Reevaluating the unmet need for family planning in the Philippines

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Most studies of unmet need for family planning have used a standard definition of unmet need based on an apparent discrepancy between fertility preferences and contraceptive practice. According to this definition, women have an unmet need for family planning if they say they wish to space or limit births but are not using contraception. An analysis of results from the 1993 National Demographic Survey in the Philippines suggests that this definition may result in an underestimate. The authors propose a new definition that classifies women with unmet need into three groups: those with unmet need according to the standard definition, those with unmet need due to health risk, and those with unmet need due to poor contraceptive use. The prevalence of unmet need in the Philippines is 26 percent based on the standard definition alone but rises to 48 percent when the broader definition is used. Applying the new definition, the report analyzes the effects of women's social, economic, and demographic characteristics on unmet need for family planning and draws several policy recommendations from the results.

THE IMPORTANCE OF UNMET NEED

The gap between women's reproductive goals and their contraceptive practice has received considerable research attention, and for good reason: many women who want no more children or who want to space the birth of their next child do not use family planning. Information on the numbers and characteristics of these women can influence strategies for national family planning programs. Ultimately, identifying and meeting unsatisfied demand for family planning will reduce unwanted pregnancies, improve the health of women and children, and attain national demographic goals that involve curbing rapid population growth.

Much of the research in this area has come under the rubric of unmet need for family planning (e.g., Westoff and Pebley 1981; Nortman 1982; Westoff 1988a, 1988b; Bongaarts 1991; Palmore et al. 1991; Westoff and Moreno 1991; Westoff and Ochoa 1991; Devi, Rastogi, and Retherford 1995; Go et al. 1995; Westoff and Bankole 1995a, 1995b; Suyono and Palmore in press). Westoff and his colleagues, for example, have used World Fertility Survey and Demographic and Health Survey data to define the

concept of unmet need and to estimate levels for many countries.

There is now a conventional definition of unmet need (e.g., NSO and DHS 1994, 75–77) based on an expressed desire to space or limit births combined with current contraceptive status. If a woman expresses a desire to space or limit future births but is not currently using any method of contraception, she is defined as having a need for family planning that is unmet.

The 1993 Philippines National Demographic Survey (PNDS) provides a rich source of data that can be used to measure the level of unmet need in the Philippines. The survey data also shed light on several important issues raised by the conventional definition of unmet need. The survey itself has been described in detail elsewhere (NSO and DHS 1994).

Information on unmet need is particularly important for the Philippines because of the persistence of high fertility rates. Total fertility—that is, the number of children a woman would have during her reproductive life span at current age-specific fertility rates—fell by at least 21 percent between 1965–70 and 1985–90 (Palmore et al. 1995); but the fertility rate reported by the PNDS was still 4.1, substantially higher than the rate in most other Southeast Asian countries.

According to the conventional definition of unmet need, the PNDS showed the unmet need for family planning to be 26 percent in 1993, only three percentage points lower than the 1988 estimate of 29 percent (NSO and DHS 1994). After assessing the data, we have concluded that this figure is an underestimate. Our reasons for reaching this conclusion touch on two major problems with the conventional definition of unmet need. First, that definition is based solely on the expressed desires of individual women whether or not their desires are in the best interests of their own health

or the well-being of their children. Second, the conventional definition assumes that women who are using contraception are meeting their need for family planning. We believe that many such women are still not having their need met.

We begin by describing two components of an expanded definition of unmet need. Next, we discuss the context for assessing unmet need in the Philippines and show how, in our view, the conventional definition of unmet need is inadequate. We then analyze the determinants of unmet need using an expanded definition of the concept that we believe is more appropriate in the Philippine context. Finally, we describe some of the policy implications inherent in the revised definition. It should be noted here that not all scholars accept our expanded definition of unmet need.

HEALTH RISK AND UNMET NEED

The first major problem with the conventional definition of unmet need relates to health risk. Several studies over the past three decades have suggested that a pregnant woman, her unborn child, or both may be at heightened risk if the mother already has more than four children, if the birth occurs within 15 months of a previous birth, or if the mother is less than 20 years old or older than 35. Casterline (1991) has provided a brief review of the empirical evidence. Looking at these risks, both Casterline (1991) and Palmore and his colleagues (1991) have proposed an alternative definition of unmet need that is based in part on health-risk criteria rather than exclusively on women's expressed desires.

Casterline defines a health-risk need for family planning based primarily on data from the Philippines. To reduce ma-

ternal mortality, he concludes that it is most important to avoid higher-order (above four) births and births to women over age 35. To reduce infant and child mortality, it is most important to avoid births to women under age 20 (and especially under age 18), higher-order births, and—above all—closely spaced births. According to this health-based definition of unmet need, women who are fecund, who are not practicing contraception, and who fall into one or more of these risk categories are classified as having unmet need for family planning.

