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Are There Unmet Family Planning Needs in Europe?

By Erik Klijzing

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Context: The measurement of unmet need for family planning—the discrepancy between individuals' sexual and contraceptive behavior and their stated fertility preferences —has generally focused on developing countries. There has so far been little effort to measure how low unmet family planning needs can go in more developed countries, where contraceptive practice is supposedly (nearly) perfect.

Methods: Data were taken from Fertility and Family Surveys (FFS) conducted in recent years in selected member states of the United Nations Economic Commission for Europe, and minimum and maximum estimates of unmet need were calculated for 10 countries with the requisite data.

Results: The proportion of individuals with an unmet need for family planning (i.e., who have a current unwanted pregnancy or who are fecund, are sexually active, want no more births but are not using contraceptives) is as low as 3% in two European countries and below 10% in most. However, levels of unmet need in countries with economies in transition (13% in Latvia and Lithuania and 23% in Bulgaria) surpass some of the lowest levels observed for developing countries. Considerable within-country variations are seen. For instance, unmet need is more prominent among men than among women in seven of the nine countries for which there are data. Moreover, unmet need increases with family size and with age, suggesting an unmet need for limiting rather than for spacing births. In all of the countries except Hungary, unmet need is higher among those in marital unions than among those in less formal relationships. Level of education is another important dimension of unmet need, with less-educated respondents having the highest level of unmet need in nine of the 10 countries. Multivariate analyses confirm most of these results. Moreover, there is a clear association between unmet need and abortion ratios: Where levels of unmet need are high, the number of abortions per 100 live births is also relatively high.

Conclusions: Data on unmet need, supplemented with information on induced abortion and related issues, could provide countries in Europe with useful inputs for formulating and implementing responsive reproductive health policies and programs.

While evidence is limited, some level of unmet need is likely to exist in every country, developing and developed alike, even where family planning is widely used."[1] Thus, a question is posed in the title of this article, and a tentative answer is offered in the first line: Is that all there is to say on this subject? Not really, because as the authors of the preceding statement themselves admit, empirical evidence for it is limited. Indeed,

unmet need for family planning has hardly ever been consistently or systematically measured in Europe. This is so because the concept of unmet need, and corresponding methodologies for measuring it, arose out of concern with family planning needs in developing countries, not in developed countries.

Basically, the concept of unmet need refers to a gap between someone's stated fertility preferences and his or her contraceptive use at a given point. The concept can serve as a basis for identifying subgroups that are in need of programmatic action. Unmet need rises as more women would like to control their fertility but for various reasons are unable to do so, and it falls as more start practicing contraception. However, high levels of unmet need in a country do not necessarily reflect program failure, nor do low levels always indicate program success.

A connection has sometimes been suggested between the transition from high fertility to low fertility and concomitant changes in levels of unmet need: When fertility is high, most couples do not want to limit or space births, or are unaware of the possibility that they can. As a result, levels of contraceptive use and unmet need for contraception are both relatively low. As attitudinal change occurs and more couples want to control their fertility, however, unmet need rises because the demand for family planning exceeds supplies. Eventually, contraceptive methods become more widely available, enabling couples to act on their fertility desires, and unmet need declines, as does fertility. Finally, once use of family planning is widespread, remaining levels of unmet need are marginal, while fertility stabilizes at or below replacement levels.

One may wonder if a fifth stage should be added to this outline, however, for countries that have completed the contraceptive transition. In developed countries nowadays, numerous couples have postponed childbearing to such an extent that the only way for them to still have children is medically assisted conception.[2] As these services are generally scarce and fairly expensive, such couples may be said to have an unmet need, not for current family planning, but for the consequences of their family planning in the past. In this sense, unmet need may be expected to rise again during this stage, continuing the oscillating pattern characterizing previous stages.

MEASURING UNMET NEED

Data requirements for measuring unmet need are such that only special surveys can produce them. The first series of surveys to shed light on the extent of unmet need in developing countries were Knowledge, Attitude and Practice surveys, which were first fielded in the 1960s. These were followed by the World Fertility Surveys, the Demographic and Health Surveys, the Contraceptive Prevalence Surveys and, more recently, the Reproductive Health Surveys. The exact formulation and measurement of unmet need, however, has undergone important changes from one data collection effort to the other.

The standard formulation of unmet need includes all fecund women who are living in a marital or nonmarital union (and thus are presumed to be sexually active), who are not using any method of contraception and who either do not want to have any more children or want to postpone their next birth for at least two more years.[3] Figure 1 uses data from Kenya to illustrate which subgroups combine to form the group with an unmet need for family planning.

Figure 1. Percentage of currently married women of reproductive age in various categories of pregnancy, fecundity and fertility intention, and total unmet need for family planning, Kenya, 1993
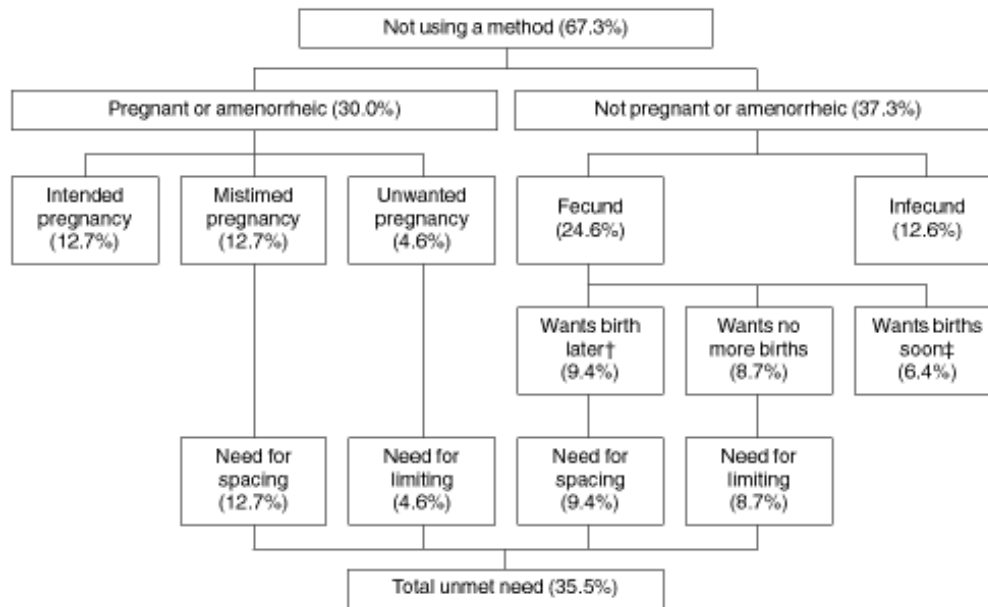
†After two years. †Within two years. *Source:* reference 9.

