	8,200	7,700	4,000	15,700	6,500	4,700	3,900	600
South Central Asia	78,600	55,600	14,100	17,300	14,800	9,500	23,000	15,500	4,700	1,500	1,200
Southeast Asia	22,200	17,500	8,600	5,500	2,500	900	4,700	1,400	2,400	200	700
Fertility aspirations											
Delay/space births	71,000	50,300	15,000	14,200	13,400	7,700	20,700	11,500	5,000	3,600	600
Stop births	76,700	54,000	19,100	16,700	11,600	6,600	22,700	12,000	6,800	2,000	1,900
Age											
15–19	14,800	10,200	2,300	3,800	2,300	1,900	4,600	2,300	1,300	1,000	100
20–24	30,500	22,700	6,000	6,300	7,100	3,200	7,800	4,400	2,000	1,200	200
25–34	56,400	40,900	13,100	11,200	11,100	5,500	15,500	8,600	4,400	1,900	600
35–49	46,000	30,600	12,600	9,500	4,800	3,700	15,300	8,100	4,100	1,500	1,600
Wealth											
Poor	61,000	39,800	12,500	10,500	10,400	6,500	21,200	10,200	7,000	3,100	900
Nonpoor	86,700	64,800	21,700	20,500	14,800	7,700	21,900	13,200	4,700	2,400	1,600
Residence											
Rural	100,300	69,000	21,600	19,700	17,500	10,200	31,300	16,300	9,200	4,400	1,400
Urban	47,500	35,500	12,500	11,200	7,800	4,100	12,000	7,100	2,700	1,200	1,000

Note: Numbers may not sum to totals because of rounding. Sources: references 2, 48 and 49.

TABLE 9. Estimated number of women aged 15–49 with unmet need for modern contraceptives whose concerns might be met by new methods, according to fertility intentions and method characteristics of concern, 2008

Characteristic	No. (in 000s)	Spacing				Limiting			
		Health/ side effects	Infrequent sex	Postpartum/ breast- feeding	Partner opposed	Health/ side effects	Infrequent sex	Postpartum/ breast- feeding	Partner opposed
ALL	104,400	15,000	14,200	13,400	7,700	19,100	16,700	11,600	6,600
METHODS WITH SIDE EFFECTS*									
<i>Reversible</i>									
Ongoing use									
Male use/knowledge	0	0	0	0	0	0	0	0	0
Concealable	14,400	0	0	0	7,700	0	0	0	6,600
Use on demand									
Male use/knowledge	31,000	0	14,200	0	0	0	16,700	0	0
Concealable	45,300	0	14,200	0	7,700	0	16,700	0	6,600
METHODS WITH NEGLIGIBLE/NO SIDE EFFECTS*									
<i>Reversible</i>									
Ongoing use									
Male use/knowledge	59,000	15,000	0	13,400	0	19,100	0	11,600	0
Concealable	73,400	15,000	0	13,400	7,700	19,100	0	11,600	6,600
Use on demand									
Male use/knowledge	90,000	15,000	14,200	13,400	0	19,100	16,700	11,600	0
Concealable	104,400	15,000	14,200	13,400	7,700	19,100	16,700	11,600	6,600
<i>Permanent</i>									
Male use/knowledge	30,600	0	0	0	0	19,100	0	11,600	0
Concealable	37,300	0	0	0	0	19,100	0	11,600	6,600

*Refers to side effects similar to those of current hormonal methods and IUD. *Notes:* Numbers may not sum to totals because of rounding. *Sources:* references 2, 48 and 49.

TABLE 10. Estimated number and percentage of women aged 15–49 with unmet need for modern contraceptives whose method-related concerns might be met by new methods, by method characteristics, according to women’s fertility intentions and characteristics, 2008