Palmore and his colleagues (1991) use data from the 1987 Indonesia National Contraceptive Prevalence Survey to define "latent" unmet need. Such need is ascribed to noncontracepting couples who do not express a desire to space or limit births but who have exceeded the Indonesian family planning program's stated goals for family size. If women with latent need were to accept the government's recommendations, they would move into the conventional unmet need category. The policy implications of recognizing both types of unmet need are clear: manifest or conventional unmet need can be met by providing good family planning services, whereas latent unmet need can be met only by first convincing women that they do, in fact, have a need for family planning (Suyono and Palmore in press).

Although Casterline's approach is different from that of Palmore and his colleagues, the two independent studies classify rather similar groups of women into categories of unmet need. In this analysis, we follow Casterline's approach.

POOR CONTRACEPTIVE USE AND UNMET NEED

Several observers have noted a second problem with the conventional defini-

tion of unmet need—that it excludes women who are pregnant due to contraceptive failure and women who are using contraceptives but need better methods (Dixon-Mueller and Germaine 1992; Foreit and Mostajo 1993). It is easy to argue that currently pregnant or amenorrheic women whose pregnancies were unintended at the time of conception (i.e., those with accidental pregnancies due to contraceptive failure) have an unmet need for better contraception. We classify women using ineffective contraception or using contraceptive methods improperly as having an unmet need. The standard practice of excluding such women can result in an underestimation of unmet need. For the Philippines, this underestimation is considerable.

USING INEFFECTIVE METHODS

An analysis of 1980 Community Outreach Survey data in the Philippines revealed differences in estimated average pregnancy rates for a 12-month period of contraceptive use (Laing 1984). The rates were 33 percent for women using periodic abstinence (the "rhythm method") alone, 44 percent for withdrawal alone, and 60 percent for condoms alone. Such high failure rates clearly show the ineffectiveness of these methods, at least as practiced by survey respondents.

Despite these failure rates, Filipino couples continue to prefer the so-called "natural" methods—that is, periodic abstinence and withdrawal—either alone or in combination with other methods. As of 1993, only 25 percent of currently married women of reproductive age were using modern methods, an increase of only four percentage points from 1985 (Casterline, Perez, and Biddlecom 1995). According to the PNDS, 40 percent of currently married women who are using contraception are using either traditional

methods or the less effective modern methods—condoms, diaphragms, foam, or jelly (NSO and DHS 1994). Nine percent of currently married women who wish to stop childbearing altogether are still using natural family planning (NSO and DHS 1994).

The PNDS provides further evidence that Filipino couples tend to lack a strong commitment to family planning. One in three women using contraception discontinued the method during the first year of use, and one-half discontinued use within 23 months. The methods with the highest discontinuation rates were condoms (59 percent during the first year), withdrawal (41 percent), and the pill (40 percent). The pill, the most widely used modern method, was used for 18 months on average, whereas periodic abstinence, the preferred traditional method, had a median duration of 23 months (Perez and Tabije 1995).

A study on contraceptive method choice during the period 1973–83 identifies religiosity with choice of the rhythm method (Zablan et al. 1989; for a discussion of religion in relation to method choice in India, see Bhende et al. 1991). Given that the predominant religion in the Philippines is Roman Catholicism, it seems clear that the Catholic Church's rejection of modern contraceptive methods plays an important role in the widespread dependence on less effective natural methods. (See Bulatao's 1989 conceptual framework for assessing contraceptive method choice.)

USING METHODS INCORRECTLY

Among women who were using natural family planning methods in 1993, two-thirds did not know at what stage in the menstrual cycle they were most likely to become pregnant. The successful use of periodic abstinence depends entirely

on this type of knowledge. Many women reported during the PNDS that they had stopped using contraception because they had become pregnant (NSO and DHS 1994). With little doubt, if such women are to avoid accidental pregnancies in the future, they need either to switch to more effective methods or to learn how to use natural family planning successfully.

ESTIMATES OF UNMET NEED

Data from the 1993 PNDS allow us to estimate unmet need in the conventional way and then proceed to assess the magnitude of unmet need related to health risks and poor contraceptive use. We also identify differences in unmet need associated with several socioeconomic and demographic characteristics of women.

We begin this analysis by dividing currently married women of ages 15–49 into five groups: (1) women who have a conventional unmet need for limiting future births; (2) women who have a conventional unmet need for spacing births; (3) women who do not have a conventional unmet need but have a health-risk need for family planning; (4) women who do not have a conventional unmet need or a health-risk need but are poor contraceptors; and (5) women who do not need family planning, including those who are using effective contraceptives and those without a health risk who want more children.