Currently married women who are not using contraceptives, are not pregnant or amenorrheic, but are fecund are divided by their fertility intentions. Those who do not want to have any more children (8.7%) are considered to have an unmet need for limiting births, while those who want more children but not for the time being (9.4%) are considered to have an unmet need for spacing births. The unmet need group also includes all currently pregnant or amenorrheic women who became pregnant because they were not practicing contraception and whose pregnancy was unwanted (4.6%) or mistimed (12.7%).* Thus, in Kenya in 1993, 35.5% of married women had an unmet need for family planning.

Moreover, in more expanded formulations of unmet need, traditional methods of contraception such as periodic abstinence and withdrawal—because of their limited efficacy—are also considered to contribute to the level of unmet need. In countries where traditional methods are still widely used, the difference between levels of unmet need calculated using the standard formulation and those gauged according to this expanded definition may be considerable. For instance, estimates from a Reproductive Health Survey conducted in Russia in 1996 indicate that according to the first definition, 11-15% of women of reproductive age in three different sites were in need of family planning; the second definition approximately doubled these figures, to 23-29%.[4] Similarly, Reproductive Health Survey data for Romania suggest that in 1993, 8% of all women of reproductive age had an unmet need for family planning according to the standard definition, but 39% had an unmet need using the expanded definition.[5] Corresponding estimates from Reproductive Health Survey data for Czech women of reproductive age in 1993 are 10% and 31%, respectively.[6]

METHODS

Data

Differences between "minimum" and "maximum" estimates of unmet family planning needs in European countries can be determined using data from the Fertility and Family Surveys (FFS). These surveys have been conducted in recent years in selected

member states of the United Nations Economic Commission for Europe and have now become available for comparative research. These data not only permit a broader examination of unmet need in European countries, but also an extension of the unmet need concept to women not living in any union at the time of interview, as well as to men. In addition, the usual assumption that only women in marital or nonmarital unions are sexually active can be abandoned, since in the FFS model questionnaire men and women not living in a union are also asked about their sexual and contraceptive behavior.

However, FFS data are not without limitations. For instance, the surveys collected no direct information on postpartum amenorrhea, nor are there data on the planning status of recently born children. Similarly, for currently fecund, sexually active women who are not pregnant and not practicing contraception because they want a child (or another child), it is not possible to verify whether they want that child within the next 24 months or later. This is because the FFS model questionnaire asks such women only at what age they want their first or next child at the latest, not at the earliest.[1] For a woman aged 30 at the time of interview who is trying to become pregnant, it is perfectly reasonable to answer "35" to this question, if that is the age at which she would give up if still unsuccessful.

Thus, FFS data on currently fecund, sexually active women who are not pregnant and not practicing contraception only allow us to distinguish those who want a child (or another child) from those who do not. The latter are assumed to have an unmet need for limiting births. FFS estimates of total unmet need—whether minimum or maximum—are therefore always lower-bound estimates.

In addition to these technical difficulties, there is also a more general problem: For cultural or historical reasons, topics touching on sexual activity or contraceptive practice are more easily discussed in some countries than in others. For instance, in Lithuania, questions about contraceptive behavior had never been fielded prior to the FFS.[7] This sometimes led to nonresponse in the FFS, particularly among older respondents. Another problem is that traditional methods sometimes may not have been reported as contraceptives because respondents—especially in rural areas—did not think of them as such. In sum, although the available FFS data certainly enlarge the scope for comparative analysis, the results need to be interpreted with caution.

The data that are analyzed in this article come from Tables 19 and 20 in the Appendix section of each FFS Standard Country Report.[8] Female respondents (in Table 19) and male respondents (in Table 20) who were living in marital or nonmarital unions at the time of the interview were ordered from low risk to high risk of conception, according to the answers they provided on questions relating to perceived fecundity, current pregnancy, sexual activity and contraceptive behavior.

For the purpose of this analysis, the basic information provided in these standard tables has been elaborated in two different ways. First, fecund women who are not currently pregnant but who are sexually active and not practicing contraception are split between those who say they want a child (or another child) and those who say they do not. Second, currently pregnant women are divided between those who wanted to become pregnant "now," "later" or "not at all." Women in the "later" group were

considered to have an unmet need for spacing births, whereas those saying "not at all" were considered to have an unmet need for limiting births. However, in view of the impossibility of making the same distinction for fecund women who are not currently pregnant but who are sexually active and not practicing contraception, this distinction between "limiting" and "spacing" is somewhat academic for currently pregnant women; in practice, the two are pooled to represent "unwanted" pregnancies.

Analytic Approach

Data on FFS respondents (male and female) in each of 10 countries were divided according to their exposure to the risk of pregnancy, their contraceptive use and their intentions to have a child (or another child). These data were then used to construct minimum and maximum estimates of the unmet need for family planning.[‡]

The minimum estimate, which corresponds to the standard formulation of unmet need, consists of the sum of those with an unwanted current pregnancy and those who are not practicing contraception but do not want a child (or another child). The maximum estimate, which corresponds to the expanded formulation of unmet need, consists of the sum of those with an unwanted current pregnancy, those who are not practicing contraception but do not want a child (or another child), and those who are relying on a traditional method of contraception.

Most of the discussion in this article will focus on minimum estimates. This is because the maximum estimates undoubtedly overstate unmet need in some cases: They assume that all users of traditional methods are in need of better contraception, for example, yet some who rely on these methods are quite experienced at using them effectively.

The unmet need estimates were then analyzed by respondent's type of union, age, parity, education and settlement pattern at the time of the interview. Men and women in marital unions are compared with those in nonmarital (consensual) unions and with those who are not in any union. Four age-groups are examined: those younger than 25, those aged 25-29, those aged 30-34 and those 35 or older.

Education was measured in three broad classifications (lower, medium and higher),[§] based on the International Standard Classification of Education (ISCED). Finally, settlement size (the size of the respondent's current place of residence) was divided into three groups: small (fewer than 10,000 inhabitants), middle-sized (10,000-100,000 inhabitants) and large (more than 100,000 inhabitants).

Binary probit analysis was then used to determine the effect of each of these variables on the minimum and maximum estimates of unmet need while controlling for the influence of all other variables (see Appendix). Reference categories for covariates were chosen in such a way as to yield mostly positive effect coefficients.

