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# Potential Implications of the Ghana and Nepal Follow-Up Studies for DHS Questionnaires and Fieldwork Procedures



D H S   O C C A S I O N A L   P A P E R   N O .   1 1

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**Potential Implications of the Ghana and Nepal Follow-Up  
Studies for DHS Questionnaires and Fieldwork Procedures**

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## ABSTRACT

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Recent follow-up mixed-methods studies undertaken by The Demographic and Health Surveys (DHS) Program in Ghana and Nepal sought to better understand the reasons behind unmet need and barriers to contraceptive use. Both studies, the first of their kind at The DHS Program, re-interviewed a selected number of respondents from a parent DHS survey: the 2014 Ghana DHS and the 2016 Nepal DHS, respectively. As such, in addition to their substantive findings, these follow-up studies also provide unique insights into measurement issues, themes not well captured by existing questionnaires, and reflections on the DHS survey process that could potentially benefit future DHS questionnaires and fieldwork procedures.

The purpose of the project on which this report is based was threefold: first, to share the Ghana and Nepal studies with a technical review panel of DHS survey management and questionnaire experts, who may find ways to translate the studies into revisions of DHS questionnaires or fieldwork procedures; second, for the report authors to propose specific changes to DHS questionnaires and fieldwork procedures for the panel to review after reading both reports; and third, after meeting with the panel, to revise proposals, circulate a draft report to panel members for additional feedback, revise again, and then make our recommendations public.

This report contains eight proposals, four that earned support for possible inclusion in the DHS Woman's Questionnaire, and four that garnered varying levels of support for testing or inclusion in specific country contexts where the issue is relevant. The four potential additions to the core questionnaire are: ways to improve the accuracy of current family planning method reporting; questions about receipt of family planning counseling around the time of the most recent birth; questions to gauge proximal fertility intention concordance with partner—which sets the stage for potential fertility empowerment questions; and flags to indicate field estimation of ages and dates. The four proposals for inclusion in specific country contexts where the issue is relevant are: follow-up questions on fear of side effects and health concerns, questions about postabortion family planning counseling and use, questions to capture prolonged and postpartum abstinence as a method to regulate fertility risk, and questions about contraceptive preparedness during extended periods of marital abstinence. For each proposal, we provide a brief description of the issue it addresses, the proposal itself, panel discussion and feedback, advantages and disadvantages, and recommended next steps with policy and programmatic implications.



# 1 INTRODUCTION

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## 1.1 Objectives

The Demographic and Health Surveys (DHS) Program recently conducted two mixed-methods follow-up studies, one in Ghana on reasons for unmet need (Staveteig 2016, 2017) and one in Nepal on barriers to family planning use (Staveteig et al. 2018). In addition to producing substantive findings for policymakers about the topics they investigated, both studies, which reinterviewed a subsample of DHS respondents, offer unique insights into The DHS Program’s survey process, data quality, and important themes that are not well captured by existing DHS survey instruments. The purpose of the project that this paper summarizes is to explore the ways in which the follow-up studies in Ghana and Nepal could be used to improve The DHS Program’s core questionnaires and fieldwork procedures.

## 1.2 Background

### 1.2.1 Design of follow-up studies in Ghana and Nepal

Both follow-up studies used a sequential embedded design (Schatz 2012) to sample from within a nationally representative survey: in Ghana, the 2014 Ghana DHS (herein the GDHS), and in Nepal, the 2016 Nepal DHS (herein the NDHS). While embedded follow-up studies have been conducted in other types of household surveys, the mixed-methods design and sampling procedures used in the Ghana follow-up study were sufficiently unique to merit standalone publication (Staveteig et al. 2017). The Nepal follow-up study followed a similar methodology with a few key differences outlined below and detailed by Staveteig et al. (2018).

In brief, both studies were funded, planned, and fielded independently, but depended on sampling, data entry, and consent to follow-up gathered by the parent DHS survey. The follow-up study region (Nepal) or regions (Ghana) were preselected for reasons described in Staveteig (2016) and Staveteig et al. (2017; 2018). Within the preselected study region(s) we sampled clusters based in part on the timing of the main DHS fieldwork; our fieldwork schedule was shorter than the main survey, so a completely random selection would not have been possible. To keep a short fieldwork schedule and to relocate respondents in a timely manner, it was necessary to select from among the clusters that had just been completed. The other part of cluster selection was achieving geographic diversity in both countries and linguistic diversity in Ghana. The local survey firm worked with ICF and with DHS supervisors to select clusters, which ICF reviewed. Additional details on cluster selection for each follow-up study are described in their respective reports.

Ethical consent for both studies was obtained by the ICF Institutional Review Board, which requires compliance with the U.S. Department of Health and Human Services regulations for the protection of human subjects (45 CFR 46), as well as from local review boards and managers at the local DHS fieldwork agency. HIV testing was administered during the GDHS; given additional ethical considerations regarding the risk of respondent reidentification, identifying information and record linkages were scrambled after fieldwork and the only linkage remains at ICF headquarters.

In the selected DHS clusters (13 in Ghana, 17 in Nepal) a computer program was used to select a subsample of eligible respondents who had consented to be approached for a follow-up interview based on

predetermined criteria. In Ghana our target respondents were fecund and pregnant women with unmet need<sup>1</sup> as well as a random subsample of modern family planning users, excluding sterilization users,<sup>2</sup> who functioned as a quasi-experimental control group. In Nepal our target respondents were nonpregnant married women not using sterilization who either: had a period in the last 3 months, terminated a pregnancy in the last 3 months, were using a hormonal method of contraception, and/or gave birth in the past year.

In Ghana over 99% of GDHS respondents agreed to be re-contacted for a follow-up study nationwide, and in Nepal 98% of NDHS respondents in Province 1 agreed to be approached for a follow-up study. This initial consent did not necessarily translate into ease of respondent relocation—particularly in Ghana where the paper format of the GDHS necessitated a longer wait time between the main study and follow-up—nor did it mean that requesting a new interview was straightforward. Both study reports (Staveteig 2017; Staveteig et al. 2018) describe in depth some of the challenges involved in respondent relocation and consent, including that ethical restrictions prohibit DHS surveys from collecting phone numbers to re-contact respondents or GPS coordinates of the household. Beyond the address, name of respondent (Nepal), or name of and relation to the head of household (Ghana), both studies made use of exported information from the main DHS, such as month and year of birth, marital status, number of resident children, and whether ever given birth, to help verify identity. In total, 92% of respondents in Ghana and 90% of respondents in Nepal who were selected for follow-up were successfully relocated and reinterviewed, resulting in a sample size of 96 GHDS respondents in the Ghana study and 194 NDHS respondents in the Nepal study. Selected respondents who did not participate in the study included those who did not provide a sufficient amount of matching identifying information, those who were visiting at the time of the main survey and had left by the day of the follow-up interview, those who refused or whose husbands did not grant permission, and those who could not be reached at home after three follow-ups.

The GHDS used paper questionnaires but employed computer-assisted field editing (CAFE), which sped the process of data entry, but still required verification of data entry with the paper questionnaire at the home office, necessitating at a minimum of several days between fieldwork and follow-up. As a result, the average time between the GDHS and the follow-up study interviews was three weeks. The NDHS, on the other hand, was conducted digitally using computer-assisted personal interviewing (CAPI); while supervisors still reviewed data, no separate data entry was required. Follow-up interviewers were required to wait until the NDHS team departed the cluster, but could otherwise begin on the same day that NDHS fieldwork ended. The average time between interviews in Nepal was seven days.

