TITLE
Unwanted Family Planning: Prevalence Estimates for 56 Countries

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Unwanted Family Planning

AUTHOR NAMES
David Canning
Mahesh Karra

AUTHOR AFFILIATIONS
DC: Department of Global Health and Population, Harvard T.H. Chan School of Public Health, 665 Huntington Avenue, SPH I 1211, 12th Floor, Boston, MA 02115

MK: Frederick S. Pardee School of Global Studies, Boston University, 152 Bay State Road, Room G04C, Boston, MA 02215 (MK)b

CORRESPONDING AUTHOR
Mahesh Karra
Frederick S. Pardee School of Global Studies
Boston University
152 Bay State Road, Room G04C
Boston, MA 02215
mvkarra@bu.edu

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COMPETING INTERESTS
We declare that no competing interests exist, and all errors are our own.

DATA AVAILABILITY
All data that are used for this study are available for free download after registering with the DHS Program at http://dhsprogram.com/data/.

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Abstract

Background

The rights-based approach to reproductive health emphasizes that all people should have access to safe, effective, affordable, and acceptable methods of contraception of their choice. This raises the issue of the prevalence of discordance between women's desired and actual contraceptive use. While there is a large literature on the prevalence of unmet need for family planning among women around the world, there is no matching quantitative evidence on the prevalence of unwanted family planning; all contraceptive use is assumed to represent a "met need" by definition. This lack of evidence raises a concern that some observed contraceptive use may be undesired and coercive. Providing global estimates of the prevalence of unwanted family planning would serve to address this concern.

Methods

We use data on women's contraceptive use and fertility preferences from the most recently available Demographic and Health Surveys, giving us nationally representative samples of women of reproductive age in 56 low- and middle-income countries. Our analytic sample consists of data from 1,546,987 women in these countries between 2011 and 2019. We estimate the prevalence of unwanted family planning, defined as the proportion of women who say they want a child in the next 9 months but who are currently using contraception, as well as the contraceptive method mix being used by these women. We compare the contraceptive method mix for women with unwanted family planning with women with clearly wanted family planning, that is, they are using a contraceptive method and report they either want no more children or want to delay their subsequent birth by at least two years.

Findings

We find that 12.2 percent of women in our sample have an unmet need for family planning while 2.1 percent of women have unwanted family planning. The national prevalence of unwanted family planning use ranges from a low of 0.4 percent in the Gambia to a high of 7.1 percent in Jordan in 2018. Women with unwanted family planning are more likely to be using condoms, withdrawal, periodic abstinence, other traditional methods, emergency contraception, and the Standard Days Method and are less likely to be using pills, injectables, and implants, than women using wanted family planning. IUD use is similar in the two groups. About half of the unwanted family planning use can be attributed to condoms, withdrawal, and periodic abstinence. In Jordan, the method mix among women with unwanted family planning is predominantly withdrawal and IUD use. In contrast, unwanted family planning in South Africa can largely be attributed to condom use, which may be adopted to prevent the transmission of HIV but may also introduce a contraceptive effect for women who may desire to have a(nother) child.

Interpretation

Estimating the prevalence of unwanted family planning is difficult given current data collection efforts, which are not designed for this purpose. Our measure of unwanted family planning, which is based on the discordance between contraceptive use and a desire to have a birth soon (within 9 months), provides some indication of the prevalence of this issue. Some contraceptive use, such as condoms, may be used to prevent sexually transmitted diseases rather than just to avoid pregnancy, and the contraceptive effect may be unwanted. Unwanted contraceptive use may be due to a mismatch in fertility preferences between women and their partners, as evidenced by the high levels of male-specific method use in this group. The high levels of IUD use by women who want a child in the next

9 months in Jordan is a particular concern and may be due to either coercion or a lack of access to removal services. We recommend that future surveys probe the reasons for the use of family planning by women.

Introduction

The 1994 International Conference on Population and Development (ICPD) in Cairo marked a significant shift in the role of family planning and reproductive health within the global development agenda. The conference resulted in a pivot away from the prioritization of family planning for population control and towards an approach based on sexual and reproductive health and rights and women's empowerment (1,2). To this end, a fundamental outcome the conference, as stated in its Programme of Action, was a call for the global community to: 1) end target-driven and coercive family planning programs motivated by population control and; 2) recognize voluntary family planning and informed choice as fundamental human rights (3). More recently, the Guttmacher–Lancet Commission report on sexual and reproductive health and rights for all emphasized that while family planning programs can make an important contribution to the 2030 Agenda for Sustainable Development, they need to be carried out within a rights-based approach in which individuals are able to make decisions about their own sexual and reproductive lives, free from coercion (4). The rights-based approach to sexual and reproductive health has many dimensions, but at its core, it is centered on individuals having a right to choose for themselves.

The right to choose a family planning method can be denied to women due to lack of access to services and, in more extreme cases, by reproductive coercion, for example, through the sabotage of contraceptive methods (5,6). While the most widespread issue is women being denied the contraceptive method that they want, there are also examples of women being forced to use contraception when they do not wish to do so. In the past, there have been examples in family planning programs that have been extremely coercive, which has raised significant concerns (7), though the consensus in the field has been that these cases were outliers and that programs are now voluntary (8). While programs today usually respect sexual and reproductive rights in theory, there is a concern that targets and incentives for providers, combined with a paternalistic view that providers know what is best for women, may lead to a lack of autonomy and decision-making for women (9). Recently, there have been a number of small-sample qualitative studies that suggest that some contraceptive use is the result of coercion (6,10–13). Coercion in these studies has been identified through examples of biased counselling, misinformation by providers in informing clients on the benefits and side effects of methods, the refusal by providers to remove reversible long-acting methods such as IUDs, and, in some cases, the provision of clinical and long-acting methods without the woman's consent.

One approach to dealing with issues of coercion in family planning programs has been to have a system of reporting individual cases, followed by investigation and resolution (9). However, the power imbalance between providers and women, combined with the providers' information advantage over women on method use, may make it difficult for women to even report coercion. In addition, the independence of such a review system may be questionable in the worst cases if a program respects reproductive rights in theory but is designed to be coercive in practice. A more reliable method would therefore be to collect information on contraceptive coercion in nationally representative samples. At present, no such effort has been undertaken.