FINDINGS

Bivariate Analysis

Table 1 presents results on unmet need in 10 countries.[**] Each respondent is tallied once—and only once—in the various columns of this table. The first column of data

simply contains those for whom requisite information on fecundity, current pregnancy, sexual activity or contraceptive use is missing (i.e., their status is unknown). For some countries, the number of respondents in this category is considerable (about 20% in Latvia, for example), possibly as a result of the sensitivity of the topics.

Table 1. Percentage distribution of survey respondents, by fecundity, pregnancy, sexual, contraceptive and intendedness status, and levels of unmet need for contraception, all according to country and sex of respondents, Fertility and Family Surveys, 1991-1997

Country and year	N	Fecundity status unknown	Infecund	Fecund, currently pregnant			Not sexually active	Sexually active, using contraceptive method		Sexually active, using no method			Unmet need	
				Wanted	Unwanted	Status unknown		Modern	Traditional	Wants more births	Wants no more births	Status unknown	Minimum[†]	Maximum[†]
Belgium (1991-1992)														
All	5,433	2.8	13.7	u	u	4.7	11.1	54.2	3.1	7.3	2.5	0.4	2.5	5.6
Men	2,198	3.5	11.1	u	u	4.4	15.6	52.8	2.5	6.6	3.2	0.3	3.2	5.7
Women	3,235	2.4	15.5	u	u	5.0	8.0	55.2	3.5	7.8	2.1	0.5	2.1	5.6
Bulgaria (1997-1998)														
Women	2,367	9.9	0.1	0.3	0.8	1.8	21.8	23.3	13.1	6.8	21.8	0.3	22.6	35.8
Czech Republic (1997)														
All	2,457	7.7	8.8	3.4	0.6	0.0	14.3	45.1	7.6	4.7	7.9	0.0	8.5	16.1
Men	721	8.3	8.8	4.5	0.6	0.0	3.5	51.0	8.1	5.9	9.2	0.1	9.7	17.8
Women	1,735	7.4	8.8	2.9	0.7	0.0	18.8	42.6	7.3	4.2	7.4	0.0	8.0	15.4
France (1994)														
All	4,885	9.9	8.7	3.3	0.2	0.2	9.1	53.9	4.3	4.5	4.9	1.1	5.1	9.4
Men	1,941	22.8	7.3	3.1	0.1	0.1	4.2	49.5	4.5	3.5	4.2	0.7	4.3	8.8
Women	2,944	1.4	9.6	3.4	0.3	0.3	12.3	56.8	4.1	5.1	5.4	1.4	5.7	9.8
Hungary (1992-1993)														
All	5,487	4.7	4.2	3.1	1.0	0.0	15.2	53.7	7.1	4.6	4.7	1.7	5.7	12.7
Men	1,933	5.7	3.3	2.5	0.9	0.0	17.1	49.2	5.8	6.8	7.6	1.0	8.4	14.3
Women	3,554	4.1	4.8	3.4	1.0	0.0	14.2	56.1	7.7	3.5	3.2	2.1	4.2	11.9
Italy (1995-1996)														
All	6,030	5.0	10.6	1.9	0.5	0.0	21.6	33.1	14.8	5.3	7.1	0.1	7.7	22.4
Men	1,206	6.5	4.7	1.5	0.6	0.1	18.8	40.8	12.0	6.9	8.2	0.0	8.8	20.8
Women	4,824	4.7	12.1	1.9	0.5	0.0	22.3	31.2	15.5	4.9	6.9	0.1	7.4	22.8
Latvia (1995)														
All	4,200	19.7	1.5	0.9	0.8	0.3	19.2	33.1	6.0	6.9	11.6	0.1	12.5	18.5
Men	1,501	11.5	1.5	1.4	0.9	0.3	18.0	37.0	5.3	9.1	14.9	0.1	15.8	21.1
Women	2,699	24.3	1.4	0.6	0.8	0.3	19.8	30.9	6.4	5.7	9.8	0.0	10.6	17.0
Lithuania (1994-1995)														
All	5,000	0.3	0.0	u	u	3.7	34.5	23.2	11.8	7.6	13.0	5.9	13.0	24.8
Men	2,000	0.5	0.0	u	u	4.0	30.1	24.5	12.8	9.1	14.3	4.8	14.3	27.1
Women	3,000	0.2	0.0	u	u	3.5	37.5	22.3	11.2	6.6	12.1	6.6	12.1	23.3
Slovenia (1994-1995)														
All	4,559	0.7	3.8	2.5	0.3	0.1	21.7	43.7	12.4	6.9	5.9	1.9	6.3	18.6
Men	1,840	1.1	3.0	2.8	0.1	0.0	24.7	41.4	12.6	7.4	5.7	1.3	5.8	18.3
Women	2,719	0.4	4.4	2.3	0.5	0.2	19.7	45.3	12.3	6.5	6.0	2.4	6.6	18.9

Spain (1994-1995)														
All	6,014	0.2	12.8	1.9	0.6	0.0	28.0	40.7	8.2	3.7	2.5	1.5	3.1	11.3
Men	1,992	0.4	10.3	2.0	0.5	0.1	29.3	43.2	5.9	4.2	2.9	1.2	3.4	9.2
Women	4,021	0.1	14.0	1.8	0.7	0.0	27.3	39.5	9.3	3.5	2.3	1.6	3.0	12.3

†Minimum estimate consists of those with an unwanted current pregnancy and sexually active individuals not using a method and wanting no (or no more) births. †Maximum estimate consists of those with an unwanted current pregnancy, sexually active individuals not using a method and wanting no (or no more) births, and sexually active contraceptive users relying on traditional methods. *Notes:* Various surveys covered the following age ranges: Belgium, 20-40; Bulgaria, 18-40; Czech Republic, 15-44; France, 20-49; Hungary, 20-44 (men) and 18-41 (women); Italy, 20-49; Latvia, 18-49; Lithuania, 18-49; Slovenia, 15-45; and Spain, 18-49. No data on men are available for Bulgaria. u=unavailable.

All respondents who for one reason or another (sterilization, age or some other reason) considered themselves to be infecund are classified as such in Table 1. It is not always possible to distinguish between reasons for infecundity, however. The next three columns show data on fecund respondents who are (or whose partner is) currently expecting a wanted birth, an unwanted birth or a birth of unknown wantedness. The data suggest that in most of these countries, most currently pregnant women identify their pregnancy as wanted.

Nonpregnant women (or the partners of such women) were divided by their sexual activity status and contraceptive practices. The proportion of fecund respondents who are (or whose partner is) neither currently pregnant nor sexually active varies somewhat among the 10 countries, and is fairly sizable in some.[††] In Lithuania, for example, one-third of survey respondents identified themselves as not sexually active.