Both follow-up studies were conducted on tablets, which enabled them to more easily make use of imported data from the original study to improve respondent reidentification (as mentioned above, matching on key characteristics) as well as to check responses to a few repeated questions from the parent DHS survey. These repeated questions were used both to determine new skip patterns and, to some extent, to assess data quality. In Ghana, the display of repeated information required interviewers to check for a match, but in

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<sup>1</sup> Fecund married and sexually active women who are not using contraception but who wish to postpone the next birth for two or more years or who wish to stop childbearing altogether, postpartum amenorrheic women whose most recent birth was unwanted or mistimed, and women who are pregnant with an unwanted or mistimed pregnancy are considered to have unmet need. See Bradley et al. (2012) for the complete definition. Postpartum amenorrheic women were excluded from the Ghana study.

<sup>2</sup> Sterilization users were excluded from both studies as there are no more remaining contraceptive decisions to make.



Nepal an improved CAPI design for follow-up only showed original responses if they contradicted new responses.

As mixed-methods studies, both the Ghana and Nepal follow-up study questionnaires (Staveteig 2017, 2018) asked respondents a combination of closed- and open-ended questions. At the start of each interview, respondents were asked for permission to record the audio of the exchange. All respondents in both studies consented to audio recording; these recordings were transcribed, translated into English, and passages were systematically coded both by question number and by theme into ATLAS.ti qualitative software. Analysis for both studies thus made use of these qualitative data as well as quantitative tablet data entry; in the Nepal study, advance permission was obtained to release tablet data. After obtaining standard NDHS dataset permissions, users may now download the Nepal tablet data (ICF and New ERA [Nepal] 2018) at no charge from The DHS Program's website.

### **1.2.2 Key findings from the Ghana follow-up study**

The Ghana follow-up study, which aimed to describe local meanings and lived experiences behind survey responses that produce the category of unmet need, investigated the reasons why Ghana, a country with regionally modest levels of fertility, recorded one of the highest levels of unmet need for family planning in sub-Saharan Africa in its 2008 DHS survey. Additionally, the study served to provide insight on DHS data quality and possible strategies to improve surveys. The follow-up study found substantial underreporting of traditional method use, and the intentional use of prolonged and postpartum abstinence as a method of family planning (Staveteig 2016, 2017), which are not explicitly counted as means to delay or avoid pregnancy in most standard surveys covering contraceptive use, including DHS surveys. Additionally, fertility preferences expressed by respondents were unstable even within a short time period; in several cases, respondents expressed a fertility preference upon follow-up that would have rendered them as having no need for family planning according to the standard definition of unmet need. Often this fertility ambivalence appeared to be driven by differing proximal fertility intentions between husband and wife.

Finally, opposition to modern contraception among respondents was more substantial than appeared in the DHS. Beyond a simple fear of side effects based on rumors, many respondents had themselves experienced side effects from hormonal methods, particularly menstrual disruption, which they perceived as a marker of or even a source of disease in the body. Religion had both a positive and negative influence on family planning use. Some respondents expressed a desire for greater accessibility of long-acting methods, including the intrauterine device (IUD) and sterilization. Partners' attitudes toward modern contraception had an important influence on contraceptive uptake, with a number of respondents perceiving their partner as a kind of gatekeeper for family planning use. Taken together, these responses suggest the central importance of women's empowerment to family planning uptake, to providing contraceptive messaging geared toward men, and to improving access to long-term methods nationwide.

### **1.2.3 Key findings from the Nepal follow-up study**

While the government of Nepal and outside donors have recently ramped up efforts to meet the demand for contraception in Nepal, unmet need for family planning increased from 2006 to 2011 (Ministry of Health and Population [Nepal], New ERA, and ICF International 2012). Temporary male migration appears to play a pivotal role in this phenomenon: the increase in unmet need occurred only among married women with nonresident husbands (Khanal et al. 2013). The Nepal follow-up study, which was designed after the

completion of the Ghana follow-up study, aimed to understand barriers to family planning uptake in Eastern Nepal, a region with high male migration. Additionally, the study sought to assess DHS data quality and to build on lessons learned for DHS surveys from the earlier Ghana follow-up study.

The follow-up study found that, in addition to the importance of spousal absence in contraceptive nonuse (and thus, unmet need), women tended to be poorly prepared for their husband's return, either not wanting a child soon but not having a contraceptive plan in place for his return, or planning to start a hormonal method only after he returned home (Staveteig et al. 2018). Cultural norms that dictate contraceptive use during a husband's absence signifies unfaithfulness appeared to play an important role in couples' lack of contraceptive preparedness. Despite almost universal knowledge of when their husband would be returning, among respondents with migrant husbands who did not want a/another child soon, 15% intended to wait until his arrival to discuss contraceptive plans, and another 30% planned to use a method but were either undecided about which method, undecided about when to start, or intended to start a hormonal method within 3 days or fewer of his arrival.

As in the Ghana study, fear of side effects and health concerns was frequently expressed in follow-up interviews, at a rate higher than in the parent survey. While personal experiences with modern methods and rumors from friends and relatives contributed to these fears, the primary source of concern about side effects appeared to be from women's husbands.

Using closed-ended probes, 20% of follow-up respondents agreed that it is difficult to obtain contraception and 17% perceived it to be expensive. Yet in discussions, it was clear that subtle access barriers such as limited operating hours and inconsistent staffing made it challenging for a much larger share of respondents to obtain their preferred method at the lowest cost. Government health posts, which provide free or very low-cost contraceptives, were difficult to access—sometimes requiring a day or more of walking each way—and when respondents did reach the clinic, they were frequently constrained by limited opening hours, unannounced closures, and, in some cases, method stockouts. Female Community Health Volunteers (FCHVs) improved coverage in remote areas by providing condoms, resupplying pills, and offering method and source advising, but at times women had to choose a less-preferred method because of availability. Respondents who were motivated to obtain contraception typically did anyway, by selecting a less-desired method or paying a higher price at a pharmacy to avoid these access challenges, but received virtually no counseling on method selection or side effects. Another somewhat subtle theme of many interviews was that pills, condoms, and injectables were perceived as the entire universe of short-term modern methods, suggesting lack of method diversity in many communities.

### **1.3 Project Procedure**

This project was about ways to improve DHS questionnaires and fieldwork procedures, but was designed to receive direct feedback from DHS experts, to solicit other ideas, and to build support for proposals within The DHS Program. As such, it was designed to be entirely internal to The DHS Program's staff. Under the guidance of management, we selected a panel of questionnaire and survey experts that includes both a current and a former DHS director, both of whom have expertise in survey management, experience with questionnaire revisions, and a large-scale perspective on DHS operations; a deputy manager who is both a survey expert and the primary questionnaire design manager, a survey manager who led the parent survey of one of the follow-up studies, a survey manager with expertise in survey innovation, and two survey

managers with a breadth of experience in different countries and an interest in improving DHS questionnaires.

Upon formation of the expert panel we circulated the two original reports, two additional journal articles, and the Nepal questionnaire for panelists to read 6 weeks before our main meeting. Then, based on the Nepal and Ghana studies, and on existing literature, we developed a set of proposals about how to improve DHS questionnaires and fieldwork procedures. These underwent initial feedback from a panelist and manager, after revisions we circulated these proposals to panelists a week before the panel meeting. The meeting was moderated by the DHS Senior Communications Advisor, with six panelists and both of us in attendance. A seventh panelist provided feedback remotely. Discussion was quite extensive, and we took detailed notes on panelists' feedback.

Following the panel discussion, most proposals were revised, a few were cut, comments from panelists were synthesized, and a synthesized report was drafted. The draft was circulated to three panelists for in-depth comments and to three panelists for summary comments on the concluding table; in some panel discussion sections we describe subsequent feedback received.