Current measures from representative surveys such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), do measure the met need (12,13), and the unmet need (14–16), for family planning. Both indicators have received considerable criticism both in terms of their conceptual foundations and operation in practice, and neither is designed to reflect a rights-based approach to family planning (17–20). In particular, all women using family planning are defined as having a met need. Women using contraception and want no more children (or who are sterilized and

not asked their fertility desires) are defined as having a met need for limiting, all other contraceptive users are defined as having a met need for spacing. This implies, for example, that the victims of forced sterilization will be counted as having a "met need for limiting". Women who want to become pregnant as soon as possible but are using family planning are defined as having a "met need for spacing". Both these categories of "met need" seem to be terminological inexactitudes.

An alternative approach is to construct measures based on contraceptive and reproductive autonomy (21–23). Recent work by Senderowicz (2020) presents a framework of contraceptive autonomy by highlighting the importance of concordance between desired and actual family planning in the form of either autonomous contraceptive use or autonomous non-use (24). Under this framework (presented in Figure 1), an individual's contraceptive (non-)use can be assessed against her preference for (not) using contraception, resulting in one of four possible outcomes: 1) autonomous contraceptive non-use (box A); 2) autonomous contraceptive use (box D); 3) unmet need for contraception (box C); or 4) unwanted contraceptive use (box B). Autonomous contraceptive use and autonomous contraceptive non-use both reflect contraceptive concordance, whereby individual preferences for contraceptive use or non-use are aligned with contraceptive behavior, resulting in a successful family planning outcome from a rights-based perspective. In contrast, discordance, which indicates a lack of autonomy, can be identified by a) individuals who express a preference for using contraception but are unable to do so, resulting in an unmet need for contraception, or b) individuals who are contraceptive users who express a preference for non-use, resulting in unwanted contraceptive use.

It is clear that the currently widely available measures of met and unmet need for family planning do not align precisely with the rights-based ideas of autonomous use, raising a concern that that some "met need" for family planning may be due to coercion (25,26). To date, however, empirical research on the unwanted use of family planning has been limited to a few small-scale qualitative studies (10,27). We address this lack of evidence in this study by estimating the prevalence of unwanted family planning using a large dataset from low- and middle-income countries. We propose a definition for estimating unwanted family planning based on use of contraception by women who want to have a child within the next 9 months. This idea of inferring unwanted contraceptive use from fertility preferences follows the approach used in measuring the unmet need for family planning, which measures women with an apparent discordance between a stated desire for limiting or spacing births coupled with a lack of contraceptive use. Once we have a measure of unwanted family planning use, removing these women from the observed contraceptive prevalence rate leaves us with a measure of concordant, or wanted, contraceptive use.

Fertility preferences are already incorporated into the definition of unmet need for family planning. Women who do not desire any more children and are not using family planning as defined as having an unmet need for limiting. Those who want another child, but want to wait at least two years before giving birth are defined as having an unmet need for spacing. We can use the same data to define women who want another child within the next nine months as having unwanted family planning.

There are two groups for whom wantedness of family planning use is unclear. The nationally representative surveys that we use do not ask women who are sterilized about their fertility preferences; these women are currently assumed to not want more children and are classified as having a met need for limiting. This classification implies than any coercive or unwanted sterilizations will not be detected using current survey methods. In addition, for women who are using a contraceptive method but report wanting to have a child in the next 10 to 23 months, wantedness of family planning

is unclear. Studies of fecundity have found that most couples who are trying to get pregnant are able to conceive within 6 to 12 months (29,30). This implies that most women who want to become pregnant within two years should not be using family planning, and it is difficult to reconcile the contraceptive use of these women with a need for family planning given their stated fertility preferences. Given the uncertainly involved in defining wantedness for these groups, we take them as have potentially wanted family planning. We therefore define the rate of wanted family planning as the difference between the contraceptive prevalence rate and the unwanted family planning rate, taking all "potentially wanted" family planning as wanted.

While our approach has the advantage of being measurable with current data, it does not align exactly with the notion of non-autonomous use; we will undercount cases of coercion where women do not want to have a child but still do not want to use contraception, say, for religious reasons. We may also overcount women who want to have a child soon but also want to use contraception, though, in this case, the woman's desire for contraceptive use is likely to be for non-family planning reasons, such as preventing the transmission of sexually transmitted disease; the contraceptive effect may therefore be unwanted. In addition, we only address overall concordance of contraceptive use and not the concordance between a woman's actual and desired contraceptive method.

Methods

Data and Analytic Sample

We combine data from the DHS surveys from 56 low- and middle-income countries between 2011 and 2019. When there are multiple DHS surveys within the period we use the most recent available survey. The DHS surveys are nationally representative cross-sectional surveys that cover a range of health topics (28). All surveys employ a two-stage cluster sampling design, stratifying by region and urban/rural residence, and randomly selecting clusters within each stratum, and interviewing about 20 to 30 women aged 15 to 49 in each cluster.

Unwanted Family Planning

We define the prevalence of unwanted family planning (UFP) as follows:

$$UFP = \frac{\text{Sexually active, fecund, women aged 15-49 currently using contraception who want another child within 9 months}}{\text{Sexually active, fecund, women aged 15-49}}$$

The denominator aims to capture the population of women who would be at risk of pregnancy and includes women who: 1) are either married or are in a sexual union; 2) report being sexually active; and 3) are fecund, and are therefore at risk of becoming pregnant. An advantage of this denominator in the definition is that it is the same denominator that is used for the calculating the unmet need for family planning (16), thereby making the two rates directly comparable.

In reviewing our definition, it is possible that women want to delay becoming pregnant in the immediate future but want to become pregnant later and still want to have a birth within the two-year window – this adds some uncertainty to defining when women's preferences for their next birth is considered to be "soon". For these reasons, we take a conservative view by focusing on women who are currently using a contraceptive method but who want to have a birth within 9 months. To be

complete, however, we also establish a measure of "potentially" wanted family planning (PWFP), which is defined as:

$$PWFP = \frac{\text{Sexually active, fecund, women aged 15-49 currently using contraception who are either not asked their fertility preferences or want another child within 10-23 months}}{\text{Sexually active, fecund, women aged 15-49}}$$

This prevalence measure captures the use of family planning among: 1) women whose reported fertility preferences fall in the "gray area" of wanting to delay becoming pregnant in the immediate future while still expressing a preference for having a birth within two years; and 2) women who were not asked their fertility preferences.