The proportions of fecund respondents who are (or whose partner is) not currently pregnant but who have been sexually active in the four weeks prior to the interview and who in the same period have been using either a modern method or a traditional method[‡‡] also vary sizably, but the proportions using a modern method usually far exceed those using a traditional method. This difference was especially great in Belgium and France, while it was relatively small in Bulgaria and Lithuania.

Fecund, nonpregnant respondents who had been sexually active in the four weeks preceding the interview and who had not been using a contraceptive method were divided into three groups: those who wish to have a child (or another child), those who do not wish to do so or those whose status is unknown. These groups lead finally to the two levels of unmet need: the minimum estimate and the maximum estimate.

Minimum estimates of unmet family planning needs for men and women turn out to be less than 10% in all FFS countries examined except Bulgaria (23%), Latvia (13%) and Lithuania (13%). It is possible that this represents a threshold value between more developed and less developed countries. For instance, minimum estimates for unmet need among currently married women of reproductive age in countries of the Middle East and North Africa vary between 11% and 22% (in Turkey and Egypt), in the rest of Africa between 15% and 37% (in Zimbabwe and Rwanda), in Asia between 11% and 32% (in Thailand and Pakistan), and in Latin America between 12% and 29% (in Colombia and Guatemala). The average for all developing countries together (except China) is about 20%.[9]

The data presented in Table 1 demonstrate that unmet need among fecund respondents who are currently pregnant (or whose partner is currently pregnant) contributes only modestly to overall levels of unmet need. This is so because in low-fertility countries, pregnancies are infrequent in comparison to their incidence in high-

fertility countries. As a result, their contribution to total unmet need is small compared with that of the relatively large share of nonpregnant women with discrepancies between their stated fertility preferences and their reproductive behavior.

The national estimates shown in Table 1 are likely to be affected by a host of factors still to be considered. Nonetheless, the levels of unmet need for family planning in Belgium and Spain are particularly striking evidence of how low such levels can go in case of (nearly) perfect contraceptive use. Yet even in these societies, some couples have an unmet need for contraception; this suggests that unless special measures are taken to reach out to those who still are in need of better quality care, some level of unmet need for family planning is likely to persist.

Table 1 further suggests that except in France and Slovenia, levels of unmet need are higher among men than among women. This finding confirms the potential relevance of extending the concept of unmet need to men, at least in the case of developed countries. However, it remains to be seen whether this gender differential has a behavioral component or is merely a reporting artifact.[10] If it is the former, then information, education and communication programs that focus more on men may be in order.

Table 2 presents minimum and maximum estimates of unmet need for family planning according to the respondent's type of union, age, parity, education and relative size of area of residence at the time of interview. These estimates were obtained in a manner analogous to those given in Table 1.

Table 2. Minimum and maximum estimates of unmet need, by selected characteristics, according to country

Country and year	Type of union			Age-group				No. of children				Education			Settlement size		
	Marital	Consensual	No union	<=24	25-29	30-34	>=35	0	1	2	>=3	Lower	Medium	Higher	Small	Middle	Large
Belgium (1991-1992)																	
Minimum	3.4	1.1	0.8	0.6	1.2	3.0	4.9	1.1	2.8	3.7	4.6	4.5	1.6	1.9	2.3	2.6	2.2
Maximum	7.4	3.7	1.9	1.3	3.3	6.8	10.3	2.7	6.3	8.3	9.2	8.8	4.2	4.9	6.4	5.8	3.9
Bulgaria (1997-1998)																	
Minimum	29.7	12.7	7.7	8.8	23.2	28.3	26.7	4.8	23.2	30.5	40.2	30.8	23.4	17.2	21.9	38.7	20.6
Maximum	45.7	22.2	14.8	17.9	37.7	40.8	41.6	9.7	34.3	49.7	55.9	47.0	36.5	29.1	38.6	50.7	32.3
Czech Republic (1997)																	
Minimum	10.8	8.2	1.1	2.5	7.0	9.9	12.3	2.0	7.3	11.4	14.0	10.2	6.7	6.1	11.7	6.2	6.0
Maximum	19.2	21.1	3.7	6.8	14.1	19.1	21.2	6.1	14.9	20.6	23.1	16.5	15.3	17.5	18.2	16.1	12.3
France (1994)																	
Minimum	7.4	2.1	2.3	1.0	1.4	5.0	7.7	1.6	6.0	6.9	8.1	7.6	4.3	2.5	6.4	5.5	4.1
Maximum	13.5	6.1	3.5	1.6	4.6	7.7	14.1	3.3	10.7	13.3	13.6	12.5	7.9	6.9	10.1	11.2	8.3
Hungary (1992-1993)																	
Minimum	7.0	10.3	2.0	2.9	3.9	6.7	7.9	1.6	5.5	7.0	13.1	9.2	4.8	4.2	5.8	6.1	5.0
Maximum	16.1	14.8	5.0	7.3	9.0	14.4	17.3	4.9	13.4	15.9	22.5	15.7	11.6	13.6	12.9	12.9	12.3
Italy (1995-1996)																	
Minimum	11.8	6.4	0.7	0.8	2.5	7.8	12.4	1.2	8.0	13.6	16.6	11.5	4.6	3.7	7.6	8.4	6.5
Maximum	32.8	21.9	4.9	6.8	15.3	24.6	30.7	7.2	26.6	36.1	38.3	30.5	15.9	14.7	21.6	24.7	19.6
Latvia (1995)																	

Minimum	16.8		16.0	4.1	4.7	10.7	14.1	15.7	3.3	12.9	16.5	18.8	13.3	12.9	10.5	14.5	9.8	11.9
Maximum	25.0		23.1	6.2	8.6	16.7	20.3	22.6	6.3	18.7	24.3	26.6	19.9	18.9	16.2	21.7	18.2	16.1
Lithuania (1994-1995)																		
Minimum	18.0		15.8	2.5	5.0	10.8	14.2	18.2	2.4	11.5	21.6	21.7	9.1	14.2	11.0	12.4	16.2	12.0
Maximum	34.3		24.8	5.1	10.3	26.0	31.6	30.6	6.3	24.1	38.1	40.9	13.6	26.3	24.3	23.9	28.9	23.7
Slovenia (1994-1995)																		
Minimum	9.2		5.9	1.2	1.0	5.3	5.2	11.9	0.6	5.9	10.2	14.0	6.9	6.6	2.8	6.9	5.9	4.3
Maximum	24.4		20.4	8.3	8.6	17.9	19.8	27.5	7.9	18.4	26.0	33.3	19.3	19.7	12.0	19.7	17.2	16.1
Spain (1994-1995)																		
Minimum	5.0		2.3	0.3	0.5	1.7	3.6	5.2	0.6	3.7	6.0	4.7	3.6	2.2	2.3	3.2	3.5	2.8
Maximum	17.5		10.6	2.0	3.0	5.9	10.6	19.1	2.6	14.9	18.9	20.0	14.8	4.9	5.5	13.6	13.4	8.2