As mentioned in the acknowledgments, the opinions herein are those of the authors and not necessarily those of panelists or of other staff from The DHS Program who were involved in the project. Therefore, this report is written in the first person, using "us" and "we" to represent the opinions of the two report authors.

## **1.4 Notes and Report Structure**

One recurring issue in DHS is the relationship between questionnaire length and data quality. The current DHS-7 Woman's Questionnaire contains over 500 questions. While not all questions are administered to every woman, any proposal to add survey questions faces a major disadvantage of burdening an already overfull questionnaire. Our task was not to cut questions. However, in keeping with findings about the inverse relationship between questionnaire length and data quality discussed in Staveteig (2016), and the obvious respondent fatigue we encountered when trying to solicit an additional interview from respondents in both countries (Staveteig 2016; Staveteig et al. 2018), we aimed to be judicious about what additions to the core could have widespread utility and what other proposals might be better saved as possible supplements in appropriate contexts.

We have therefore divided our proposals into two groups: possible additions to the core questionnaire (Chapter 2), possible supplementary questions that the panel deemed may be useful in certain contexts but not universally applicable enough to be included in the DHS core Woman's Questionnaire (Chapter 3). For each proposal in Chapters 2 and 3, we describe the motivation, detail the proposal(s), discuss the advantages and disadvantages, summarize the feedback received internally from our panel, and discuss potential next steps. A thumbnail sketch of the issue, the proposal, discussion, next steps, and policy significance of all eight proposals is contained in our concluding chapter (Chapter 4).



## 2 POSSIBLE ADDITIONS TO THE DHS CORE WOMAN'S QUESTIONNAIRE

### 2.1 Questions to Improve the Accuracy of Family Planning Method Reporting

#### 2.1.1 Motivation

Both follow-up studies employed the standard DHS questions (Figure 1) about family planning use, but added simple prompts afterward about traditional method use. After prompting, 20% of GDHS nonusers in the Ghana study and 9% of NDHS nonusers in the Nepal study reported traditional method use, primarily the rhythm method in Ghana and withdrawal in Nepal (Staveteig 2017; Staveteig et al. 2018). Additionally, in Nepal, a prompt about lactational amenorrhea (LAM) found one additional user. When asked to explain the discrepancy between follow-up and their DHS response on method use, most respondents reported that they had understood the DHS question to be about modern or commodity-based method use only. Obtaining more accurate information about current method use is not only important in and of itself, it would also help donors and governments to spend their funds more wisely and would allow policymakers and program managers to focus their efforts more efficiently.

**Figure 1 Standard DHS-7 questions about current family planning use**

303	Are you or your partner currently doing something or using any method to delay or avoid getting pregnant?	YES ..... 1 NO ..... 2	→ 312
304 (4)	Which method are you using?  RECORD ALL MENTIONED.  IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B IUD ..... C INJECTABLES ..... D IMPLANTS ..... E PILL ..... F CONDOM ..... G FEMALE CONDOM ..... H EMERGENCY CONTRACEPTION ..... I STANDARD DAYS METHOD ..... J LACTATIONAL AMENORRHEA METHOD ..... K RHYTHM METHOD ..... L WITHDRAWAL ..... M OTHER MODERN METHOD ..... X OTHER TRADITIONAL METHOD ..... Y	→ 307 → 309 → 306 → 309

#### 2.1.2 Initial proposals

Based on the Ghana and Nepal follow-up studies, we developed two proposals to correct underreporting of method use for the expert review panel to consider.

##### Proposal 2.1a

After the standard DHS question sequence about family planning use (Figure 1), we proposed adding additional prompts for traditional and natural methods, using similar wording and logic as the prompts used

by the Nepal and Ghana<sup>3</sup> studies as shown in Figure 2 below. However, in most DHS surveys unmarried women are included, so the phrasing of question 203D would need to be changed.

We recommended that the resulting variable on family planning, inclusive of prompts, be included in the dataset, perhaps as variable v312a. This new composite variable would also be the primary basis for the main contraceptive prevalence (CPR) tables in DHS Reports (see Appendix Tables A.1 and A.2). We also proposed that a new standard table prior to contraceptive prevalence tables could be added to show current use by method type among all women, currently married women, and sexually active unmarried women before prompts (currently variable v312) and after prompts (new variable v312a). We recommended a column for either the percentage point difference between estimates (i.e., responses generated by the new probes) or for the percentage of women who reported a method upon probing, among those who initially declared themselves to be nonusers, by method type. By adding this separate table, DHS final reports would make it clear that contraceptive prevalence estimates and family planning method disaggregations are not fully backwards-compatible. Estimates of initial nonusers who reported method use upon follow-up could be added as an indicator to the DHS Application Programming Interface (API) and, by extension, to STATcompiler. These additional reports of method use could be valuable for researchers or policymakers analyzing surveys with contraceptive use questions similar to DHS who wanted to do model-based adjustments of method reporting. Such adjustments would be the decision of end users and not necessarily endorsed by The DHS Program. Depending on the demand for and interest in these metrics of additional contraceptive use reporting could be phased out at a later date.

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<sup>3</sup> The Ghana study did not include question 203C or 203D. Question 203C is about LAM, but postpartum amenorrheic women were excluded from the Ghana study. Question 203D, which is about sterilization, was not included as underreporting of sterilization was not hypothesized to be an issue in Ghana.

**Figure 2 Family planning use questions and probes from the Nepal follow-up study**

SECTION 2. FAMILY PLANNING USE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Thank you. Now, I would like to have a conversation with you. First I would like to talk to you about family planning—ways or methods that a couple can use to delay or avoid a pregnancy. I would like to confirm some information I have received. Are you or your (husband/partner) currently doing something or using any method to delay or avoid getting pregnant?	YES ..... 1 NO ..... 2	→ 203
202	Which method(s) are you using? (NAME ALL)  RECORD ALL MENTIONED.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B IUCD ..... C INJECTABLES ..... D IMPLANTS ..... E PILL ..... F CONDOM ..... G EMERGENCY CONTRACEPTION ..... I LACTATIONAL AMENORRHEA METHOD .... K RHYTHM METHOD ..... L WITHDRAWAL ..... M OTHER MODERN METHOD ..... X (SPECIFY)  OTHER TRADITIONAL ..... Y METHOD (SPECIFY)	→ 203E
	CAPI PROGRAM: CHECK IF USING BOTH RHYTHM AND WITHDRAWAL	YES, USING BOTH ..... 1 NO ..... 2	→ 203C
203	I would like you to know that I am also interested in learning about your use of natural or traditional methods.		
203A	IF NO TO 201 OR RHYTHM NOT MENTIONED: Are you currently using the calendar or rhythm method? By that, I mean to avoid pregnancy, women do not have sexual intercourse on the days of the month they might get pregnant.	YES ..... 1 NO ..... 2	
203B	IF NO TO 201 OR WITHDRAWAL NOT MENTIONED: Are you and your (husband/partner) currently using withdrawal? By that, I mean that men can be careful and pull out before climax.	YES ..... 1 NO ..... 2	
203C	IF NO TO 201 OR LAM NOT MENTIONED BUT LAST BIRTH WITHIN 6 MONTHS: Are you currently using the Lactational Amenorrhea Method? By that, I mean that up to six months after childbirth, before the menstrual period has returned, women use a method requiring frequent breastfeeding day and night.	YES ..... 1 NO ..... 2	
	CAPI PROGRAM: CHECK IF USING A METHOD	YES, USING A METHOD ..... 1 NO, NO METHOD ..... 2	→ 203F
203D	I also just want to confirm that you and your husband have never been sterilized? That is, neither of you have ever had an operation to prevent pregnancy?	YES, STERILIZED ..... 1 NO, NOT STERILIZED ..... 2	→ 204

## Proposal 2.1b

We proposed that, in lieu of specific prompts for traditional and natural methods, a second, more inclusive prompt could be added after the standard DHS question sequence (Figure 1), for women who have not reported any method use. This could be something along the lines of, “*Just to clarify, I am interested in all possible methods you and your partner may be currently using. That includes female or male sterilization, IUD, injectables, implants, pill, condom, female condom, emergency contraception, standard days method, lactational amenorrhea, the rhythm method, and withdrawal. Is it correct that you are not currently using any of these methods?*” The effects on dataset and tabulation plan would be similar as for proposal 2.1a, above.