We define other contraceptive users, those who do not want any more children or who want to wait at least two years, as having definitely wanted family planning. This corresponds to those women who would have an unmet need for family planning if they were not using contraception. For simplicity, we place add women with "potentially" wanted family planning to those with definitely wanted family planning and count them as having wanted family planning when constructing estimates at the country level. However, it would be desirable to have better information on the preferences of these women.

Results

Data from this sample of 56 DHS surveys provide us with a pooled analytic sample of 1,582,757 women. Table 1 presents the sample distribution of the 56 countries and surveyed years that are used in our analysis. In DHS surveys, women who want another child are asked how long from the date of the interview they would like to wait before the birth of the next child.

Table 2 presents the recorded responses to two questions about fertility preferences among contraceptive users in our sample. Women who are sterilized are not asked about their fertility preferences. Other women are first asked if they would like to have another child, and then if they do want another child when they would like the birth to occur. We take all women who give an answer other than that they want more children as having wanted family planning, though as we have discussed this is problematic foe women who are not asked about their fertility preferences.

We find that 32.1 percent of contraceptive users in our sample say that want to have another child. These women are asked when they would like to have the next birth. We take responses of wanting a child "now" or "soon" together with a numeric response of wanting a child within the next 9 months to indicate unwanted family planning; 9.7 percent of women using contraception and who want to have a(nother) child say they want to have their (next) child "now", "soon", or within 9 months from the time of interview. An additional 12.7 percent of women want their (next) child within 24 months but more than 10 months from the time of interview. We take this group as having potentially wanted family planning.

We define those women who are sterilized and those women who want a child within the next 10 to 23 months to have potentially wanted family planning. All other responses are taken to be indicative of wanted family planning.

In the first part of Table 3, we apply the current approach to calculating the contraceptive prevalence rate and the unmet need for family planning to our sample. We also report the residual, comprised of those women whose non-use of family planning aligns with their desires to have another child in less than two years. We estimate a contraceptive prevalence rate of 33.7 percent and an unmet need for family planning of 12.2 percent in our sample using the standard definitions, leaving 54.1 percent of women to be defined as being concordant in their non-use of family planning. Our proposed new approach subdivides contraceptive prevalence into two categories. We estimate that 2.1 percent of women in the sample to have unwanted family planning. This implies a wanted contraceptive prevalence rate of 31.6 percent, which is the difference between the traditionally calculated contraceptive prevalence rate and the unwanted family planning rate. In this calculation, we include those women who might be classified as potentially wanted family planning users (15.8 percent of our sample) in the wanted family planning rate.

In addition to the estimate of the prevalence of unwanted family planning we also calculate the method mix being used by these women. Table 3 also shows that most women with unwanted family planning are using short acting modern methods, with small rates of unwanted family planning use among traditional method and long acting method users.

Table 4 presents detailed data on the method mix by fertility preferences in our analytic sample, comparing women with defiantly wanted family planning and who want to either limit or delay their next birth by at least two years in column (1) with the method mix among unwanted family planning users in column (2). We also report the difference in the rates between the two groups in column (3) and the p-value for this difference in column (4). We see that compared to women who want to limit or space for at least two years, women with unwanted family planning are much more likely to be using condoms, withdrawal, and periodic abstinence. These women are also less likely to be using injectables and implants, while IUD use is similar across the two groups.

We now turn to country-level estimates of unwanted family planning. Table 5 presents estimates at the country level; all estimates are weighted to make each sample representative of the national population in that surveyed year. We observe considerable variation in unwanted family planning rates across our sample of 56 countries, with rates ranging between 0.4 percent in the Gambia and 7.1 percent in Jordan. Figure 2 shows a map of the distribution of the unmet need for family planning across countries, while Figure 3 shows a similar map for the distribution of unwanted family planning across countries.

In Tables 6 and 7, we examine the cases of Jordan and South Africa, the two countries with the highest estimated rates of unwanted family planning, in more detail. Most unwanted family planning in Jordan can be attributed to withdrawal or IUD use, with smaller contributions from pills and condoms. The absolute number of users in national calculations are small, and it is difficult to determine if the contraceptive method mix is statistically different between those women who want to delay their next birth at least two years and those with unwanted family planning. In South Africa, we observe that unwanted family planning can largely be attributed to condom use, with less use of the two-month injectable, which is distinguished from the more common three-month injectable, among unwanted family planning users relative to wanted family planning users (Table 7).

Discussion

Limitations

Our study has several limitations. A major limitation to our analysis is that we rely on existing survey data rather than on data that is specifically collected with a rights-based perspective and approach in mind. As a result, we focus on concordance between a woman's contraceptive use and her fertility preferences rather than on her actual desire to use contraception. This is similar to the approach taken in the measurement of unmet need for family planning, and both approaches could be (and have been) criticized for not fully measuring desired contraceptive use (15,16). Another measurement concern is that the DHS surveys do not elicit fertility preferences from women who report being sterilized; these women are all reported as having a met need for limiting. Given the history of forced and coerced sterilizations of women worldwide (29), it is quite possible that some of these sterilizations were coercive and are not aligned with women's true fertility preferences. At present, we have no way of observing this potential discordance in the data; as a result, these women are currently counted as having (potentially) wanted family planning in our definition. Given that over half of all contraceptive users in our data are sterilized (Table 2), it may be more appropriate to treat sterilized women as a separate third category for whom their undocumented preferences currently reflect an ambiguous and potentially unwanted use of family planning.

An issue that we can currently say very little about is why there is unwanted family planning. In DHS surveys, women who indicate having an unmet need for family planning during the interview are subsequently queried as to why they are not using family planning, given their apparent need for contraception. This data has proved to be useful for understanding and developing policies and informing programs that address unmet need for family planning (30–32). At present, no follow-up questions are asked to women with unwanted family planning, thereby making it difficult for us to ascribe causes to this discordance, although our data on method mix is suggestive of possible determinants.