Restricting the concept of unmet need to married couples produces higher measures of unmet need than does basing estimates on all individuals. Unmet need for family planning among respondents not living in any partnership[§§] at the time of survey is as low as 1% or less, although the validity of this estimate is likely to be undermined by unreported sexual activity. On the other hand, unmet need is generally more prominent among couples in marital unions than among those in nonmarital unions. An exception to this rule is Hungary, although the reasons for this difference need to be investigated.

Table 2 also suggests that unmet need rises with age: In all countries except Bulgaria, the minimum estimate of unmet need rose steadily, from a low among those younger than 25 to a high among those aged 35 or older. Moreover, a comparable pattern for the maximum estimate of unmet need can be seen for all countries except Lithuania. These findings probably indicate an unmet need for limiting births rather than for spacing births.

Indeed, unmet need for family planning is generally more acute among respondents with children than among those without them. Minimum levels of unmet need among women with two or more children surpass 30% in Bulgaria and exceed 10% in five other countries.

As has already been demonstrated for developing countries, the highest level of education attained at the time of the survey is also correlated with unmet need for family planning in most of the developed countries examined here. For instance, less-educated respondents have the highest level of unmet need in nine out of 10 countries. A remarkable reversal of this trend can be observed for Lithuania, however, where less-educated individuals have a substantially lower level of unmet need than do those with a medium or high level of schooling. This finding may arise in part, however, from difficulties inherent in comparing education systems across countries.

Urbanization is another factor that is often included in studies of unmet need for family planning in developing countries. The rationale is that among other things, family planning services are generally less available or less accessible (or both) in rural areas than they are in urban areas, because of distance. In more developed countries, this factor is probably much less of a barrier.

The data in Table 2 confirm that levels of unmet need in small towns are generally higher than are those in large cities, although differences are small. However, in six out

of 10 countries, levels of unmet need were highest in middle-sized communities. In other words, the relationship appears to be U-shaped.

Multivariate Analysis

Results of the multivariate analysis (Table 3) roughly confirm those obtained in the bivariate analysis. For example, higher levels of unmet need were generally found among men: According to the minimum estimate, men's unmet need was significantly higher than women's unmet need, with the differential ranging from 16% greater in Lithuania to 65% greater in Hungary (not shown).[*][‡] Likewise, the minimum estimate of unmet need was significantly elevated in nine of the 10 countries among partners who were in marital or nonmarital unions, in seven countries among older persons, in seven among all parents and in eight among less-educated individuals. Settlement size did not seem to play any systematic role.

Table 3. Coefficients from binary probit analysis of factors affecting minimum and maximum unmet need estimates, by country										
Factor	Belgium	Bulgaria	Czech Republic	France	Hungary	Italy	Latvia	Lithuania	Slovenia	Spain
MINIMUM										
Sex										
Man	0.2068*	u	-0.1022	-0.1134	0.5031*	0.2157*	0.2694*	0.1451*	-0.0016	0.1284
Woman (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Type of union										
Marital	0.3306*	0.6825*	0.7622*	0.2006*	0.2927*	0.7024*	0.5169*	0.6174*	0.1200	0.6901*
Consensual	-0.0595	0.3521	0.7231*	-0.1108	0.6508*	0.6478*	0.6425*	0.7540*	0.1626	0.5484*
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age										
<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.0342	0.2497*	0.1652	0.0063	-0.1647	0.0322	0.1088	-0.1346	0.2044	0.0293
30-34	0.3218	0.3764*	0.3186*	0.4120*	-0.0097	0.3094	0.2128*	-0.0955	0.1142	0.1491
>=35	0.5054*	0.2932*	0.4434*	0.5885*	-0.0201	0.4447*	0.2909*	0.0299	0.4967*	0.2461
No. of children										
0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0504	0.4885*	0.1960	0.2864*	0.4760*	0.2647*	0.4872*	0.5042*	0.6942*	0.2434
2	0.1263	0.6103*	0.2698	0.2076	0.5845*	0.4767*	0.5238*	0.8482*	0.8991*	0.4135*
>=3	0.1995	0.8420*	0.2844	0.2228	0.8987*	0.5389*	0.5994*	0.8412*	0.9854*	0.2852
Education										
Lower	0.3541*	0.4682*	0.3148*	0.3770*	0.3981*	0.4968*	0.3134*	0.1065	0.6082*	0.0677
Medium	0.0165	0.3157*	0.0872	0.1902	0.1003	0.2672*	0.2004*	0.1976*	0.4779*	0.0866
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Settlement size										
Small	-0.0432	-0.1148	0.2436*	0.1194	-0.0602	-0.0391	-0.0093	0.0126	0.0561	0.0110
Middle	0.0016	0.4135*	-0.0525	0.1344	0.0137	0.0458	-0.2082*	0.1295*	0.0523	0.0438
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	6.4082	1.4727	2.5995	3.7230	3.5275	2.9859	2.0122	2.0269	3.3760	5.5254
Intercept	-	-	-2.8430*	-	-2.6528*	-	-	-	-2.4376*	-3.1478*	-

	2.8215*	2.3108*		2.6435*		3.0864*	2.4470*			2.9673*

MAXIMUM

Sex

Factor										
Man	0.0184	u	-0.0940	-0.0313	0.1840*	0.0753	0.1516*	0.1756*	0.0376	-0.0568
Woman (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Type of union

Marital	0.3200*	0.6273*	0.6119*	0.3926*	0.4014*	0.8247*	0.6526*	0.8049*	0.2028*	0.5971*
Consensual	0.1674	0.6994*	0.8227*	0.2697*	0.4778*	0.7581*	0.7184*	0.7321*	0.2798*	0.6434*
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Age

<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.1915	0.1177	0.0658	0.2701	-0.1571*	0.0213	0.0587	0.0411	0.1265	-0.0766
30-34	0.4624*	0.1208	0.2186	0.4022*	0.0160	-0.0044	0.1235	0.0322	0.1120	0.0290
>=35	0.6571*	0.0824	0.2803*	0.7182*	0.0979	0.0053	0.2093*	-0.0437	0.2967*	0.3014*