Method characteristics	All	Region			Fertility Intentions		Age			
		Sub-Saharan Africa	South Central Asia	Southeast Asia	Delay/Space	Stop	15–19	20–24	25–34	35–49
NUMBERS										
ALL	104,400	31,300	55,600	17,500	50,300	54,000	10,200	22,700	40,900	30,600
METHODS WITH SIDE EFFECTS*										
<i>Reversible</i>										
Ongoing use										
Male use/knowledge	0	0	0	0	0	0	0	0	0	0
Concealable	14,400	4,000	9,500	900	7,700	6,600	1,900	3,200	5,500	3,700
Use on demand										
Male use/knowledge	31,000	8,200	17,300	5,500	14,200	16,700	3,800	6,300	11,200	9,500
Concealable	45,300	12,200	26,700	6,400	21,900	23,400	5,700	9,600	16,700	13,200
METHODS WITH NEGLIGIBLE/NO SIDE EFFECTS*										
<i>Reversible</i>										
Ongoing use										
Male use/knowledge	59,000	19,100	28,900	11,100	28,400	30,600	4,500	13,100	24,200	17,400
Concealable	73,400	23,100	38,300	12,000	36,100	37,300	6,400	16,400	29,700	21,100
Use on demand										
Male use/knowledge	90,000	27,300	46,100	16,600	42,600	47,400	8,300	19,500	35,400	26,900
Concealable	104,400	31,300	55,600	17,500	50,300	54,000	10,200	22,700	40,900	30,600
<i>Permanent</i>										
Male use/knowledge	30,600	6,500	17,700	6,400	0	30,600	na	na	na	na
Concealable	37,300	7,600	22,800	6,900	0	37,300	na	na	na	na
PERCENTAGES										
ALL	71	67	71	79	71	70	69	74	73	67
METHODS WITH SIDE EFFECTS*										
<i>Reversible</i>										
Ongoing use										
Male use/knowledge	0	0	0	0	0	0	0	0	0	0
Concealable	10	9	12	4	11	9	13	11	10	8
Use on demand										
Male use/knowledge	21	17	22	25	20	22	26	21	20	21
Concealable	31	26	34	29	31	30	38	31	30	29
METHODS WITH NEGLIGIBLE/NO SIDE EFFECTS*										
<i>Reversible</i>										
Ongoing use										
Male use/knowledge	40	41	37	50	40	40	30	43	43	38
Concealable	50	49	49	54	51	49	43	54	53	46
Use on demand										
Male use/knowledge	61	58	59	75	60	62	56	64	63	59
Concealable	71	67	71	79	71	70	69	74	73	67
<i>Permanent</i>										
Male use/knowledge	21	14	23	29	0	40	na	na	na	na
Concealable	25	16	29	31	0	49	na	na	na	na

*Refers to side effects similar to those of current hormonal methods and IUD. *Note:* Numbers may not sum to totals because of rounding. *Sources:* references 2, 48 and 49.

TABLE 10 (continued)

	Wealth		Residence	
	Poor	Nonpoor	Rural	Urban
NUMBERS				
ALL	39,800	64,800	69,000	35,500
METHODS WITH SIDE EFFECTS*				
<i>Reversible</i>				
Ongoing use				
Male use/knowledge	0	0	0	0
Concealable	6,500	7,700	10,200	4,100
Use on demand				
Male use/knowledge	10,500	20,500	19,700	11,200
Concealable	17,000	28,300	29,900	15,200
METHODS WITH NEGLIGIBLE/NO SIDE EFFECTS*				
<i>Reversible</i>				
Ongoing use				
Male use/knowledge	22,900	36,600	39,100	20,200
Concealable	29,400	44,300	49,300	24,300
Use on demand				
Male use/knowledge	33,300	57,100	58,800	31,400
Concealable	39,800	64,800	69,000	35,500
<i>Permanent</i>				
Male use/knowledge	na	na	na	na
Concealable	na	na	na	na
PERCENTAGES				
ALL	65	75	69	75
METHODS WITH SIDE EFFECTS*				
<i>Reversible</i>				
Ongoing use				
Male use/knowledge	0	0	0	0
Concealable	11	9	10	9
Use on demand				
Male use/knowledge	17	24	20	23
Concealable	28	33	30	32
METHODS WITH NEGLIGIBLE/NO SIDE EFFECTS*				
<i>Reversible</i>				
Ongoing use				
Male use/knowledge	37	42	39	43
Concealable	48	51	49	51
Use on demand				
Male use/knowledge	55	66	59	66
Concealable	65	75	69	75
<i>Permanent</i>				
Male use/knowledge	na	na	na	na
Concealable	na	na	na	na

*Refers to side effects similar to those of current hormonal methods and IUD. *Note:* Numbers may not sum to totals because of rounding. *Sources:* references 2, 48 and 49.