Within our approach, there are several points at which we could have made different decisions as to how we define unwanted family planning. For example, a case could be made for imposing the cutoff to be wanting the next birth in less than 24 months, which would directly parallel the current cutoff used to measure unmet need and would bifurcate the distribution of preferences cleanly into two groups. We have adopted a more conservative cutoff of 9 months. However, as Table 2 shows, 12.7 percent of women who are using contraception and who want another birth report a desire to delay their (subsequent) birth by 10 to 23 months. There is also an issue in how to treat non-numeric responses to the question eliciting a woman's desired timing of her (next) birth. We believe that it is reasonable to include "soon" and "now" to indicate unwanted family planning but have been conservative in treating all other non-numeric responses as being compatible with wanted family planning, which may therefore lead to an undercounting of unwanted family planning.

There are a number of potential concerns over measurement using reported responses to questions on fertility preferences. Rather than having well defined preferences, a significant proportion of women may be ambivalent about their fertility intentions (33), with many women reporting that they do not know when they want their next child. In addition, fertility preferences may not be stable over ever fairly short time intervals, complicating estimation and inference (33,34). These issues have been studied extensively in terms of using fertility preferences to measure the unmet need for family planning and unwanted fertility (35), and similar criticisms could be levied against our measure. There is a large literature on the conceptual underpinning and measurement of the unmet need for family planning that has led to the idea being refined over time (14,16,22). Given that our approach is the first attempt to quantify the prevalence of unwanted family planning, we expect that our proposed measure will be subject to future revision.

Conclusion

Conceptually, there are two possible violations of the rights-based approach to family planning and a lack of concordance between women's desired and actual use of family planning: 1) women who want to use contraception may not be able to do so; and 2) women may be using contraception when they do not want to use a method. The unmet need for family planning can be thought of as a measure of one type of discordance, while our proposed measure of unwanted family planning can be thought of as a complementary indicator for the other type of discordance. Quantitatively, we find the unmet need for family planning to be, by far, the larger problem, given its significantly higher prevalence. However, the estimates for unwanted family planning, as measured by our proposed approach, are not zero and are surprisingly high in a number of countries.

While the surveys that we use do not probe the reasons behind unwanted family planning, the method mix that we observe in our estimation offers some insight. The large-scale use of condoms, withdrawal, and periodic abstinence among unwanted family planning users, which are methods that involve male participation, is consistent with the idea that this contraceptive use may reflect men's fertility preferences and their demand for contraception rather than women's own preferences. Following the approach for measuring the unmet need for family planning, we take a woman's reported perspective on concordance of fertility preferences and contraceptive use. While we could have incorporated men's perspectives and fertility preferences, this approach would 1) raise the question of the extent to which taking a couple's perspective is indeed compatible with promoting women's autonomy and decision-making over her fertility and family planning use; and 2) introduce new subgroups of classifications of wantedness and unmet need when couples have discordant fertility preferences (36). The widespread use of condoms by women with unwanted family planning is also consistent with a desire to protect against HIV and other sexually transmitted diseases, while the contraceptive effect from this use may be unwanted. This may be particularly relevant in the case of countries like South Africa, where the HIV prevalence rate is high and where condom use is encouraged to prevent the spread of HIV. While the condom use may be desirable to prevent HIV, there may be a cost in the form of unwanted family planning among women who want to have a child soon, whereby the contraceptive effect of the condom may be unwanted.

Most worrying is the relatively large use of IUDs by women with unwanted family planning, particularly in Jordan, where it explains a large fraction of the high unwanted family planning rate. IUD use is a large part of the method mix in Jordan for women who defiantly want family planning. There are several qualitative studies finding that women in different settings have difficulty accessing removal services for long acting contraception (12,37,38), and this may be the explanation for the use of IUDs by women who want to have a new birth soon.

We recommend that future survey efforts and final reports present disaggregated statistics of contraceptive use by wantedness rather than defining all contraceptive users as having a "met need." We also recommend that women who are using contraception and who want to have to have a birth within the next 9 months, which is currently reported as having a met need for spacing, be reported as having unwanted family planning in future analyses. In addition to our proposed changes to reporting, we recommend that the DHS and other reproductive health surveys take greater steps to probe the extent of concordance in fertility preferences and contraceptive use so that our measurement and understanding of unwanted, and potentially wanted, family planning can be improved. First, women who report being sterilized should be followed up to determine if they did so voluntarily and if their inability to have children indeed reflects their fertility preferences. No available

DHS survey has elicited fertility preferences for sterilized women, and it is therefore not possible to calculate prevalence estimates of unwanted family planning for this subgroup; as a result, we are likely to be undercounting unwanted family planning. Secondly, when women who are using contraception report wanting to have a birth within the next 9 months, there should to be a follow up that identifies the reasons for their use. Quantifying the scale and reasons for this issue are a necessary first step in determining what policies are needed to rectify it.

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Figures and Tables

Table 1: Analytic Sample by DHS Survey and Year

Survey	Country Code	Country	Year	Sample
AF7	AF	Afghanistan	2015	29461
AL7	AL	Albania	2018	15000
AM7	AM	Armenia	2016	6116
AO7	AO	Angola	2016	14379
BD7	BD	Bangladesh	2018	20127
BF6	BF	Burkina Faso	2010	17087
BJ7	BJ	Benin	2018	15928
BU7	BU	Burundi	2017	17269
CD6	CD	Democratic Republic of the Congo	2014	18827
CG6	CG	Republic of the Congo	2012	10819
CI6	CI	Cote d'Ivoire	2012	10060
CM7	CM	Cameroon	2018	14677
CO7	CO	Colombia	2015	38718
DR6	DR	Dominican Republic	2013	9372
EG6	EG	Egypt	2014	21762
ET7	ET	Ethiopia	2016	15683
GA6	GA	Gabon	2012	8422
GH6	GH	Ghana	2014	9396
GM6	GM	Gambia	2013	10233
GN7	GN	Guinea	2018	10874
GU6	GU	Guatemala	2015	25914
HN6	HN	Honduras	2012	22757
HT7	HT	Haiti	2017	15513
IA5	IA	India	2016	699686
ID7	ID	Indonesia	2017	49627
JO7	JO	Jordan	2018	14689
KE6	KE	Kenya	2014	31079
KH6	KH	Cambodia	2014	17578
KM6	KM	Comoros	2012	5329
KY6	KY	Kyrgyz Republic	2012	8208
LB6	LB	Liberia	2013	9239
LS6	LS	Lesotho	2014	6621
ML7	ML	Mali	2018	10519
MV7	MV	Maldives	2017	7699
MW7	MW	Malawi	2016	24562
MZ6	MZ	Mozambique	2011	13745
NG7	NG	Nigeria	2018	41821
NI6	NI	Niger	2012	11160
NM6	NM	Namibia	2013	9176