No. of children

0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0359	0.5338*	0.1946	0.2234*	0.3226*	0.2763*	0.3492*	0.4319*	0.2890*	0.3838*
2	0.0919	0.8624*	0.3038*	0.2059*	0.3782*	0.4940*	0.4123*	0.7747*	0.4845*	0.3903*
>=3	0.1209	0.9782*	0.3428*	0.1576	0.5996*	0.5129*	0.4523*	0.8863*	0.6348*	0.3652*

Education

Lower	0.2003	0.3986*	-0.0027	0.1934*	0.0650	0.3956*	0.3070*	-0.1639	0.5122*	0.3320*
Medium	-0.0616	0.2576*	-0.0475	0.0237	-0.0503	0.1925*	0.1721*	0.0926	0.4215*	-0.0057
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Settlement size

Small	0.1955	0.0306	0.1845*	0.0040	-0.0711	-0.0638	0.0792	0.0147	-0.0361	0.2004*
Middle	0.1530	0.3351*	0.1531	0.1916*	-0.0447	0.0680	0.0016	0.0922	-0.0527	0.1898*
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	3.4390	1.2247	1.6722	2.4128	1.9310	1.5069	1.5773	1.4348	1.5507	2.2721
Intercept	-2.4811*	-1.7841*	-2.0336*	-2.4066*	-1.7890*	-1.9723*	-2.0978*	-1.9717*	-1.9147*	-2.4378*

*p<.05. *Notes:* u=unavailable. ref=reference group.

However, as gender is known to interact with many factors, it is better to estimate separate models for men and women. Results for minimum estimates are presented in Table 4 and for maximum estimates in Table 5. As before, the discussion will focus mostly on minimum estimates.

Table 4. Coefficients from binary probit analysis of factors affecting minimum unmet need estimates, by country, according to sex

Factor	Belgium	Czech Republic	France	Hungary	Italy	Latvia	Lithuania	Slovenia	Spain
MEN									
Type of union									
Marital	0.3850*	-0.1522	0.2159	0.3619*	0.5836	0.4274*	0.3053*	0.2829	0.1877
Consensual	-0.3122	0.00001†	-0.0301	0.6114*	0.5085	0.7078*	0.7008*	0.4633	0.8046*
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age									
<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

25-29	0.0425	0.0586	0.3951	0.0584	-0.0747	0.3208	-0.2554	0.4136	0.1671
30-34	0.2841	-0.1346	0.3587	0.2087	0.0743	0.2969	-0.1438	0.3129	0.5147
>=35	0.4241	0.1703	0.5155	0.2191	0.1989	0.5303*	0.0812	0.5985*	0.5133
No. of children									
0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	-0.0481	0.1232	0.4075	0.4903*	0.7095*	0.3924*	0.6447*	0.3136	0.7738*
2	-0.1541	0.3419	0.5194*	0.6088*	0.8139*	0.5792*	0.8792*	0.7591*	1.0929*
>=3	0.1364	0.3005	0.6434*	0.8777*	1.2010*	0.4612*	0.8095*	0.7835*	0.9019*
Education									
Lower	0.1518	0.1516	0.2970	0.4038*	0.5742*	0.2456	0.1034	0.3629	0.1405
Medium	-0.2017	0.0307	0.1522	0.0000	0.1732	0.2580*	0.1741	0.3043	0.3182
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Settlement size									
Small	-0.1688	0.5259*	0.2372*	-0.0784	-0.0038	-0.0347	0.0829	0.3711*	0.0347
Middle	0.1022	0.1887	0.1560	-0.0375	-0.0055	-0.1013	0.1655	0.2247	0.1027
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	*5.3409*	*2.2815*	*4.3400*	*2.6854*	*2.9752*	*1.7555*	*1.8794*	*3.6862*	*5.5472*
Intercept	*-2.3753**	*-1.9167**	*-3.0071**	*-2.3301**	*-2.9160**	*-2.3153**	*-2.0981**	*-3.3445**	*-3.3709**
WOMEN									
Type of union									
Marital	0.3951	0.7584*	0.1906	0.2084	0.6953*	0.5477*	0.8305*	0.0818	0.8573*
Consensual	0.2337	0.5699*	-0.1643	0.6313*	0.6535*	0.5745*	0.7587*	-0.0010	0.0000†
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age									
<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	-0.0146	0.1810	-0.2265	-0.2399	0.0632	0.0058	-0.0569	0.1317	0.0001
30-34	0.3599	0.4763*	0.4668*	-0.0842	0.3761*	0.1973	-0.0546	0.0284	0.0300
>=35	0.5772*	0.5297*	0.6351*	-0.1238	0.5050*	0.1845	0.0094	0.4816*	0.1738
No. of children									
0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.2355	0.2562	0.2100	0.3839*	0.1572	0.5657*	0.5183*	0.8444*	0.0296
2	0.4105*	0.2656	0.0476	0.4904*	0.3960*	0.4957*	0.9286*	0.9188*	0.1518
>=3	0.3340	0.2908	-0.0040	0.8454*	0.3868*	0.6897*	0.9713*	1.0363*	0.0608
Education									
Lower	0.3524*	0.4201*	0.4380*	0.4557*	0.4763*	0.3736*	0.0234	0.7528*	0.0203
Medium	0.0000†	0.1519	0.2172	0.2210	0.2850*	0.1586	0.1923*	0.5957*	-0.0799
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Settlement size									
Small	0.0149	0.1129	0.0602	-0.0426	-0.0458	0.0016	-0.0447	-0.0766	0.0110
Middle	-0.0760	-0.1656	0.1262	0.0545	0.0605	-0.2895*	0.1006	-0.0045	0.0281
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	*7.5836*	*2.7912*	*3.4527*	*4.2909*	*3.0064*	*2.2117*	*2.1637*	*3.2370*	*5.6478*
Intercept	*-3.0575**	*-2.9063**	*-2.5408**	*-2.5453**	*-3.0418**	*-2.3861**	*-2.6615**	*-3.1432**	*-2.7575**

Table 5. Coefficients from binary probit analysis of factors affecting maximum unmet need estimates, by country, according to sex