### 2.1.3 Advantages and disadvantages

Improving reporting of traditional methods, LAM, and sterilization increases the accuracy of surveys, which is important in and of itself. In addition, researchers and policymakers interested in using DHS data to increase usage of family planning benefit from this additional information about the market of potential users. Approaching a traditional method user about modern family planning use is much different than approaching a nonuser. Increased accuracy is valuable for efforts to improve modern contraceptive uptake as well as better understanding method use—both traditional and modern—among women and girls.

Both types of additional probes maintain the existing DHS family planning use question sequence (Figure 1), thereby maintaining backwards compatibility. In other words, researchers could still use v312 in isolation, however analysts could also see the result of these probes to the question and make use of the new composite family planning variable, v312a.

An obvious downside of Proposal 2.1a was that there were no other specific prompts for any of the other family planning methods, and so this could potentially distort reporting of traditional/natural family planning relative to other methods. However, outside of one case of underreporting the pill in Nepal,<sup>4</sup> there was no real evidence in either follow-up study that modern, commodity-based methods were underreported. Hence, we believed that such additional probes would be unlikely to significantly distort method reporting.

Proposal 2.1b may elicit more information about family planning generally rather than just about traditional methods specifically. However, by not explaining the meaning of traditional methods (as in 2.1a) we may still miss respondents who are actually using these methods. In Nepal, since there was no local term for ‘withdrawal’, we found that by explaining each traditional method, women were better able to recognize the method as something that they used.

Also, with a general follow-up along the lines of proposal 2.1b, unlike the traditional method use prompts, we would not necessarily capture dual use because women reporting any method would be skipped out of the follow-up question.

Overall, there is a risk that any of these additional probes could be perceived by respondents, particularly those who have never had sex, as somewhat badgering, as perhaps they imply that the respondent really

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<sup>4</sup> The follow-up respondent stated that she had not reported the pill as a method of family planning in NDHS because she was on the iron pills the day of the interview (Staveteig et al. 2018).



*should* be reporting a method. We worked extensively with interviewers on tone for these types of discrepancy probes, namely that these questions should be posed as friendly, polite inquiries, and did not find any evidence that respondents made up method use just to satisfy the interviewer. Training on or discussion of tone for these questions would also be recommended for DHS interviewers.

Regardless of how additional prompting is done, we recommend that the new composite family planning variable (inclusive of prompts) be the basis for subsequent questionnaire skip patterns, for example, contraceptive calendar, reasons for nonuse, and so forth.

#### **2.1.4 Panel discussion and revised strategy**

The proposals to improve accuracy of family planning method reporting generated a lot of interest among the internal DHS panel of survey experts. Discussion initially centered around concerns that, in addition to traditional and natural methods of family planning, female sterilization may be underreported and deserves explicit prompting. Older women could have been sterilized years or decades ago and may not think about sterilization as a ‘current’ method to prevent or avoid pregnancy. We noted that while this may occur, the Nepal follow-up study, which excluded respondents who had reported female or male sterilization to the NDHS, included an explicit prompt about sterilization and did not find any additional respondents who reported that they or their partners were sterilized. However, the lack of evidence from 198 cases out of thousands should not be interpreted as meaning that it never occurs. The additional probe on sterilization from the Nepal study could be maintained, particularly in contexts where sterilization is common, but risks alienating unmarried women (marital status is not known until later in the survey). Panelists who have worked in countries where sterilization was common were nonetheless concerned that it is underreported.

Panelists also noted the concern that, in addition to rhythm and withdrawal, coitus-dependent methods can be easily underreported by respondents who are not using them on the day of the interview, including those who have intercourse infrequently or those whose husbands are away. Generally, ‘current use’ of a coitus-dependent method suggests use at last sex and intention to use at next sex, but it is unclear how respondents interpret these questions. Staveteig et al. (2018) discussed the particular difficulty in measuring ‘current use’ of a coitus-dependent method among women who are separated from their husbands for months or years at a time. Assuming she has no other sexual partners, is it sufficient that she and her husband used a method at last sex and intend to use it at next sex? If not, how should current use of a coitus-dependent method be defined?

As there was concern about underreporting of other methods besides natural and traditional methods, discussion quickly gravitated toward proposal 2.1b, to probe respondents on the entire list of methods rather than just traditional methods. However, panelists expressed concern that the entire list of methods would not truly be read, so then the order of the list would be important. Currently, in the contraceptive knowledge inventory in DHS, traditional methods are asked about last. The order could be reversed, but would there be a strong justification if sterilization (currently first) is also underreported? Furthermore, we pointed out that based on reports from interviewers and from our transcripts, simply mentioning the name of a traditional method was insufficient, as there were not necessarily local language terms for rhythm and withdrawal. Instead, it was only by explaining the meaning of the method that respondents could recognize it as what they are using.

Panelists knowledgeable about the history of DHS said that in the method knowledge table that precedes the standard sequence of questions on current use (Figure 3a), there were originally more columns. As Figure 3b illustrates, during DHS-I, for example, respondents were asked if they had ever used every method in the inventory, where they would obtain the method if desired, and what the main problem, if any, was with using the method (Demographic and Health Surveys 1987). Additionally, the interviewer recorded whether a “yes” response was spontaneous or after probing.

**Figure 3a Contraceptive knowledge inventory preceding DHS questions on family planning use in DHS-7**

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD)?		
01	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	YES ..... 1 NO ..... 2	
02	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	YES ..... 1 NO ..... 2	
03	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse which can prevent pregnancy for one or more years.	YES ..... 1 NO ..... 2	
04	Injectables. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES ..... 1 NO ..... 2	
05	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES ..... 1 NO ..... 2	
06	Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES ..... 1 NO ..... 2	
07	Condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	YES ..... 1 NO ..... 2	
08	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	YES ..... 1 NO ..... 2	
09 (1)	Emergency Contraception. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES ..... 1 NO ..... 2	
10 (2)	Standard Days Method. PROBE: A woman uses a string of colored beads to know the days she can get pregnant. On the days she can get pregnant, she uses a condom or does not have sexual intercourse.	YES ..... 1 NO ..... 2	
11 (3)	Lactational Amenorrhea Method (LAM). PROBE: Up to six months after childbirth, before the menstrual period has returned, women use a method requiring frequent breastfeeding day and night.	YES ..... 1 NO ..... 2	
12	Rhythm Method. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	YES ..... 1 NO ..... 2	
13	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES ..... 1 NO ..... 2	
14	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES, MODERN METHOD  _____ A (SPECIFY) YES, TRADITIONAL METHOD  _____ B (SPECIFY) NO ..... Y	

**Figure 3b Contraceptive knowledge inventory and additional questions preceding family planning use in DHS-I**

SECTION 3: CONTRACEPTION

301 Now I would like to talk about a different topic. There are various ways or methods that a couple can use to delay or avoid a pregnancy. Which of these ways or methods have you heard about? CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 303-305 BEFORE PROCEEDING TO THE NEXT METHOD.