Conventional unmet need includes nearly 14 percent of currently married women who want to stop childbearing but are not using contraception, plus 12 percent who are not using contraception but state that they wish to space their next birth (NSO and DHS 1994, 75–77). Following Casterline's (1991) earlier

Table 1. Percentages of currently married women, ages 15–49, in various categories of unmet need: 1993 Philippines National Demographic Survey

Category	Percentage
Conventional unmet need for limiting	
(wishing to limit future births but not currently using contraception)	13.7
Also has health-risk unmet need	
More than 4 children	8.2
Short birth interval	0.2
Too young	0.1
Too old	1.4
No health-risk unmet need	3.8
Conventional unmet need for spacing	
(wishing to space future births but not currently using contraception)	12.4
Also has health-risk unmet need	
More than 4 children	2.5
Short birth interval	2.2
Too young	0.4
Too old	0.6
No health-risk unmet need	6.7
Health-risk unmet need, but no conventional unmet need	
(not using contraception and not wishing to space or limit)	10.0
Type of health risk	
More than 4 children	3.4
Short birth interval	4.7
Too young	0.6
Too old	1.3
Poor contraceptors	11.8
Limiting, using ineffective methods	0.7
Limiting, using NFP, but poor knowledge of menstrual cycle	7.0
Spacing, using NFP, but poor knowledge of menstrual cycle	3.2
Pregnant from contraceptive failure	0.9
Total conventional unmet need	26.1
Total nonconventional unmet need	21.8
Total conventional and nonconventional unmet need	47.9

NFP—natural family planning.

work, we define four groups of women as having a health-risk need for family planning: (a) women who have already had more than four live births; (b) women who are under age 20 (too young); (c) women who are over age 35 (too old); and (d) women whose last birth was less than 15 months before the survey (short birth interval). As some women with conventional unmet need also have a health risk, these two groups are cross-classified. Table 1 summarizes the percentages of currently married women in each category.

We also define four groups of women as being poor contraceptors: (a) women who are trying to limit births but are using ineffective contraceptive methods; (b) women who are trying to limit births but are using natural family planning and do not know when during the menstrual cycle they are most likely to become pregnant; (c) women who are trying to space births but are using natural family planning and do not know when during the menstrual cycle they are most likely to become pregnant; and (d) women who are pregnant as a result of a

contraceptive failure. Percentages of currently married women in these categories are also summarized in Table 1.

The inclusion of women with unmet need related to health risk or poor contraceptive use increases the total with unmet need from 26 percent to 48 percent of all currently married women between the ages of 15 and 49. The largest new groups comprise women who are using natural family planning to limit births but do not know when during the menstrual cycle they are most likely to become pregnant (7 percent of all currently married women); women who do not have a conventional unmet need but who have borne a child less than 15 months before the survey (5 percent); women who do not have a conventional unmet need but who have borne more than four children (3 percent); and women who are trying to space births but are using natural family planning without knowing when during the menstrual cycle they are most likely to become pregnant (3 percent).

CHARACTERISTICS ASSOCIATED WITH UNMET NEED

All the types of unmet need identified in our analysis are distributed in different ways throughout the population of ever-married women. In looking at the effects of women's socioeconomic and demographic characteristics, we combine the types of unmet need into six categories: (1) conventional unmet need for limiting; (2) conventional unmet need for spacing; (3) health-risk unmet need for women with more than four children who are not using contraception; (4) health-risk unmet need for women whose last child was born less than 15 months before the survey but who are not using contraception; (5) use-

related unmet need for women trying to limit births by using ineffective methods or natural family planning without correct knowledge of the menstrual cycle; and (6) use-related unmet need for women trying to space births by using natural family planning without correct knowledge of the menstrual cycle. We have thus omitted three unmet-need categories—women who are too old to have children safely, women who are too young, and women who are pregnant due to a contraceptive failure. We discuss only those variables from the PNDS that turn out to be significantly related to unmet need according to our multivariate analysis.

AGE

As expected, conventional unmet need for limiting is highest for women between the ages of 30 and 44 and lowest for younger (15–24) and older (45–49) women (Table 2). Conventional unmet need for spacing is highest for women of ages 15–29 and lowest at older ages. Women with a health-risk need because they have more than four children (and do not have conventional unmet need) are concentrated in the 30–39 age range. Women with a health-risk need because of short birth spacing and those who are using natural family planning for spacing but do not have correct knowledge of the menstrual cycle are concentrated in the 15–29 age group. Those who are using ineffective methods or natural family planning to limit births but lack correct knowledge of the menstrual cycle are clustered in the 35–44 age range.

EDUCATIONAL ATTAINMENT

When we assess unmet need by the educational attainment of currently married women, we find several interesting patterns (Table 3). Conventional unmet

Table 2. Unmet need by age: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Age group	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
15–24	6.9	29.7	0.2	18.7	3.1	6.4
25–29	12.9	20.0	2.3	6.0	6.0	5.3
30–34	15.9	12.3	5.3	2.5	9.3	3.6
35–39	18.0	6.8	5.3	1.0	11.3	1.8
40–44	19.9	2.7	3.8	0.4	10.5	0.9
45–49	9.2	0.6	3.9	0.2	5.8	0.1

NFP—natural family planning.