NP7	NP	Nepal	2016	12862
PH7	PH	Philippines	2017	25074
PK7	PK	Pakistan	2018	12364
RW6	RW	Rwanda	2015	13497
SL7	SL	Sierra Leone	2019	15574
SN6	SN	Senegal	2011	15688
TD6	TD	Chad	2015	17719
TG6	TG	Togo	2014	9480
TJ6	TJ	Tajikistan	2012	9656
TL7	TL	East Timor	2016	12607
TR4	TR	Turkey	2013	9746
TZ7	TZ	Tanzania	2016	13266
UG7	UG	Uganda	2016	18506
YE6	YE	Yemen	2013	25434
ZA7	ZA	South Africa	2016	8514
ZM7	ZM	Zambia	2018	13683
ZW7	ZW	Zimbabwe	2015	9955

Table 2: Responses to wantedness and desired time to (next) birth among women who report wanting a(nother) child, among contraceptive users

	Response (%)	Definitely Wanted Family Planning	Potentially wanted Family Planning	Unwanted Family Planning
Panel A: Among all contraceptive users				
Question: "Would you like to have a(nother) child, or would you like to have no (more) children?"				
Wants no (more) children	24.9	X		
Wants (more) children	32.1		SEE BELOW	
Other	0.5	X		
Not asked	38.1		X	
Don't know / Missing	4.4	X		
Number of Observations	**528,899**			
Panel B: Among contraceptive users who want (more) children				
Question: "How long would you like to wait from now before the birth of (a/another) child?"				
Now / Soon	8.8			X
Numeric <= 9 months	0.9			X
10 months <= Numeric <= 23 months	12.7		X	
Numeric >= 24 months	67.7	X		
Other	6.4	X		
Don't Know / Missing	3.5	X		
Number of Observations	**132,087**			

Notes: In Panels A and B, Other includes "cannot get pregnant," "wants after marriage," and "other" responses. Response rates are unweighted.

Table 3: Concordance of Family Planning Use and Fertility Preferences, Analytic Sample

		Pct.
	Standard Approach	
	Met need for family planning (Contraceptive Prevalence)	33.7
	Unmet Need for Family Planning	12.2
	Residual – Concordant Non-Use	54.1
	New Approach	
	Wanted Contraceptive Prevalence	31.6
	(Potentially Wanted Family Planning: 15.8%)	
	Unwanted Family Planning	2.1
	Unmet Need for Family Planning	12.2
	Residual – Concordant Non-Use	54.1
Method Mix for Unwanted Family Planning		
	Unwanted Family Planning	2.1
	Traditional Methods	0.6
	Modern Methods	1.5
	Modern Short-Acting Methods	1.3
	Modern Long-Acting Methods	0.3
	N	**1,546,987**

Notes: Rates are for the full sample of women from 56 countries, unweighted. Unwanted Family Planning is defined as the proportion of sexually active, fecund women aged 15-49 who want to have a child within the next 9 months and who are currently using contraception. Modern short-acting modern methods include: pill, injectables, condoms (male, female), diaphragm, SDM, LAM, emergency contraception, and foam/jelly. Modern long-acting modern methods include: implants and IUDs. Traditional methods include periodic abstinence, withdrawal, and other traditional methods.

Table 4: Contraceptive Method Mix by Fertility Preferences, Analytic Sample

	(1) Definitely wanted family planning	(2) Unwanted family planning	(3) Difference (2) – (1)	(4) p-value
Modern Long-Acting				
Implants	0.085	0.057	-0.028***	0.000
IUD	0.064	0.063	-0.002	0.501
Modern Short-Acting				
Pill	0.197	0.188	-0.008**	0.027
Injectables	0.258	0.152	-0.106***	0.000
Male Condom	0.189	0.232	0.043***	0.000
LAM	0.019	0.015	-0.003***	0.009
SDM	0.003	0.004	0.001**	0.038
Other Modern Method	0.017	0.009	-0.009***	0.000
Traditional				
Periodic Abstinence	0.072	0.122	0.050***	0.000
Withdrawal	0.088	0.145	0.057***	0.000
Other Traditional Methods	0.007	0.009	0.003***	0.001
N	**89,356**	**12,845**		

Notes: $*** p < 0.01$, $** p < 0.05$, $* p < 0.1$. Methods with fewer than 100 observations in total between the two groups were therefore excluded. For this reason, Columns (1) and (2) do not sum up to 100 percent.
Definitely wanted family planning is use by women who say they do not want another child or if they want another child wish to wait at least two years. Unwanted family planning is use by women who say they want another child within 9 months (or now/soon). In contrast to the aggregate statistics that are presented in Table 3, we do not include "Don't Know" and missing observations as part of our definitely wanted family planning definition.