Factor	Belgium	Czech Republic	France	Hungary	Italy	Latvia	Lithuania	Slovenia	Spain
MEN									
Type of union									
Marital	0.3919*	-0.8101	0.3662*	0.4515*	0.5684*	0.5629*	0.5110*	0.1205	0.2963
Consensual	0.0776	-0.4495	0.2357	0.6915*	0.7299*	0.7343*	0.5436*	0.2088	0.5798*
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age									
<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.1357	-0.0884	0.5840*	-0.0862	0.4239*	0.2016	-0.0395	0.2418	0.0572
30-34	0.3468	-0.0685	0.3793	0.0662	0.3366	0.1056	-0.0105	0.2464	0.2144
>=35	0.5573*	0.0684	0.5743*	0.1291	0.5701*	0.3726*	-0.0019	0.3410*	0.2645
No. of children									
0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	-0.0826	0.2465	0.2157	0.5280*	0.3749*	0.3146*	0.5499*	0.2828	0.5933*
2	-0.0198	0.3459	0.5431*	0.6052*	0.5650*	0.5599*	0.8516*	0.6311*	0.6504*
>=3	0.2127	0.3177	0.6693*	0.9217*	0.8895*	0.3353	0.8325*	0.5678*	0.6859*
Education									
Lower	0.0555	-0.0178	0.1032	0.1762	0.5088*	0.2800	-0.1468	0.5628*	0.3504*
Medium	-0.2265	0.0052	-0.1029	-0.1195	0.3336*	0.2581*	0.0893	0.4054*	0.1646
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Settlement size									
Small	0.1448	0.2995	0.2206*	-0.1068	-0.0777	0.0474	-0.0252	0.0828	0.0336
Middle	0.2589	0.3211*	0.3265*	-0.0682	0.0379	0.0044	-0.0270	0.0051	0.1342
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	*3.4361*	*1.5070*	*2.6202*	*1.9047*	*1.6755*	*1.4959*	*1.3453*	*1.5879*	*2.5710*
Intercept	*-2.3335**	*-0.6740*	*-2.6260**	*-1.8288**	*-2.3443**	*-2.0686**	*-1.5712**	*-2.0216**	*-2.4697**
WOMEN									
Type of union									
Marital	0.2924*	0.6307*	0.4096*	0.3420*	0.8677*	0.6784*	0.9990*	0.2409*	0.7061*
Consensual	0.2547	0.7611*	0.3018*	0.3154*	0.7738*	0.6868*	0.8771*	0.3034*	0.6441*
None (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age									
<=24 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.2396	0.1057	0.1140	-0.1562	-0.0570	-0.0035	0.1174	0.0653	-0.1340
30-34	0.5465*	0.3128*	0.4649*	0.0285	-0.0455	0.1631	0.0874	0.0386	-0.0598
>=35	0.7244*	0.3491*	0.8085*	0.1024	-0.0907	0.1483	-0.0406	0.2864*	0.3167*
No. of children									
0 (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.1108	0.1702	0.1877	0.1688	0.2498*	0.3639*	0.4009*	0.2877*	0.3197*
2	0.1498	0.2886	0.0213	0.2231*	0.4768*	0.3119*	0.7600*	0.3997*	0.3107*
>=3	0.0492	0.3476	-0.1441	0.4105*	0.4431*	0.4897*	0.9588*	0.6717*	0.2597*

Education									
Lower	0.4792*	0.0036	0.2663*	0.0466	0.3813*	0.3470*	-0.2210	0.4771*	0.2838*
Medium	0.2190	-0.0660	0.0893	-0.0061	0.1673*	0.1238	0.0802	0.4264*	-0.1488
Higher (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Settlement size									
Small	0.2295	0.1315	-0.1214	-0.0497	-0.0632	0.0974	0.0377	-0.1044	0.2830*
Middle	0.0917	0.0751	0.1236	-0.0414	0.0712	-0.0015	0.1706*	-0.0840	0.2234*
Large (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Log-likelihood ratio	3.4733	1.7646	2.3493	1.9643	1.4764	1.6400	1.5147	1.5346	2.1649
Intercept	-2.7850*	-2.0337*	-2.3296*	-1.6340*	-1.8953*	-2.0266*	-2.1711*	-1.8241*	-2.4222*

*p<.05. †Category was added to reference group to make computations simpler*Notes:* Results for Bulgarian women are shown in Table 3. ref=reference group.

Country profiles of minimum unmet family planning needs, based on the statistical significance of results obtained
in Table 4, vary greatly. Regardless of whether one looks at men or at women, no two countries' profiles are exactly the same. Also, needs among men are not necessarily always higher than among women, but they are invariably different.

For example, among Belgian men, only those in marital unions were significantly more likely to have an unmet need for family planning; among Belgian women, on the other hand, union status had no significant effect, but women aged 35 or older, those with two children and those with less education all had an elevated likelihood of unmet need. In Italy, in contrast, parity and education were associated with unmet need for both men and women (although in somewhat different ways), while age and union type were significant for women but not for men.

Likewise, patterns in the maximum estimate of unmet need varied widely, both by sex and by country (Table 5). Thus, in the Czech Republic, the maximum measure of unmet need was significantly higher among men in moderate-size towns. In contrast, maximum unmet need among Czech women was elevated for those who were married or living in a consensual union, as well as for those aged 30 or older, but was not affected by settlement size.

Log-likelihood ratios for minimum needs in Bulgaria, Latvia and Lithuania (Table 3) are considerably lower than are those for the other countries. In these three countries, then, factors other than those considered in the probit analyses may also affect variations in unmet need.

One could argue that the "ultimate" indicator of unmet need is induced abortion. Unfortunately, survey data on induced abortion generally underestimate to a considerable degree the true extent to which couples rely on this form of fertility control.[11] This is also true for FFS data. Therefore, it seemed better to use aggregate abortion statistics from official sources, although these are also known to suffer from various shortcomings.[12] Available legal abortion ratios (abortions per 100 live births) that were closest to the year in which the bulk of FFS interviews in each country took place were selected for each country.

These ratios varied widely by country, with Spain (12.9 abortions per 100 live births),

France (23.0 per 100) and Italy (24.1 per 100) having relatively low ratios. (All three have incomplete coverage of abortion, however.) The ratios were generally moderate in the Czech Republic (47.7 per 100), Slovenia (56.9 per 100), Hungary (64.3 per 100) and Lithuania (76.0 per 100), and were very high in Latvia (120.1 per 100) and Bulgaria (137.1 per 100).[13] (There is no systematic abortion registration in Belgium.)