Table 3. Unmet need by educational attainment: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Educational attainment	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
< high school	18.5	11.9	5.6	2.8	7.3	2.4
High school	12.4	13.9	2.3	6.0	8.2	3.9
> high school	9.2	11.9	1.4	7.0	9.1	4.2

NFP—natural family planning.

need for limiting is greatest for women with the least education, whereas conventional unmet need for spacing is similar for all categories of educational attainment. Health-risk unmet need due to high parity (the proportion of women with more than four children who do not have conventional unmet need) is greatest for those with the least education, whereas health-risk unmet need due to short birth intervals is greatest for women with a high school or higher education. Surprisingly, the proportion of poor contraceptors is roughly equal in all educational groups; in fact, it is somewhat higher among more educated women.

TYPE OF UNION

Although most of the women who are classified as currently married are in fact legally married, a minority are living with partners but are unmarried. The women in this category are much more likely than legally married women to have conventional unmet need for family planning and health-risk unmet need due to short birth intervals (Table 4). The only category of unmet need that is substantially higher for legally married women is that of poor contraception by women who wish to limit births.

WORK STATUS

Women who are not currently working outside the home tend to have higher conventional unmet need for family planning than women who work. In particular, nonworking women are twice as likely to have a conventional unmet need for spacing (Table 5). In the other categories of unmet need, however,

Table 4. Unmet need by type of conjugal union: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Type of union	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Married	13.8	12.4	3.6	4.3	8.2	3.2
Living together	19.0	17.2	2.4	10.7	4.9	3.7

NFP—natural family planning.

Table 5. Unmet need by work status: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Work status	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Working outside the home	13.0	8.2	3.2	3.6	8.6	3.3
Not working	15.1	16.3	3.8	5.8	7.3	3.3

NFP—natural family planning.

Table 6. Unmet need by ethnicity: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Ethnic group	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Tagalog	14.4	10.2	1.8	5.9	7.3	2.9
Cebuano	12.6	12.3	4.4	4.4	9.6	3.8
Ilocano	11.3	11.8	3.6	4.6	6.4	3.8
Ilonggo	15.3	13.2	3.4	4.3	8.1	2.1
Bicolano	18.8	13.9	4.4	5.0	10.0	4.0
Other	15.6	16.7	4.4	4.5	6.1	3.2

NFP—natural family planning.

differences by work status are minor or nonexistent.

REGION AND ETHNICITY

The PNDS reveals major variations in fertility rates along regional and ethnic lines. Total fertility ranges from a low of 2.8 in the National Capital Region to a high of 5.9 in Bicol (not shown). Go and her colleagues (1995) discuss the reasons for these regional variations, focusing on aggregate measures of the proximate determinants of fertility and on unmet need at the aggregate (regional) level. At the individual level, one of the reasons for regional variation appears to be low commitment to contraceptive use.

When we consider the various categories of unmet need, the Bicolano ethnic group and the Bicol region stand out. The Bicolanos have the highest conventional unmet need for limiting, close to the highest conventional unmet need for spacing, close to the highest for both categories of health-risk unmet need, and the highest unmet need in the two poor-contraceptor categories (Table 6). The

Bicol region is second highest in conventional unmet need for limiting and in the two poor-contraceptor categories (Table 7). The other regions with high unmet need in several categories are Eastern Visayas (particularly for conventional unmet need for limiting and the two poor-contraceptor categories), Western Mindanao (particularly for conventional unmet need for spacing), Northern Mindanao (especially for the two poor-contraceptor categories), Ilocos (for the two poor-contraceptor categories), and Southern Tagalog (for conventional unmet need for limiting).

Results from the PNDS substantiate the widely observed inverse relationship between socioeconomic development and various types of unmet need for family planning. The two most impoverished regions in the Philippines, Bicol and Eastern Visayas, also have the two highest fertility rates: 5.08 for Bicol and 4.86 for Eastern Visayas (NSO and DHS 1994). An unexpected finding is that the Cebuano ethnic group, which is found largely in the comparatively well developed region of Central Visayas, has relatively high conventional unmet need for spacing and relatively high unmet need related to poor contraceptive use.

HOUSEHOLD AMENITIES AND CONSUMER GOODS

The PNDS included a household schedule with questions on amenities and consumer goods that can be viewed as rough proxies for wealth or income. Not surprisingly, the results indicate that poor couples generally have higher levels of unmet need than wealthy couples. In particular, couples living in households without electricity, television, or a bicycle have higher levels of conventional unmet need for both limiting and spacing than do wealthier couples. They also have higher health-risk unmet need because of large family size (Table 8).

MEDIA EXPOSURE

Exposure to newspapers, radio, and television can influence a woman's unmet need for family planning in several ways. Information disseminated through the media on the advantages and disadvantages of various contraceptive methods can provide couples with alternatives to their current methods and promote informed choice. As shown in Table 9, women who do not read newspapers and women who do not listen to the radio are more likely to have unmet need for family planning, particularly conventional unmet need, than are women who are exposed to these two media. Exposure to television is closely related to television ownership and is therefore not reported separately.