	302 Have you ever heard of (METHOD)?* READ DESCRIPTION.	303 Have you ever used (METHOD)?	304 Where would you go to obtain (METHOD) if you wanted to use it? (CODES BELOW)	305 In your opinion, what is the main problem, if any, with using (METHOD)? (CODES BELOW)
01] PILL Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
02] IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
03] INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
04] DIAPHRAGM/FOAM/JELLY Women can place a sponge, suppository, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
05] CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
06] FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
07] MALE STERILIZATION Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	OTHER <input type="checkbox"/> <input type="checkbox"/>	OTHER <input type="checkbox"/> <input type="checkbox"/>
08] PERIODIC ABSTINENCE Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	Where would you go to obtain advice on periodic abstinence? <input type="checkbox"/> <input type="checkbox"/> OTHER _____	OTHER <input type="checkbox"/> <input type="checkbox"/>

Moving into DHS-III, as survey writers sought to reduce the size of the questionnaire, only the question on ever use was retained for each method, the spontaneous versus probed ‘yes’ remained, but all other additional information was dropped (Macro International 1995a, 1995b). By DHS-IV, differentiation between a spontaneous or probed ‘yes’ answer was dropped (ORC Macro 2001a, 2001b). The question on ever use in the knowledge inventory persisted through DHS-5 (Figure 3c). By DHS-6, according to panelists, it was felt that these data were not being used widely and the ‘ever use’ questions were dropped. Panelists proposed that adding ‘ever use’ questions back into the contraceptive knowledge inventory, as in Figure 3c, would be a good way to address the multiple possible types of method use underreporting. Women, once having identified themselves as ‘ever users’ of sterilization, would surely then be current users, and women who identified themselves as ever using a traditional, natural, or coitus-dependent method would likely be more inclined to realize these are methods being asked about by DHS and include their use in reporting of a current method. Other panelists liked this idea, as it would prompt respondents to think more critically about the contraceptive knowledge questions rather than just go through them quickly. In a short time, panelists seemed to reach consensus that adding an ‘ever use’ column into the knowledge inventory as in DHS-5 would help address the underreporting of traditional methods, natural methods, and possibly of coitus-dependent methods and sterilization.

**Figure 3c Contraceptive knowledge inventory and additional questions preceding family planning use in DHS-V**

SECTION 3. CONTRACEPTION

301	<p>Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.</p> <p>Which ways or methods have you heard about? (1) FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)?</p> <p>CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.</p>	302 Have you ever used (METHOD)?	
01	<p>FEMALE STERILIZATION Women can have an operation to avoid having any more children.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>Have you ever had an operation to avoid having any more children? YES ..... 1 NO ..... 2</p>
02	<p>MALE STERILIZATION Men can have an operation to avoid having any more children.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>Have you ever had a partner who had an operation to avoid having any more children? YES ..... 1 NO ..... 2</p>
03	<p>PILL Women can take a pill every day to avoid becoming pregnant.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
04	<p>IUD Women can have a loop or coil placed inside them by a doctor or a nurse.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
05	<p>INJECTABLES Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
06	<p>IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
07	<p>CONDOM Men can put a rubber sheath on their penis before sexual intercourse.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
08	<p>FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
09	<p>LACTATIONAL AMENORRHEA METHOD (LAM) (2)</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
10	<p>RHYTHM METHOD Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
11	<p>WITHDRAWAL Men can be careful and pull out before climax.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
12	<p>EMERGENCY CONTRACEPTION As an emergency measure after unprotected sexual intercourse, women can take special pills at any time within five days to prevent pregnancy.</p>	<p>YES ..... 1 NO ..... 2 ↘</p>	<p>YES ..... 1 NO ..... 2</p>
13	<p>Have you heard of any other ways or methods that women or men can use to avoid pregnancy?</p>	<p>YES ..... 1  _____ (SPECIFY)  _____ (SPECIFY) NO ..... 2</p>	<p>YES ..... 1 NO ..... 2  YES ..... 1 NO ..... 2</p>

### **2.1.5 Next steps**

After discussions with the expert panel, we believe reintroducing an ‘ever use’ column to the contraceptive knowledge inventory could be valuable, but we note that there is no evidence as of yet to show that this reduces underreporting of, for example, traditional methods. We propose that the DHS-5 style ever use questions (Figure 3c) be pilot tested during the knowledge inventory with additional prompts afterward, as in the Ghana and Nepal surveys (Figure 2), to ensure that the knowledge inventory is correcting the apparent underreporting of traditional methods. An ideal pilot location would be Central and West Africa, where evidence from other studies also indicates that traditional family planning methods are underreported (Rossier, Senderowicz, and Soura 2014). A pilot of the ever-use inventory compared with probes on sterilization questions could also be piloted in a country with high levels of sterilization, such as those in South Asia (United Nations, Department of Economic and Social Affairs, and Population Division 2015).

If the pilot shows that the knowledge inventory questions provide successful correction of method underreporting, then adding an inventory of ‘ever use’ back into the contraceptive knowledge section of the questionnaire would have beneficial spillover effects of potentially improving the completeness of the DHS contraceptive calendar, and of providing additional data about women’s method preference outside of the window covered by the contraceptive calendar. In particular, the ever-use inventory could help gauge the extent to which some women and couples have an apparent preference for traditional methods despite their lower efficacy (Gebreselassie et al. 2017; Johnson-Hanks 2002; Staveteig 2017; Staveteig et al. 2018) by examining how many traditional method users have ever used a modern method, and which type(s). Naturally, skip patterns into the current DHS questions would need to be adjusted so that women who state never having used a method would not be asked about current use.

While our original proposals faced the challenge of backwards compatibility, as they obtained additional responses to current use with probes, an ‘ever use’ inventory eliminates measurement of backwards compatibility. Instead, it would be desirable to add a table in final DHS reports on ever use by background characteristics as was present in earlier DHS surveys (Appendix Table A.3).

## **2.2 Questions about Family Planning Counseling around the Time of the Most Recent Birth**

### **2.2.1 Motivation**

Optimal birth spacing has been proven to be extremely important for the health of the mother, baby, and family (Ahmed et al. 2012; Conde-Agudelo, Rosas-Bermudez, and Kafury-Goeta 2006; Rutstein 2005; World Health Organization 2013). In particular, it reduces the risk of maternal and child mortality (Ahmed et al. 2012; Rutstein 2005; Stover and Ross 2010), helps protect the health of other young children in the family, and has a number of other benefits (Conde-Agudelo et al. 2012). The period surrounding childbirth is a critical time to reach women with counseling about the importance of birth spacing and the means of doing so (Cleland, Shah, and Daniele 2015; World Health Organization 2013). In tandem with the NDHS, the follow-up study in Nepal found that, despite very clear government policies on counseling women after a birth, less than half of women who had given birth in the past five years said that they had received any information about the importance of birth spacing from any source, and even fewer had received information about the means to do so (Staveteig et al. 2018). Nationwide, when asked about family planning method counseling by the most qualified provider of postnatal care, only 13% of women who had recently given birth said that they received such counseling (Ministry of Health [Nepal], New ERA, and ICF 2017).

The core DHS-7 Woman's Questionnaire asks, for the most recent live birth in the past five years, about the content of antenatal (ANC) counseling, postnatal counseling, and post-birth checkups (ICF International 2015). With the exception of a few surveys where specific probes on family planning during maternal care were added, DHS surveys do not ask about counseling on birth spacing or on family planning method use.