Table 5: Unmet Need and Unwanted Family Planning Use, by Country and Year

Country	Year	Unmet Need for Family Planning (%)	Contraceptive Prevalence Rate (%)	Wanted Family Planning (%)	Unwanted Family Planning (%)*					Potentially wanted Family Planning (%)****
					Any Method	Traditional	Modern	Modern Short-Acting**	Modern Long-Acting***	
Afghanistan	2015	23.4	21.9	20.9	1.0	0.2	0.8	0.7	0.1	5.2
Albania	2018	11.0	33.2	29.1	4.2	4.0	0.1	0.1	0.0	2.0
Armenia	2016	7.7	36.7	35.0	1.7	0.9	0.8	0.7	0.1	5.0
Angola	2016	24.3	13.3	11.5	1.8	0.2	1.7	1.6	0.0	1.7
Bangladesh	2018	10.4	58.3	57.2	1.1	0.2	0.9	0.9	0.0	11.2
Burkina Faso	2010	19.5	15.3	14.3	1.0	0.1	0.8	0.7	0.1	3.4
Benin	2018	24.9	14.4	12.9	1.5	0.4	1.2	0.7	0.4	2.8
Burundi	2017	16.0	17.9	16.8	1.1	0.2	0.9	0.6	0.3	2.5
Democratic Republic of the Congo	2014	20.0	19.3	18.0	1.3	0.9	0.4	0.4	0.0	4.4
Republic of the Congo	2012	12.6	44.3	39.2	5.1	3.3	1.8	1.8	0.0	8.2
Cote d'Ivoire	2012	21.9	19.7	17.9	1.9	1.1	0.7	0.7	0.0	3.6
Cameroon	2018	16.2	19.5	16.0	3.5	0.8	2.7	2.3	0.4	3.0
Colombia	2015	4.3	61.1	57.4	3.6	0.7	2.9	1.9	0.9	30.4
Dominican Republic	2013	7.9	55.1	51.8	3.3	0.5	2.8	2.5	0.3	35.3
Egypt	2014	9.4	55.0	53.4	1.7	0.1	1.6	0.7	0.9	6.7
Ethiopia	2016	14.0	25.3	23.8	1.5	0.1	1.4	1.1	0.4	4.8
Gabon	2012	18.8	33.6	30.6	3.0	1.1	1.9	1.9	0.0	6.3
Ghana	2014	19.2	22.8	21.1	1.7	0.7	1.0	0.8	0.2	4.6
Gambia	2013	16.7	7.1	6.8	0.4	0.1	0.3	0.3	0.0	2.1
Guinea	2018	16.0	11.8	8.9	2.9	0.0	2.9	2.3	0.6	1.4
Guatemala	2015	7.7	39.4	38.9	0.5	0.2	0.3	0.3	0.0	19.9
Honduras	2012	6.0	48.9	46.9	2.0	0.6	1.4	1.3	0.2	22.0
Haiti	2017	24.0	24.1	22.9	1.2	0.2	1.0	0.9	0.1	2.2
India	2016	9.0	40.8	38.2	2.6	0.9	1.7	1.5	0.2	29.9
Indonesia	2017	5.4	46.0	44.2	1.8	0.4	1.4	1.1	0.2	7.0
Jordan	2018	13.5	48.1	41.1	7.1	2.6	4.4	2.0	2.4	7.1
Kenya	2014	10.4	42.6	40.4	2.2	0.5	1.8	1.5	0.3	7.6
Cambodia	2014	1.0	38.5	37.1	1.5	0.6	0.8	0.7	0.1	6.1

Comoros	2012	20.0	13.7	12.8	0.9	0.3	0.6	0.5	0.1	1.8
Kyrgyz Republic	2012	11.8	24.4	23.2	1.2	0.3	0.9	0.3	0.6	5.8
Liberia	2013	25.2	21.7	21.2	0.6	0.2	0.4	0.3	0.0	1.5
Lesotho	2014	10.7	48.9	43.7	5.1	0.1	5.1	5.1	0.0	5.7
Mali	2018	19.8	16.2	13.2	3.0	0.2	2.8	1.4	1.5	3.1
Maldives	2017	22.4	13.3	12.3	1.1	0.5	0.6	0.6	0.0	5.1
Malawi	2016	12.8	46.0	44.2	1.8	0.1	1.7	1.4	0.4	12.8
Mozambique	2011	18.2	12.3	10.5	1.8	0.0	1.8	1.8	0.0	2.2
Nigeria	2018	13.8	14.3	12.0	2.3	0.9	1.4	1.0	0.4	2.2
Niger	2012	14.0	12.5	11.8	0.8	0.1	0.6	0.6	0.0	5.1
Namibia	2013	7.6	50.2	45.7	4.5	0.1	4.4	4.4	0.0	10.9
Nepal	2016	17.9	40.8	38.9	1.8	0.9	0.9	0.8	0.1	17.3
Philippines	2017	10.1	33.6	29.9	3.7	1.3	2.4	2.2	0.2	6.3
Pakistan	2018	16.4	33.1	31.1	2.0	0.7	1.3	1.1	0.1	12.1
Rwanda	2015	9.6	30.9	30.4	0.5	0.1	0.4	0.3	0.1	4.0
Sierra Leone	2019	19.0	24.3	21.8	2.5	0.1	2.4	1.6	0.8	2.1
Senegal	2011	19.9	9.6	8.6	1.0	0.1	0.9	0.7	0.1	1.6
Chad	2015	17.8	5.4	4.8	0.5	0.1	0.4	0.3	0.1	1.4
Togo	2014	24.4	19.3	17.8	1.5	0.4	1.1	1.0	0.1	3.1
Tajikistan	2012	15.6	18.9	17.8	1.1	0.2	0.9	0.4	0.5	2.0
East Timor	2016	13.7	16.1	13.0	3.0	0.3	2.8	2.2	0.6	2.6
Turkey	2013	5.5	51.0	47.6	3.4	1.7	1.7	1.2	0.5	12.2
Tanzania	2016	14.7	32.4	30.7	1.7	0.6	1.1	1.0	0.2	8.8
Uganda	2016	18.0	30.3	28.4	1.8	0.4	1.5	1.3	0.2	7.0
Yemen	2013	27.3	31.5	29.2	2.2	0.5	1.7	1.3	0.4	5.5
South Africa	2016	10.2	48.2	41.7	6.4	0.0	6.4	5.3	0.3	6.4
Zambia	2018	12.8	35.4	32.5	2.9	0.1	2.9	2.5	0.4	5.6
Zimbabwe	2015	6.3	48.6	44.8	3.8	0.2	3.6	3.1	0.5	8.1

*Defined as the proportion of women who want to have a child within the next 9 months and who are currently using FP. **According to DHS-IV and later, short-acting modern methods include: pill, injectables, condoms (male, female), diaphragm, SDM, LAM, emergency contraception, and foam/jelly. ***According to DHS-IV and later, long-acting modern methods include: implants and IUDs. **** Defined as the proportion of women who are currently using FP and who 1) want to have a child within the next 10 to 23 months, or 2) were never asked about their fertility preferences.
Notes: Summary statistics are weighted using DHS sampling weights at the survey (country-year) level.