PARTNER AND COUPLE CHARACTERISTICS

We also look at characteristics of women's partners and whether or not a couple discusses the number of children they want and agree on desired family size. As expected, these variables have significant effects on unmet need (Table 10). Women with less-educated partners are much more likely to have a conventional unmet need for limiting than are women whose partners have a high school education or greater; they are also more likely to have a health-risk need due to large family size.

Women who do not discuss the number of children they want with their partners are much more likely to have a conventional unmet need for limiting than are women who discuss this issue; they are also somewhat more likely to have a health-risk need because of large family size. Couples who agree on their ideal family size have a lower conventional unmet need for both limiting and spacing than couples who do not agree. Limiting need due to health risk (because the woman already has more than four

Table 7. Unmet need by region of residence: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Region of residence	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Metro Manila	12.7	12.4	1.4	7.2	7.7	4.0
Ilocos	14.7	14.7	4.8	3.9	8.8	4.4
Cagayan	11.8	12.0	3.4	5.7	3.8	3.2
C. Luzon	11.5	12.7	1.8	5.4	5.8	3.3
S. Tagalog	16.4	9.9	2.8	5.8	6.9	2.3
Bicol	20.3	13.4	5.3	4.5	11.6	4.5
W. Visayas	14.2	14.1	4.0	4.2	7.5	2.5
C. Visayas	11.8	10.6	4.0	3.3	10.2	2.3
E. Visayas	23.9	13.2	3.7	2.6	9.9	3.9
W. Mindanao	13.5	18.6	5.2	4.4	4.6	2.6
N. Mindanao	11.5	13.2	4.0	3.9	12.9	4.8
S. Mindanao	12.3	12.5	3.4	3.7	9.4	3.3
C. Mindanao	14.5	13.2	7.6	4.2	4.1	2.3
Cordillera	12.4	15.6	3.9	3.5	7.1	3.5

NFP—natural family planning.

Table 8. Unmet need by selected household amenities: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Household amenities	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Electricity						
Yes	11.8	11.2	2.2	5.2	8.0	3.5
No	18.7	15.7	6.0	4.1	7.8	2.8
Television						
Yes	10.5	9.6	1.8	5.4	7.9	3.4
No	17.1	15.3	4.9	4.4	7.8	3.2
Bicycle						
Yes	11.6	8.5	3.0	4.0	7.8	3.4
No	15.0	14.0	3.7	5.1	7.9	3.2

NFP—natural family planning.

Table 9. Unmet need by media exposure: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Media exposure	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Read newspapers						
Yes	12.5	12.1	2.5	5.7	8.3	3.6
No	18.2	13.2	5.2	3.2	7.5	2.9
Listen to radio						
Yes	13.9	12.1	3.2	5.1	8.1	3.3
No	16.2	17.4	5.6	2.8	6.5	2.8

NFP—natural family planning.

Table 10. Unmet need by partner and couple characteristics: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Partner and couple characteristics	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Partner's education						
< high school	17.8	12.3	5.5	3.3	8.2	2.9
High school	12.6	13.6	2.3	6.0	7.9	3.5
> high school	9.9	11.7	1.4	6.2	7.8	3.9
Couple discusses ideal number of children?						
Yes	13.3	12.6	3.0	5.4	8.3	3.8
No	17.5	13.4	5.4	2.9	6.3	1.4
Couple agrees on ideal number of children?						
Agree	13.6	12.0	2.8	5.0	8.7	3.5
Man wants more	15.3	14.5	5.9	3.4	3.9	2.5
Man wants fewer	14.8	12.7	3.3	5.6	6.4	3.4

NFP—natural family planning.

Table 11. Unmet need by selected demographic indicators: 1993 Philippines National Demographic Survey (percentages of currently married women in six categories of unmet need)

Demographic indicators	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Frequency of intercourse (per month)						
0	22.0	16.7	5.1	6.2	2.9	0.9
1–2	14.8	11.4	3.7	3.0	10.2	3.4
3–4	12.0	11.6	3.0	3.7	9.3	4.0
5–9	11.0	12.5	3.0	5.3	8.1	4.2
≥ 10	11.5	13.7	2.8	10.7	5.7	3.0
Woman's age at first marriage						
< 20	16.7	12.4	4.9	2.8	7.1	3.0
20–24	12.2	13.1	2.6	5.6	8.6	3.8
≥ 25	11.3	12.8	1.6	10.7	8.6	3.8
Number of surviving children						
0–1	2.9	22.0	0.0	26.4	1.4	5.8
2–4	11.5	13.2	0.0	0.2	8.6	3.9
5–7	21.1	7.6	9.7	0.0	10.2	1.1
≥ 8	35.2	5.0	9.8	0.0	11.0	0.5

NFP—natural family planning.

children) is greatest for women whose partners want more children than they do. Unmet need due to poor contraceptive use is highest among couples who agree on their ideal number of children.