### **2.2.2 Proposal**

We proposed to add specific questions on birth spacing counseling and on family planning method counseling to the existing questions about the content of antenatal and postnatal care. The 2016 NDHS provides a good example of how these questions can be added to the standard DHS sequence on postnatal care. As Figure 4a shows, in NDHS question 437a, women who gave birth in a health facility and received a postnatal check on their care were asked, after the standard question about provider type, whether the provider discussed family planning with them. Women who did not give birth in a health facility but did receive a postnatal checkup were also asked if they were counseled on birth spacing or ways to avoid pregnancy (Figure 4b).

**Figure 4a Postnatal family planning counseling question asked of women who gave birth in a health facility in the 2016 NDHS**

434I	CHECK 430: PLACE OF DELIVERY	<p>CODE 11, 12, OR 96 <input type="checkbox"/> OTHER <input type="checkbox"/></p> <p>CIRCLED</p> <p>(SKIP TO 448A) ←</p>						
435	<p>I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health while you were still in the facility?</p>	<p>YES ..... 1</p> <p>NO ..... 2</p> <p>(SKIP TO 438) ←</p>						
436	<p>How long after delivery did the first check take place?</p> <p>IF LESS THAN ONE DAY, RECORD HOURS; IF LESS THAN ONE WEEK, RECORD DAYS.</p>	<p>HOURS ..... 1 <table border="1" data-bbox="1133 646 1273 701"><tr><td></td><td></td></tr></table></p> <p>DAYS ..... 2 <table border="1" data-bbox="1133 701 1273 756"><tr><td></td><td></td></tr></table></p> <p>WEEKS ..... 3 <table border="1" data-bbox="1133 756 1273 810"><tr><td></td><td></td></tr></table></p> <p>DON'T KNOW ..... 998</p>						
437	<p>Who checked on your health at that time?</p> <p>PROBE FOR MOST QUALIFIED PERSON.</p>	<p>HEALTH PERSONNEL</p> <p>DOCTOR ..... 11</p> <p>NURSE/MIDWIFE ..... 12</p> <p>HEALTH ASST./</p> <p>AHW ..... 13</p> <p>MCH WORKER ..... 14</p> <p>VHW ..... 15</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH</p> <p>ATTENDANT ..... 21</p> <p>FCHV ..... 22</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>						
437A	<p>Did this person talk to you about using a family planning method?</p>	<p>YES ..... 1</p> <p>NO ..... 2</p> <p>DON'T KNOW ..... 8</p>						



**Figure 4b Postnatal family planning counseling question asked of women who did not give birth in a health facility, 2016 NDHS**

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH	
		NAME	
451	Who checked on your health at that time?  PROBE FOR MOST QUALIFIED PERSON.	<b>HEALTH PERSONNEL</b> DOCTOR ..... 11 NURSE/MIDWIFE ..... 12 HEALTH ASST./ AHW ..... 13 MCH WORKER ..... 14 VHW ..... 15  <b>OTHER PERSON</b> TRADITIONAL BIRTH ATTENDANT ..... 21 FCHV ..... 22  OTHER ..... 96 (SPECIFY)	
451A	Did this person talk to you about using a family planning method?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8	

Given the importance of family planning counseling during antenatal care (Hodgins et al. 2016; USAID 2018; World Health Organization 2016), which helps women and couples to have a specific post-birth contraceptive strategy, we recommended that women also be asked about family planning counseling during antenatal care. Specifically, we recommended that, during the standard DHS-7 question about the components of antenatal care received (Figure 5), women be asked whether a provider discussed the importance of birth spacing and specific methods to avoid pregnancy after the birth. Such a question would aid assessments of the level of integration between antenatal care and family planning counseling, as well as the effect of antenatal counseling about birth spacing and contraceptive methods on postpartum family planning use.

**Figure 5 DHS-7 question on components of antenatal care**

413	As part of your antenatal care during this pregnancy, were any of the following done at least once:		YES	NO
		a) Was your blood pressure measured?	a) BP ..... 1	2
		b) Did you give a urine sample?	b) URINE ..... 1	2
		c) Did you give a blood sample?	c) BLOOD ..... 1	2

### 2.2.3 Advantages and disadvantages

As stated, birth spacing is crucial for the health of the mother, baby, and other siblings in the household. Antenatal and postnatal counseling on family planning methods tend to increase postpartum family planning use, which helps ensure safe birth spacing (Cleland, Shah, and Daniele 2015). There is some complexity to measuring family planning method counseling around the time of birth. In a few cases in Nepal, at least one follow-up respondent reported that when she was advised about the importance of birth spacing, she informed the provider that she knew all about this and was not counseled further; in other

words, the provider likely intended to counsel on specific methods but was stopped from doing so. However, this scenario is expected to be uncommon.

Despite an already full questionnaire, adding measures of family planning counseling during antenatal and postnatal health care is important because the data can be linked to the contraceptive calendar and to information on postpartum abstinence to test whether counseling is associated with practices of postpartum abstinence or postpartum family planning. In other words, these data can be used to test whether stated guidelines are used in practice, and to answer the questions, “Did having the most qualified healthcare provider (and if so, which type of provider) suggest a specific family planning method before or immediately after the time of birth relate to uptake of postpartum family planning, net of other factors? If so, did provider type or timing matter?” Additionally, in countries with postnatal IUD insertion programs or specific postnatal counseling guidelines, monitoring how effectively these guidelines are followed will be of particular importance to policymakers.

While the antenatal family planning counseling questions ask about content of care during any postnatal visit and thus encompass a range of providers, a disadvantage of the postnatal family planning questions is that they only apply to the most qualified provider who provided postnatal care (see instructions to interviewer in Figures 4a and 4b). During the Nepal follow-up studies, where we asked general questions on whether anyone provided postnatal counseling on family planning methods, we found that women who were counseled on family planning use were typically counseled by a nurse, midwife, FCHV, or family member, either because they were not seen by someone more qualified or, as a handful of respondents explained, doctors are too busy to spend any time with them. It is possible that an additional general question about whether the respondent was counseled on family planning during the first few days or weeks after birth from any provider would be helpful, but it would also add complexity and length to the questionnaire and provide little information on the context in which this information was received.

#### **2.2.4 Panel discussion**

Panelists thought postnatal questions were important to policymakers and have the advantage of already being used successfully in certain country questionnaires, including Nepal and the Philippines. Some panelists noted that a new maternal health module intends to include questions on postnatal family planning counseling, but that these questions could also be considered for the core questionnaire. Panelists recommend some consideration to adapting these questions to country-specific circumstances, for example in situations where there are no guidelines on family planning counseling before or after birth. A probe on which methods were discussed would add specificity, but would pose some recall challenges and likely overburden the questionnaire. Family planning counseling during antenatal care was not explicitly discussed, but subsequent manuscript reviews by panelists indicated support for this idea.

#### **2.2.5 Next steps**

We recommend questions about antenatal and postnatal counseling on family planning method use be added to the next revision of the DHS-8 core questionnaire. If desired, counseling on family planning during antenatal care could be pretested alongside a separate item about counseling on birth spacing—i.e., the motivation for using family planning. Alternately, a question on family planning method counseling during antenatal care could be added and would likely not need pretesting, as its counterpart questions on counseling during postnatal care have already been fielded successfully. Some countries with specific antenatal and postnatal counseling programs may want to include a follow-up question about which specific

method(s) were suggested, but this would likely overburden the core questionnaire. As discussed, to determine whether any postnatal care provider besides the most qualified one provided family planning, counseling could be added in specific circumstances, but will likely require additional follow-ups on provider type and context. Hence, we only recommend the two or three specific questions discussed above.

Note that we anticipate some ambiguity about providers recommending postpartum abstinence, a specific means to avoid pregnancy and common recommendation in the Nepal follow-up study, but a method that is not currently recognized by DHS as a means of family planning. We recommend instructions to interviewers about whether, if the woman was told to not have sex for a certain period after giving birth, it would be counted as method counseling.