Table 6: Method Mix by Wantedness among Contraceptive Users, Jordan

	(1) Definitely Wanted Family Planning	(2) Unwanted family planning)	(3) Difference (2) – (1)	(4) p-value
Modern Long-Acting				
Implants	0.004	0.001	-0.003	0.294
IUD	0.290	0.344	0.054	0.270
Modern Short-Acting				
Pill	0.190	0.135	-0.055*	0.057
Injectables	0.013	0.008	-0.005	0.658
Male Condom	0.106	0.102	-0.004	0.896
LAM	0.058	0.038	-0.02	0.259
Traditional				
Periodic Abstinence	0.017	0.008	-0.009	0.278
Withdrawal	0.319	0.362	0.043	0.369
N	**1,146**	**396**		

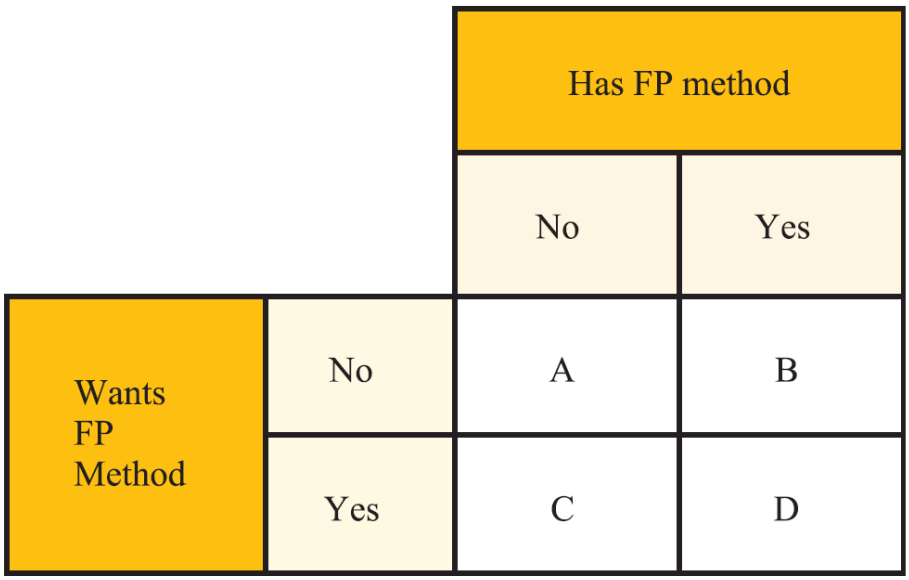
Notes: $***\, p < 0.01$, $**\, p < 0.05$, $*\, p < 0.1$. Weighted statistics are presented using DHS sampling weights at the survey (country-year) level. Some methods had too few observations to allow for a comparison between the two groups and were therefore excluded. For this reason, Columns (1) and (2) do not sum up to 100 percent. In contrast to the aggregate statistics that are presented in Table 3, we do not include "Don't Know" and missing observations as part of our definitely wanted family planning definition.

Table 7: Method Mix by Wantedness among Contraceptive Users, South Africa

	(1) Definitely Wanted Family Planning	(2) Unwanted family planning	(3) Difference (2) – (1)	(4) p-value
Modern Long-Acting				
Implants	0.078	0.046	-0.032	0.108
IUD	0.017	0.005	-0.012	0.177
Modern Short-Acting				
Pill	0.102	0.132	0.031	0.215
Injectables, 3-Month	0.280	0.269	-0.010	0.772
Injectables, 2-Month	0.224	0.128	-0.096***	0.002
Male Condom	0.271	0.406	0.135***	0.000
Female Condom	0.005	0.005	-0.001	0.926
Emergency Contraception	0.002	0.000	-0.002	0.543
Traditional				
Periodic Abstinence	0.003	0.000	-0.003	0.389
Withdrawal	0.019	0.009	-0.010	0.340
N	**590**	**219**		

Notes: $***\, p < 0.01$, $**\, p < 0.05$, $*\, p < 0.1$. Weighted statistics are presented using DHS sampling weights at the survey (country-year) level. Some methods had too few observations to allow for a comparison between the two groups and were therefore excluded from the table. For this reason, Columns (1) and (2) do not sum up to 100 percent. In contrast to the aggregate statistics that are presented in Table 3, we do not include "Don't Know" and missing observations as part of our definitely wanted family planning definition.

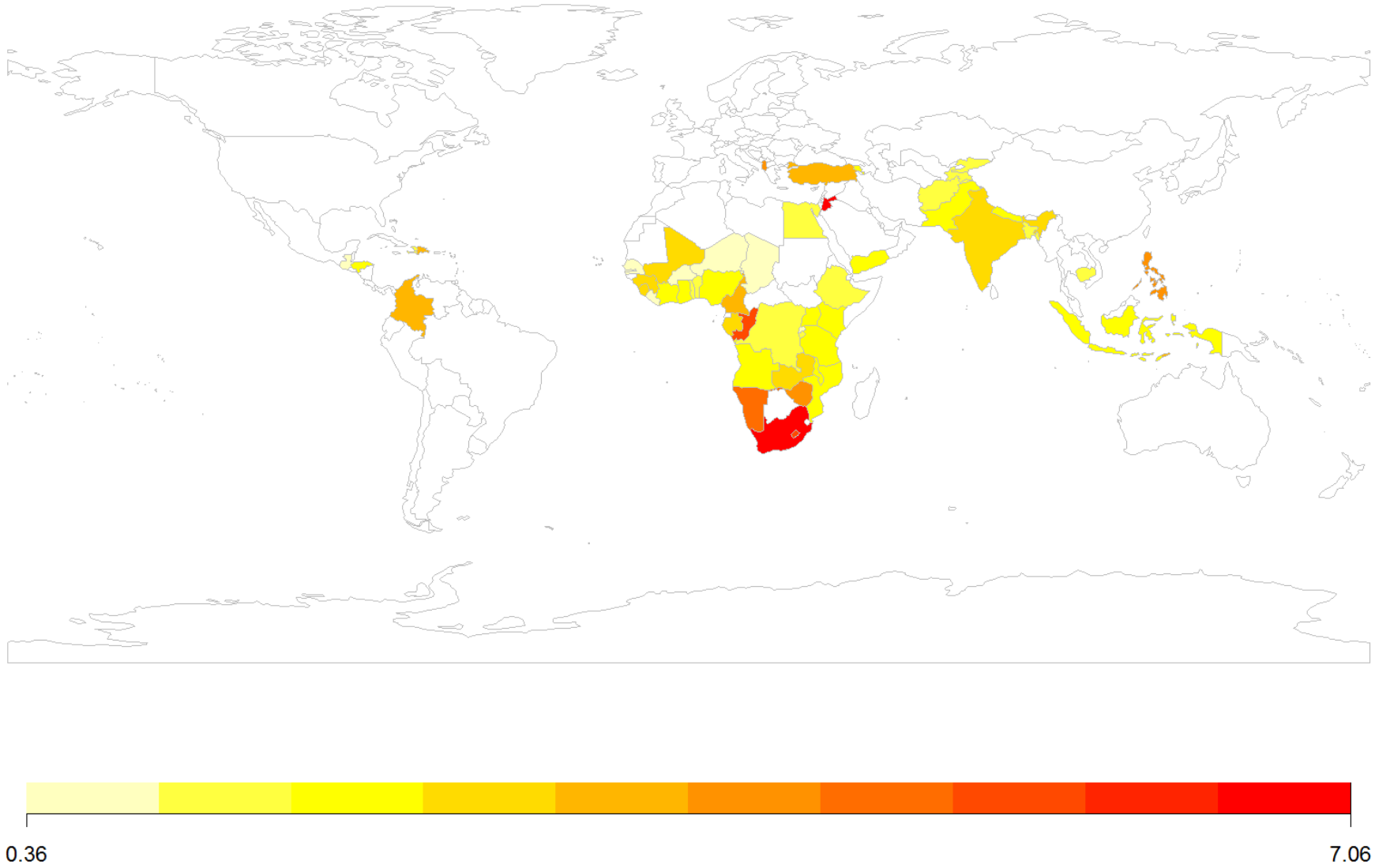
Figure 1: Contraceptive Autonomy Framework