OTHER CHARACTERISTICS

Three other demographic characteristics have significant effects on unmet need: frequency of intercourse, woman's age at first marriage, and number of surviving children. Frequency of intercourse and age at first marriage should be related to unmet need because more frequent intercourse and earlier marriage both increase the risk of conception. The number of surviving children should affect conventional unmet need for limiting; by definition, it relates to health-risk need based on family size.

Table 11 summarizes the relationship between these three demographic indicators and the six categories of unmet need. Women with the lowest coital frequency in the month before the survey have the highest conventional unmet need for limiting and the highest health-risk need due to large family size. Women who report the highest coital frequency have the highest health-risk need due to short birth intervals.

Women who married early (under age 20) tend to have high conventional unmet need for limiting, whereas women who married at age 25 or older have the highest health-risk need related to short birth intervals. As expected, women with many surviving children have a much higher conventional unmet need for limiting and health-risk unmet need due to large family size than do women with few surviving children. Women with few surviving children have a higher conventional unmet need for spacing and a higher health-risk unmet need due to short birth intervals.

Several other characteristics were assessed, including urban/rural residence,

religious affiliation, and information on the nearest health facility. However, none of these turned out to have a significant effect on unmet need when other characteristics were controlled.

MULTIVARIATE ANALYSIS

Many of the characteristics discussed here are interrelated, and therefore we subjected them to a multivariate analysis. We used multinomial logit regression analysis (Retherford and Choe 1993) because the dependent variable, unmet need, is categorical. We divided unmet need into the six categories used for the bivariate analysis and added a no-need group as the reference category. We included all of the covariates discussed above as independent variables, with one exception: given that the health-risk need due to large family size is defined by the number of children a couple already has, we could not also include the number of surviving children as an independent variable.

The Appendix Table gives the multinomial logit regression coefficients of all predictor variables. Coefficients that are statistically significant at the 5 percent level are indicated with an asterisk. Using these coefficients, we can estimate adjusted proportions for each covariate, assuming average values for all other covariates in the model. These adjusted proportions are given in Table 12. The overall multinomial logit model has a pseudo-R^2 just above 0.16, indicating a reasonably well-fitting model.

Conventional unmet need for limiting is highest (and statistically significant) for women who are 30–44 years old, who live with their partners but are not legally married, who have less than a high school education, who are not

working outside the home, who do not read newspapers, who have not discussed the number of children they want with their partners, who have low coital frequency, and who live in households that lack electricity, television, or a bicycle. Conventional unmet need for limiting is lowest for women in the Cebuano and Ilocano ethnic groups. Conventional unmet need for spacing is highest (and statistically significant) for women who are 15–29 years old, who married relatively late, who do not work outside the home, who do not listen to the radio, who have not discussed the number of children they want with their partners, whose partners want more children than they do, and who live in households without a television or a bicycle.

Health-risk need due to large family size (women who already have more than four children) is greatest for women who are 30–39 years old, who do not work outside the home, who live in households without electricity, whose partners want more children than they do, who have low coital frequency, and who married at a relatively young age. The population of women with a health-risk need due to short birth intervals is small, and for this reason the model predicts less well for this group than for others. The only relationship that is statistically significant is for women 15–29 years old, who are more likely to have this type of need than older women.

The proportion of poor contraceptors who are trying to limit their family size is highest among women who are 30–44 years old, who are relatively well educated, who live in households without electricity, and whose partners have relatively little education. Poor contraceptors who are trying to space their children are most strongly represented among women who are 15–29 years old, who have discussed the number of children they want with their partners, and who married at a relatively late age.

DISCUSSION AND RECOMMENDATIONS

We have discussed several new ways of defining unmet need for family planning. An expanded view of unmet need has particular relevance for the Philippines because the conventional definition appears to understate the need for effective contraception, as reflected in the country's high fertility rates.

For conventional unmet need, the programmatic and policy implications are to provide appropriate contraceptives, which differ depending on whether the need is for spacing or for limiting births. Community-based family planning workers also need training to help them provide correct information on the advantages and disadvantages of various methods.

For unmet need due to health risk, the appropriate program intervention stresses motivation—encouraging women with more than four children to limit future births and encouraging women who recently gave birth to space their next birth. The promotion of improved maternal and child health is also important, including information on the health risks associated with pregnancy for women under age 20 or over age 35.

For poor contraceptors, policies need to stress educating couples to use more effective methods or at least to use natural family planning methods more effectively. In particular, efforts should address the substantial proportion of women in the Philippines who rely on such methods as periodic abstinence but who do not know the point during the menstrual cycle when they are at greatest risk of conception.