The added question on antenatal counseling could be included in DHS survey final reports under the components of antenatal care (see Appendix Table A.4) and for postnatal counseling could be included as a separate table after the table about provider type for postnatal checkup (Appendix Table A.5). We suggest the table include the percentage counseled on a family planning method by each type of provider.

## **2.3 Questions to Gauge Proximal Fertility Intention Concordance with Partner**

### **2.3.1 Motivation**

The DHS-7 Woman's Questionnaire includes new questions to measure women's role in decisionmaking about family planning. While this is an important measure, fertility preferences typically precede the decision of whether to use family planning and thus are essential to understanding reproductive empowerment. In the Ghana study, we found that ambivalent fertility preferences underlying some cases of unmet need were frequently tied to the fact that the woman believed that she and her husband had different desires for another child and for timing of the next birth. In other words, women's nonuse of family planning despite declaring an intention to have no more children anytime soon (i.e., unmet need) was frequently linked to conflicting proximal fertility preferences and to her deference to her husband's fertility preferences. In many cultures, men are more pronatalist than women (Doepke and Tertilt 2018; Gebreselassie 2008), so reproductive empowerment can be an important precursor to family planning use. In the Nepal follow-up study, while there was greater perceived concordance in fertility intentions, it was clear that women's perception of their husband's proximal fertility preferences was frequently an important aspect of their decisionmaking around family planning.

If a woman is subject to her husband's desire for more children while she, herself, does not want more children, this dynamic increases the pressure to not use family planning. A husband who wants more children soon may discourage or even actively try to prevent his wife from using family planning (Miller et al. 2014; John and Edmeades 2018; Moshia, Ruben, and Kakoko 2013). In these cases, women's empowerment is an important aspect of their decision whether to use family planning. Understanding women's perception of whether and when their partner wants a/another birth is an important element of understanding their contraceptive empowerment. Currently, we only know from the DHS Woman's Questionnaire whether a woman thinks that her husband/partner wants more or fewer children than she does, not whether he wants one sooner or later than her. In combination with new questions on family planning decisionmaking, data on women's perceptions of their partner's proximal fertility intentions would be valuable.

### 2.3.2 Proposal

Assessing women’s participation in reproductive decisionmaking is complex, as both partners may have similar proximal fertility preferences (in which case presumably few to no decisions need to be made), or may have widely divergent views. We considered different ways of asking women about how involved they are in the decision about whether and when to have more children, but potentially similar or differing answers at the most basic level (whether to have a/another) combined with potentially differing timeframes make participation in reproductive decisionmaking difficult to measure; moreover, such a measure assumes both partners plan in concrete timeframes and communicate with each other about their preferences.

We ultimately decided to propose a set of questions that would measure proximal fertility concordance, to which a question on reproductive decisionmaking could later be added if desired. Currently, the DHS Woman’s Questionnaire includes a question to women in union about whether her husband or partner wants the same number of children as she wants, more, or fewer (Figure 6). This gauge of his ideal number of children relative to hers is not commonly used and not useful for programmatic purposes. A woman’s husband may want more or fewer children than she does, and yet still want her to delay, start, or resume childbearing.

**Figure 6 DHS-7 question on women’s perception of their partner’s desired number of children relative to their own**

822	Does your (husband/partner) want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER ..... 1 MORE CHILDREN ..... 2 FEWER CHILDREN ..... 3 DONT KNOW ..... 8
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We proposed replacing the question about women’s perceptions of their husband’s relative desired family size with a question about women’s perceptions of their husband’s proximal fertility preference. The question could be asked at the same point in the questionnaire as above, or during the section on fertility preferences where women are asked whether their husband wants more, the same, or fewer children than they do. The question would be phrased separately for pregnant and nonpregnant women following the structure used by DHS Woman’s Questionnaire questions about a respondent’s proximal fertility preferences (Figure 7).

We proposed that for pregnant women, the question about their husband’s proximal fertility preferences be asked as “*After the child you are expecting now, do you think your husband/partner wants another child or does he prefer not to have any more children?*” If he wants another, the question on timing would say “*After the birth of the child you are expecting now, how long do you think your husband/partner would like to wait before the birth of another child?*” For nonpregnant women the question sequence could be phrased as “*Do you think your husband would like to have (a/another) child or would he prefer not to have any more children?*” and, if she thinks he wants a/another child, then “*How long do you think he would like to wait from now before the birth of (a/another) child?*”

**Figure 7 DHS-7 questions on women’s proximal fertility preferences**

801	CHECK 304:  NEITHER <input type="checkbox"/> STERILIZED ↓	HE OR SHE <input type="checkbox"/> STERILIZED →	813
802	CHECK 226:  PREGNANT <input type="checkbox"/> ↓	NOT PREGNANT <input type="checkbox"/> OR UNSURE →	804
803	Now I have some questions about the future. After the child you are expecting now , w ould you like to have another child, or w ould you prefer not to have any more children?	HAVE ANOTHER CHILD ..... 1 NO MORE ..... 2 UNDECIDED/DONT KNOW ..... 8	→ 805 → 812
804	Now I have some questions about the future. Would you like to have (a/another) child, or w ould you prefer not to have any (more) children?	HAVE (A/ANOTHER) CHILD ..... 1 NO MORE/NONE ..... 2 SAYS SHE CAN'T GET PREGNANT ..... 3 UNDECIDED/DONT KNOW ..... 8	→ 807 → 813 → 811
805	CHECK 226:  NOT PREGNANT <input type="checkbox"/> OR UNSURE ↓	PREGNANT <input type="checkbox"/> ↓	
	a) How long w ould you like to w ait from now before the birth of (a/another) child?	b) After the birth of the child you are expecting now , how long w ould you like to w ait before the birth of another child?	
		MONTHS ..... 1	<input type="checkbox"/>
		YEARS ..... 2	<input type="checkbox"/>
		SOON/NOW ..... 993	→ 811
		SAYS SHE CAN'T GET PREGNANT ..... 994	→ 813
		AFTER MARRIAGE .....995	
		OTHER ..... 996	→ 811
		(SPECIFY)	
		DONT KNOW ..... 998	

### 2.3.3 Advantages and disadvantages

As discussed, women’s empowerment with regards to fertility preferences is, in many ways, central to their empowerment with regard to family planning use or nonuse. Substituting a question on women’s perceptions of their husband or partner’s proximal fertility intentions would enable a better understanding of the relationship between empowerment around fertility intentions and family planning, for example, an analysis of the relationship between proximal fertility intention concordance, reproductive empowerment, and family planning use. A better understanding of this relationship can help policymakers gauge how to design health programs and interventions with reproductive empowerment in mind. Health providers, for instance, can adapt their prevention and treatment services with better screening efforts and referral services to help women retain increased reproductive autonomy.

Of note, as many respondents in both follow-up studies were uncertain about the timing of their own fertility preferences, or explained these as contingent, it is substantially more likely that there will be uncertainty around the degree and timing of their husband’s fertility preferences. Yet perfect accuracy is not the goal; to the extent that women consider their husband’s preferences, they consider what they know of his preferences.

As with other proposals, these questions have the downside of adding to an already full questionnaire. Additionally, they may prove more challenging to answer than most questions, adding to the cognitive burden of the questionnaire.