TABLE 11. Number of women aged 15–49 with specified pregnancy outcomes, and percentage reduction in these outcomes, according to current and alternate scenarios of contraceptive use among women with current unmet need for modern methods, by region, 2008

Outcome	Current scenario				Scenario 1			
	All	Sub-Saharan Africa	South Central Asia	Southeast Asia	All	Sub-Saharan Africa	South Central Asia	Southeast Asia
NUMBERS (in 000s)								
All pregnancies	123,800	44,000	60,600	19,300	94,900	33,500	47,300	14,100
Births	83,500	31,800	40,700	11,100	70,900	26,000	35,400	9,500
Maternal deaths	300	200	100	<50	300	200	100	<50
Maternal DALYs	35,100	17,200	14,400	3,500	26,900	13,000	11,200	2,700
Unintended pregnancies	49,200	17,000	22,700	9,500	20,200	6,500	9,400	4,300
Unplanned births	21,300	9,300	9,100	2,900	8,700	3,600	3,800	1,300
Induced abortions	21,500	5,300	10,700	5,400	9,000	2,000	4,500	2,500
Unsafe abortions	15,500	5,200	7,000	3,200	6,400	2,000	2,900	1,500
Maternal deaths	100	100	<50	<50	<50	<50	<50	<50
Maternal DALYs	14,800	7,300	6,000	1,500	6,600	3,000	2,800	800
% REDUCTION								
All pregnancies	na	na	na	na	23	24	22	27
Births	na	na	na	na	15	18	13	14
Maternal deaths	na	na	na	na	21	22	20	16
Maternal DALYs	na	na	na	na	23	25	22	22
Unintended pregnancies	na	na	na	na	59	62	58	55
Births	na	na	na	na	59	62	58	55
Abortions	na	na	na	na	58	61	59	55
Unsafe abortions	na	na	na	na	59	61	59	55
Maternal deaths	na	na	na	na	61	62	59	54
Maternal DALYs	na	na	na	na	56	58	54	50

Notes: In scenario 1, 71% of women with unmet need for modern methods (i.e., the proportion of women with unmet need who report method-related reasons for nonuse) adopt a new method with 98.4% use-effectiveness. In scenario 2, 71% of women with unmet need for modern methods adopt a new method with 95% use-effectiveness. In scenario 3, 35% of women with unmet need for modern methods adopt a new method with 95% use-effectiveness. Numbers may not sum to totals because of rounding. Percentage reduction is from current scenario. DALYs=disability-adjusted life years. na=not applicable. *Sources:* references 2, 48 and 49.

TABLE 11 (continued)

Outcome	Scenario 2				Scenario 3			
	All	Sub-Saharan Africa	South Central Asia	Southeast Asia	All	Sub-Saharan Africa	South Central Asia	Southeast Asia
NUMBERS (in 000s)								
All pregnancies	98,000	34,500	48,800	14,700	111,100	39,300	54,800	17,000
Births	72,200	26,600	36,000	9,700	78,000	29,200	38,300	10,400
Maternal deaths	300	200	100	<50	300	200	100	<50
Maternal DALYs	27,900	13,500	11,600	2,800	31,700	15,400	13,100	3,200
Unintended pregnancies	23,400	7,600	10,900	4,900	36,500	12,400	16,900	7,200
Unplanned births	10,000	4,100	4,400	1,500	15,800	6,800	6,800	2,200
Induced abortions	10,300	2,400	5,200	2,800	16,000	3,900	8,000	4,100
Unsafe abortions	7,400	2,300	3,400	1,700	11,500	3,800	5,200	2,500
Maternal deaths	100	<50	<50	<50	100	100	<50	<50
Maternal DALYs	7,500	3,500	3,200	900	11,400	5,500	4,700	1,200
% REDUCTION								
All pregnancies	21	22	19	24	10	11	10	12
Births	14	16	12	13	7	8	6	6
Maternal deaths	19	20	18	15	9	10	9	7
Maternal DALYs	21	22	19	19	10	10	9	9
Unintended pregnancies	52	56	52	48	26	27	26	24
Births	53	56	52	48	26	27	26	24
Abortions	52	55	52	48	26	27	26	24
Unsafe abortions	52	55	52	48	26	27	26	24
Maternal deaths	54	56	52	48	27	28	26	24
Maternal DALYs	49	52	47	44	23	24	22	20

Notes: In scenario 1, 71% of women with unmet need for modern methods (i.e., the proportion of women with unmet need who report method-related reasons for nonuse) adopt a new method with 98.4% use-effectiveness. In scenario 2, 71% of women with unmet need for modern methods adopt a new method with 95% use-effectiveness. In scenario 3, 35% of women with unmet need for modern methods adopt a new method with 95% use-effectiveness. Numbers may not sum to totals because of rounding. Percentage reduction is from current scenario. DALYs=disability-adjusted life years. na=not applicable. *Sources:* references 2, 48 and 49.



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