The results of our analysis lead to several specific policy suggestions. Women in less-developed regions of the Philippines, such as Bicol, have the highest unmet need for limiting due to health risk (more than four children) and the highest

Table 12. Adjusted percentages in the unmet need categories: 1993 Philippines National Demographic Survey

Variables	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge	No current need†
All	14	12	3	5	8	4	3
Age							
15–24†	4	30	0	31	2	7	26
25–29	12*	23*	2*	3*	6*	7*	497
30–34	18*	11*	4*	0*	10*	3*	54
35–39	19*	5*	4*	0*	12*	1*	59
40–44	21*	2*	3*	0*	11*	0*	63
45–49	8*	0*	2*	0	6*	0*	83
Educational attainment							
< high school†	18	9	3	0	7	2	61
High school	14*	7*	2	0	9*	2	65
> high school	12*	8	2	0	12*	2*	64
Type of conjugal union							
Married	15*	8*	2	0*	1	2	64
Living together†	22	1	2	0	1	3	58
Work status							
Working outside the home	13*	7*	2*	0	8	3	67
Not working†	17	9	2	0	9	2	60
Ethnicity							
Tagalog	8	7*	1*	0	9	2*	63
Cebuano	12*	7*	3	0	9	4	65
Ilocano	12*	7*	3	0	7	2	68
Ilonggo	18	8	2	0	7	1	63
Bicolano	16	10	2	0	7	2	63
Other†	18	10	3	0	9	3	58
Region of residence							
Manila†	17	9	2	0	9	3	60
Ilocos	18	9	3	0	11	4	56
Cagayan	15	9	1	0	5	3	67
C. Luzon	11*	8	2	0	6	2	70
S. Tagalog	15	8	3	0	8	2	63
Bicol	19	6	4	0	14	4	52
W. Visayas	11*	8	2	0	10	3	67
C. Visayas	13	6*	2	0	12	1*	66
E. Visayas	23	8	2	0	12	3	53
W. Mindanao	15	10	2	0	6	3	64
N. Mindanao	14	8	2	0	13	2	61
S. Mindanao	14	7	1	0	9	1*	68
C. Mindanao	19	7	3	0	5	2	63
Cordillera	13	10	3	0	6	3	65
Electricity							
Yes	14*	8	2*	0	8*	3	65
No†	17	8	3	0	10	2	60
Television							
Yes	13*	7*	2	0	9	2	67
No†	17	9	2	0	9	2	61

Table 12 (*continued*)

Variables	Conventional, limiting	Conventional, spacing	Health-risk, >4 children	Health-risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge	No current need†
Bicycle							
Yes	14*	7*	2	0	8	3	67
Not	16	8	2	0	9	2	62
Read newspapers							
Yes	14*	8	2	0	9	2	64
Not	18	8	2	0	8	2	62
Listen to radio							
Yes	15	8*	2	0*	9	2	64
Not	15	10	2	0	9	2	62
Partner's education							
< high school†	16	8	2	0	10	3	61
High school	14	8	2	0	9	2	64
> high school	16	8	2	0*	7*	2	66
Couple discusses their ideal number of children?							
Yes	15*	8*	2	0	9	3*	64
Not	18	10	3	0	7	1	60
Couple agrees on ideal number of children?							
Agree†	15	8	2	0	9	2	64
Man wants more	15	10*	3*	0	8	2	61
Man wants fewer	16	8	3	0	7*	3	64
Frequency of intercourse (per month)‡							
0	18*	9*	3*	0*	9	2	59
2	17*	9*	2*	0*	9	2	61
5	15*	8*	2*	0*	9	2	64
10	12*	7*	2*	0*	9	3	69
Age at first marriage‡							
<20	15	8	2	0	9	2	64
≥25	14	15*	1*	0*	8	4*	57

*Denotes that underlying regression coefficient is statistically significant at the 5 percent level. See Appendix Table.

†Excluded reference category.

‡This is a continuous variable, and thus there is no reference category.

NFP—natural family planning.

unmet need due to use of natural family planning with insufficient knowledge. Clearly, informational and motivational efforts need to target these regions. In general, women who marry late have a lower unmet need for family planning than do women who marry early, but they have a greater conventional unmet need for spacing. Further research may be required to determine, in the context of the Philippines, the true health risk of marrying late and having a small number of closely spaced children. Unexpectedly, a substantial proportion of well-educated women appears to be using natural family planning with poor knowledge of the menstrual cycle. This finding suggests that efforts to provide accurate information on reproductive physiology should include this group.

Our analysis of differentials in the various types of unmet need helps to identify subgroups in the population who need specific program inputs. For example, a community-based campaign featuring house-to-house visits might be appropriate for groups who report a high conventional unmet need for limiting births—that is, for women who have little education, who do not work outside the home, and who do not read newspapers or own a television. By contrast, an information campaign to reach poor contraceptive users might be more broadly based, making use of the electronic media, because this group is widely distributed among various demographic and socioeconomic categories.