Source: Senderowicz (2020).

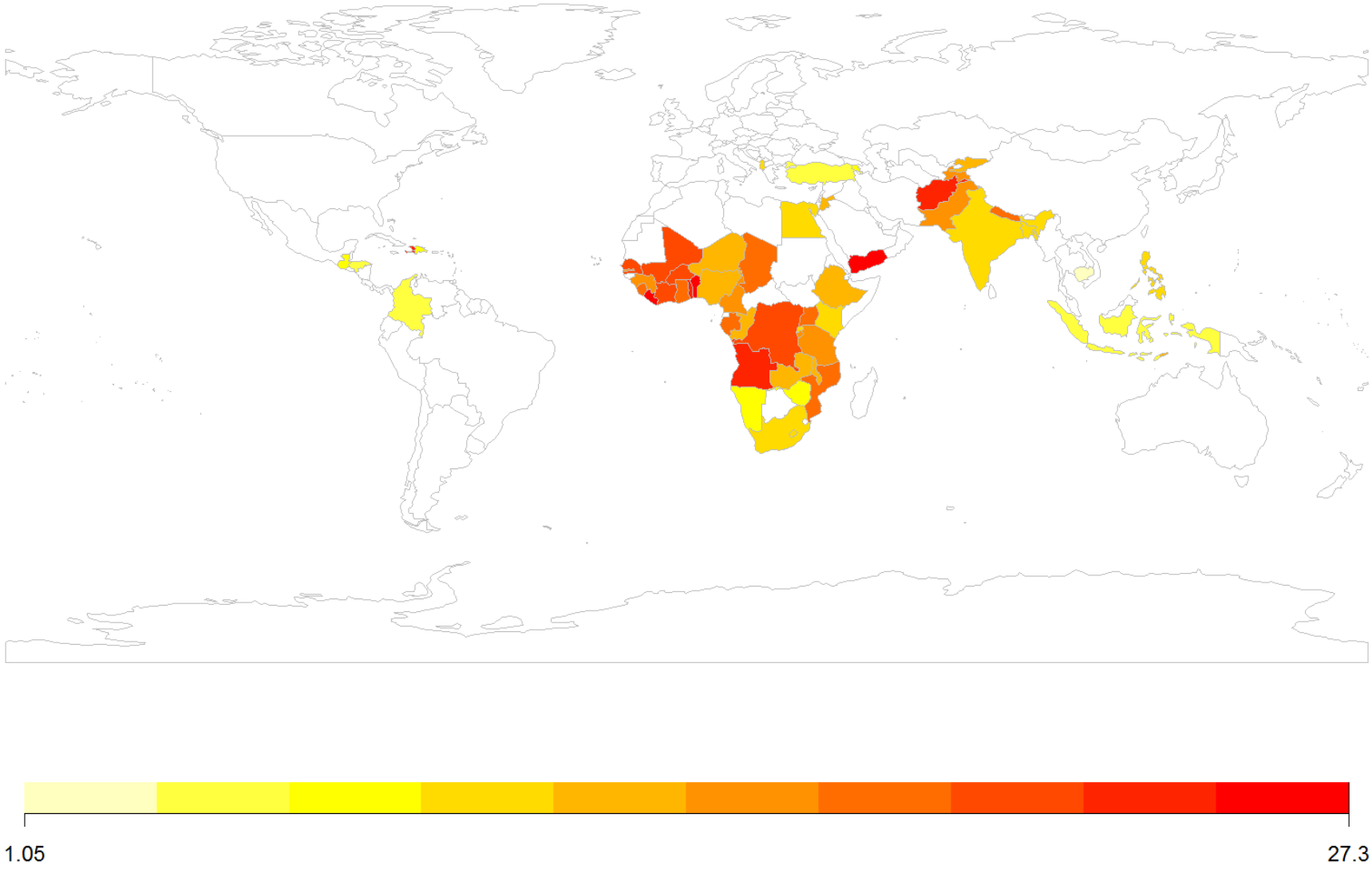
Notes: If we treat the boxed as containing the proportion of women of sexual active, fecund, women reproductive age in each category, we can consider the contractive prevalence rate as $B + D$ and the unmet need for family planning as an effort to measure C. The rate A can then be found as $A = 1 - (B + D) - C$. Our potentially wanted family planning measure is an effort to measure box B, which cannot be estimated form current data.

Figure 2: Global Map of Unwanted Family Planning Use (%)



Notes: Based on estimates that are presented in Table 3.

Figure 3: Global Map of Unmet Need for Family Planning (%)



Notes: Based on estimates that are presented in Table 3.