In Figure 2, these ratios are plotted against the minimum estimates of unmet need (Table 1). The results clearly suggest the two phenomena are related, at least at the aggregate level. The higher the reliance on induced abortion to resolve unintended pregnancies, the higher the level of unmet need, and vice versa. Moreover, whether one looks at this relationship among men, among women or among both, the association between unmet need and the abortion ratio (as measured using Pearson's coefficient) is stronger when unmet need is defined as the minimum (.9<r>.8) than as the maximum (.7<r>.6).

Figure 2. Minimum estimates of unmet need for family planning, by legal abortion ratio, selected European countries
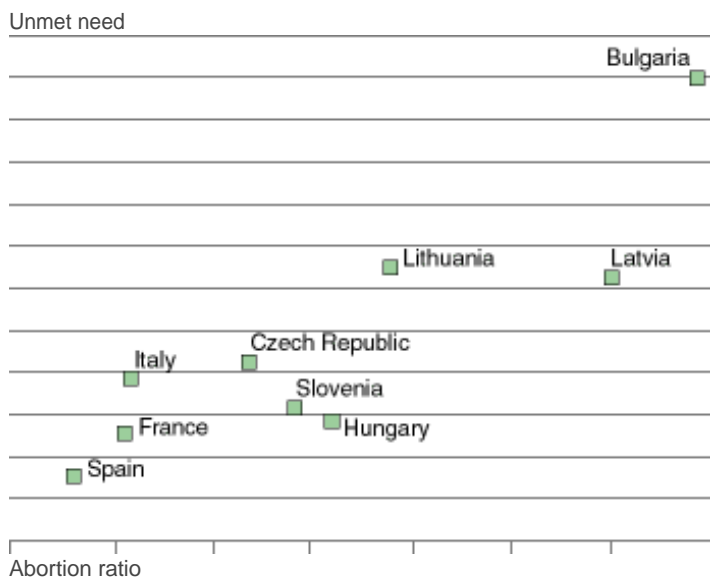
Note: Abortion ratio is number of abortions per 100 live births. *Source:* Abortion ratios—reference 12.

CONCLUSION

Is there an unmet need for family planning in Europe? Comparing as a whole the 10 countries investigated here with developing countries, this question should probably be answered in the negative. Diverting scarce international resources from the problems of developing societies to family planning problems in Europe would seem unwarranted. However, as this analysis has demonstrated, levels of unmet need in some countries with economies in transition—in particular, Bulgaria—surpass some of the lowest levels of unmet need observed in developing countries. This finding would seem to justify retargeting at least some elements of international population assistance efforts.

Additionally, in countries with established market economies, there may still be room for improvement in both the quantity and the quality of family planning services provided. An unmet need of some 9% among Italian men may not appear to be very great. Yet given that Italian men aged 20-49 numbered about 12 million in 1995, one is talking about one million men whose sexual and contraceptive behavior (at least as they reported in that year) apparently is not in line with their wishes. By any standard,

this is a sizable group, and as the binary probit analysis demonstrated, it consists primarily of fathers of one or more children with relatively low levels of education. Different profiles emerged for minimum unmet family planning needs among men and women in the other countries investigated. Profiles also depended on whether the standard definition or the expanded one was being used.

The country-specific results presented in this article need to be supplemented and validated by more small-scale qualitative research (such as in-depth interviews, focus-group discussions or case studies). If they are, they could be used to attract the attention of national governments and nongovernmental organizations to particular subgroups that still apparently have relatively high levels of unmet family planning needs, and to mobilize efforts to meet those needs.

APPENDIX

For the binary probit analysis, consider a sample of independent observations on i = 1....N individuals. The dependent variable for the ith individual is denoted Y_i and interpreted as a random variable, whereas the observed realizations are denoted y_i. Also given, for each of the individuals, is a (row) vector of covariates, X_i, with X_1 representing the intercept.

It is assumed that the dependent variable has only two possible states, Y_i E {0, 1}. Since it is a discrete variable, an ordinary regression approach is not appropriate. This is overcome by considering the probability distribution of Y_i. Since there are only two categories, and probabilities must add to unity, it is sufficient to consider only one of the two categories, for example Y_i=1 if y_i=1, otherwise Y_i=0. Choosing category 0 to be the reference category, the modeling approach is $Pr(Y_i=1|X_i)=*(X_i, ß)$, where * is a suitably chosen function depending on a parameter vector ß and a (row) vector of covariates, X_i. For each possible combination between the values of these covariates, the model implies an estimate of the probability that the dependent variable takes the value 1.

Function * can be specified in many different ways, each resulting in a different type of model. Here, the standard normal distribution function, $*(x)=(integral)^X_{-(infinity)} *(u)$ du, with $*(u)=exp(-1/2u^2)/(check)(2¼)$, is used to estimate the binary probit model $Pr(Y_i=1|X_i)=*(X_iß)$.

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*Women who become pregnant unintentionally because of contraceptive method failure are not considered to have an unmet need for family planning in general, although they may need more reliable contraception.

†The clause "at the latest" is typical for low-fertility countries where childbearing is delayed. But "at the earliest"would be an appropriate question to add to a possible FFS-II model questionnaire if this were to focus more on unmet family planning needs and other reproductive health aspects.

‡Both estimates might have come out higher if adjustments had been made for the number of respondents with unknown status. However, the assumption underlying a proportional adjustment procedure seems debatable.

§Lower is equivalent to a primary or incomplete secondary schooling; medium represents completed secondary or some postsecondary vocational training; and higher stands for academic training at the university undergraduate or graduate level.

**Of the 17 participating countries that had made individual-level data available for comparative research at the time of writing, only Belgium, Bulgaria, the Czech Republic, France, Hungary, Italy, Latvia, Lithuania, Slovenia and Spain had collected all—or nearly all—of the information necessary for an analysis of unmet need; none of the Scandinavian countries qualified. Minimum and maximum estimates given in Table 1 for Belgium and Lithuania are underestimates, in the sense that unmet need among currently pregnant women could not be assessed. However, because pregnancies are relatively rare in low-fertility countries, these underestimates are probably not too serious.

†_French FFS data on sexual activity do not result from a specific question on this issue, but rather from a question on reasons for not using any contraceptive method (for example, no sexual relationships).

‡_Modern methods of contraception include the pill, IUD, injectable, diaphragm and condom; periodic abstinence, withdrawal and folkloric methods are classified as traditional methods.

§§Male respondents in this category were not asked questions about current pregnancies.

*_†A coefficient of 0.2068 for Belgian men, for instance, means that if the probability of finding unmet need among the reference category of women is equal to e(intercept+0)=0.0595, then—all other things being equal—the corresponding probability for men is e(intercept + 0.2068)=0.0732, or $e^{0.2068}$=1.23, or 23% higher.