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Appendix Table. Multinomial logit regression coefficients for categories of unmet need for family planning: 1993 Philippines National Demographic Survey

Variables	Conventional, limiting	Conventional, spacing	Health–risk, >4 children	Health–risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Age						
25–29	0.42264*	–0.92184*	2.37793*	–3.14131*	0.22032	–0.68603*
30–34	0.70233*	–1.79168*	3.02894*	–5.79953*	0.69910*	–1.45729*
35–39	0.66311*	–2.64328*	2.98249*	–8.41651*	0.73825*	–2.40267*
40–44	0.71262*	–3.74069*	2.51779*	–11.17026*	0.57932*	–3.23506*
45–49	–0.53783*	–5.91853*	1.95831*	–43.88325	–0.23003	–5.52416*
(15–24)						
Educational attainment						
High school	–0.26615*	–0.25485*	–0.34638	–0.15851	0.28794*	–0.05081
> high school	–0.43781*	–0.12408	–0.31914	–0.07157	0.53561*	–0.16484*
(< high school)						
Type of conjugal union						
Married	–0.49676*	–0.33681*	0.26471	–1.07163*	0.27826	–0.37767
(Living together)						
Work status						
Working outside						
the home	–0.42035*	–0.48427*	–0.43937*	–0.23182	–0.16157	0.20528
(Not working)						
Ethnicity						
Tagalog	–0.04544	–0.43002*	–0.91901*	–0.20362	–0.04248	–0.54628*
Cebuano	–0.47392*	–0.39060*	–0.15611	–0.09188	–0.08151	0.14412
Ilocano	–0.52203*	–0.47442*	–0.27846	–0.30971	–0.38284	–0.50488
Ilonggo	–0.04973	–0.24241	–0.65593	–0.09282	–0.30454	–0.71845
Bicolano	–0.20644	–0.07026	–0.71696	–0.17635	–0.28885	–0.51345
(Other)						
Region of residence						
Ilocos	0.15472	–0.00176	0.38486	0.05284	0.30184	0.30607
Cagayan	–0.20513	–0.15687	–0.52988	0.08036	–0.64960	–0.15893
C. Luzon	–0.57679*	–0.25228	–0.49617	–0.07677	–0.43284	–0.39794
S. Tagalog	–0.15311	–0.22330	0.27219	0.37919	–0.11444	–0.22709
Bicol	0.27216	–0.22296	0.84128	0.08239	0.59777	0.54610
W. Visayas	–0.57959*	–0.28644	–0.09636	–0.20512	0.00745	–0.16015
C. Visayas	–0.36882	–0.49677*	–0.33615	–0.73282	0.19709	–1.10997*
E. Visayas	0.43216	–0.05876	–0.17873	–0.62766	0.44524	0.17599
W. Mindanao	–0.17664	0.04651	–0.18166	0.45919	–0.36261	–0.16944
N. Mindanao	–0.21372	–0.12793	–0.31117	–0.34526	0.40905	–0.32273
S. Mindanao	–0.34269	–0.46390	–0.63391	–0.72190	–0.02124	–0.80874*
C. Mindanao	0.05184	–0.29700	0.27251	0.06025	–0.52702	–0.46432
Cordillera	–0.32434	0.00866	0.08019	–0.30923	–0.43082	–0.22104
(Manila)						
Electricity						
Yes	–0.23982*	–0.06601	–0.56860*	–0.14773	–0.31367*	0.16633
(No)						

Appendix Table (*continued*)

Variables	Conventional, limiting	Conventional, spacing	Health–risk, >4 children	Health–risk, short birth interval	Limiting, ineffective or NFP/poor knowledge	Spacing, NFP/poor knowledge
Television						
Yes	–0.37261*	–0.34827*	–0.28996	0.21841	–0.13269	–0.05997
(No)						
Bicycle						
Yes	–0.21474*	–0.24046*	–0.03972	–0.12589	–0.22165	–0.01847
(No)						
Read newspapers						
Yes	–0.27595*	–0.07258	–0.18740	0.13578	0.17488	–0.03334
(No)						
Listen to radio						
Yes	–0.01160	–0.26654*	–0.15010	0.62744*	–0.04263	0.06276
(No)						
Partner's education						
High school	–0.13790	–0.05760	–0.23530	–0.27975	–0.14409	–0.34417
> high school	–0.02085	–0.17233	–0.43489	–0.70992*	–0.46545*	–0.37437
(< high school)						
Couple discusses ideal number of children?						
Yes	–0.26488*	–0.36395*	–0.29931	–0.16876	0.13764	0.57320*
(No)						
Couple agrees on ideal number of children?						
Man wants more	0.07121	0.30554*	0.52157*	0.02491	–0.10039	0.08764
Man wants fewer	0.06428	0.03853	0.35568	0.03673	–0.36056*	0.17542
(Agree)						
Frequency of intercourse (per month)†	–0.06058*	–0.04507*	–0.05388*	0.02924*	–0.01292	–0.00646
Age at first marriage†	–0.00439	0.15854*	–0.07729*	0.60245*	0.01453	0.14687*

*Significant at the 5 percent level.
†This is a continuous variable, and thus there is no reference category.
NFP—natural family planning.

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