### **2.3.4 Panel discussion**

One panelist dislikes all fertility intention questions, including the above. Other panelists were skeptical about the idea of asking women their impressions of their husband's proximal fertility preferences. They stated that the question to women on their partner's desired number of children (Figure 6) is a holdover from when the DHS interviewed only women, and questions on women's perceptions of their husband's fertility preferences were redundant with what is already asked in the men's questionnaire. However, we noted (and others discussed) that not all men are administered the questionnaire: if men's interviews are conducted, they are typically a subsample; not all partners are live-in partners; men have lower response rates than women; in countries with extensive male labor migration, male partners of respondents cannot be reached; and so forth. Moreover, the woman's perception of her partner's preference arguably has a greater effect on her decisionmaking than the preference he would state to an interviewer, if he is interviewed.

### **2.3.5 Next steps**

We propose that that questions on women's impressions of their husbands' or partners' proximal fertility intentions be tested, either during an upcoming DHS survey or as a pilot followed by cognitive interviews, to discern how well respondents understand and feel comfortable answering these questions. The degree of concordance with what men themselves (when applicable) respond would be interesting to note. Moreover, these questions on a woman's impression of her husband's proximal fertility preferences set the stage for a set of more case-appropriate questions about women's involvement in reproductive decisionmaking. For example, a different question could be asked if she perceives that they disagree at the most basic level of preference (whether to have a/another child), if they disagree only in terms of timing, if they are fairly concordant or agree completely, and so forth.

If these questions are substituted for the existing question on husband's fertility preferences in the DHS-8 core questionnaire, we recommend that in Final Reports following the existing table on women's and men's fertility preferences by number of children (Appendix Table A.6), a new table comparing women's fertility intentions against their perceptions of their husband's/partner's intentions could be added.

## **2.4 Flags to Indicate Field Estimation of Ages and Dates**

### **2.4.1 Motivation**

Accurate ages and dates of birth are foundational to the computation of nearly every major indicator based on DHS data. Incomplete and inaccurate data on ages and dates of birth of respondents and children result in incorrect measurement of key demographic and health indicators such as infant and child mortality, the total fertility rate, teenage pregnancy and motherhood, demand satisfied among young women, child nutrition, anthropometric measurements such as height-for-age and weight-for-age, and so forth. The DHS Program has worked diligently to obtain accurate information on age and date of birth from respondents, including the establishment of several field estimation procedures for unknown ages and dates of birth. When respondents do not know both their age and date of birth outright, interviewers may use one piece of information to estimate the other, but they may also check identity cards, estimate based on ages at key life events and time since that event, use a historical events calendar to narrow down dates, determine their age relative to someone else in the household with a known date of birth, or—as a last resort—estimate the respondent's age themselves. Such procedures are of particular importance in countries and areas where

innumeracy is prevalent and vital recordkeeping is deficient. More details are provided about these procedures by Pullum and Staveteig (2017), who find that while the quality of DHS data on ages and dates has improved over time, inconsistencies remain.

Currently, if respondents do not know their age and date of birth, or provide inconsistent pieces of information, interviewers are instructed to attempt to establish an estimate through other means. For example, they may ask the respondent for an identity card (and in doing so, they are advised to check with the respondent about the veracity of the date printed on the card). When both age and date of birth are unknown, interviewers are instructed to reference respondent's age at certain life events (for example, birth of first child) and number of years ago the event took place, to relate their age to someone in the household whose age is more reliably known, or to use the local and/or national historical events calendar they received during training. At times, respondents will ask a nearby relative who knows their date of birth reliably. Interviewers may also use multiple methods to help narrow down a likely age.

The DHS Program provides flags in the dataset to indicate whether data processors had to impute age, year of birth, and/or month of birth based on incomplete information. However, one key finding from the Ghana follow-up study is that the majority of age and date estimation took place in the field, in ways that some follow-up respondents could not even recall, and thus analysts lack valuable information about the extent to which ages and dates were stated outright or estimated using other information (Staveteig 2016).

## 2.4.2 Proposal

For respondent's age, year of birth, month of birth, and children's dates of birth, we proposed that interviewers indicate whether the age or date provided was stated outright or estimated in the field, and the means used to do so. Note the importance of separating flags for year of birth and month of birth, as respondents may state outright one piece of information such as year but may not have any idea about the other. Our recommended options to indicate field estimation were:

- (a) the respondent stated the item outright
- (b) for adult respondents: age was computed based on date of birth/year of birth was estimated using age
- (c) the respondent obtained this information from an identity card or document (that the interviewer verified) or, as sometimes happens, from a relative
- (d) the interviewer obtained the item from the household questionnaire
- (e) the respondent did not know this information, so the interviewer helped them estimate (based on an historical calendar, season, or date of or age at key life events plus time since then, or relative to someone else in the household)
- (f) age was estimated without any concrete information<sup>5</sup>

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<sup>5</sup> According to the DHS interviewer's manual (ICF 2017), this strategy should only be used after all other options are exhausted.

If desired, similar flags could be added for dates of key life events, such as date of first marriage/cohabitation.

### **2.4.3 Advantages and disadvantages**

While these field estimation flags might add a few seconds to overall interview length, we believe they could help improve data quality simply by making interviewers cognizant of the type of field estimation they are doing. Anecdotes from survey managers indicate that, despite the best possible training, some interviewers take shortcuts in the field and compute age based on date of birth immediately, for example. Assuming these flags are filled out accurately—an assumption, to be sure, although some independent auditing could be done on tablets based on number of seconds spent answering the question—these flags could also be used by DHS fieldwork supervisors to help monitor data quality and interviewer performance. In Ghana, 7% of mixed-methods study respondents could not provide a year of birth upon follow-up, but all were shown in the GDHS dataset as having provided complete age and date of birth information. Most of these respondents did not have an identity card available and were uncertain how their year of birth could have been obtained by the interviewer. Additionally, research by Pullum and Staveteig (2017) found evidence of overcorrection of ages and dates in countries where prior survey rounds had shown substantial evidence of age heaping; having to indicate how they obtained the respondent’s age and date of birth may remind them to guard against overcorrection.

When a date of birth or an age is recorded in the dataset as complete, analysts have little choice except to use it literally. Researchers would benefit from knowledge of which ages and dates of birth had been estimated in the field, and how this was done to improve the accuracy of their confidence bounds on key indicators such as infant and child mortality or demand for modern methods satisfied among adolescents. For example, researchers could simulate likely margins of error around stated dates of birth and around different types of field-estimated dates of birth, and use alternate scenarios to test the sensitivity of their estimate to these margins of error. Applications to other ages and dates recorded in the questionnaire, particularly to the birth history, would be valuable to analysts for the same reasons. Importantly, field supervisors would also benefit from field check tables of these age and date flags, which could be used to monitor which interviewers appear to be doing an unusually low or high amount of field estimation.

### **2.4.4 Panel discussion**

While there was initial reluctance to place any additional burdens on interviewers and concerns about the utility of such information, after discussion and explanation most panelists seemed to think that some kind of flag could be valuable. They remarked that the reality is that despite clear instructions that DHS interviewers ask respondents for their age directly (ICF 2017), some interviewers will compute based on date of birth and in other contexts may default to a complicated formula to sum of ages at a key demographic event or events (for example, age at menarche, how many years later she married, how many years after that she gave birth, and how old the child is). It would be useful to keep track of how widespread this practice is. However, several panelists were concerned that the number of categories proposed would be overly burdensome for interviewers. We discussed a simplified three-category flag to indicate whether the respondent’s date of birth was stated outright, estimated from the accompanying piece of information, such as an ID card or a reliable source, or derived in some other way. There was near consensus that simplified flags could be valuable and not overly burdensome.



At least one panelist was opposed to adding these flags to children's ages because it would be too burdensome for interviewers. Another suggested that for children these flags be used only for births in the past five years, as these dates are the only ones relevant for most key indicators, including infant and child mortality. Otherwise, most panelists suggested piloting at least a simplified flag for respondents in an upcoming DHS survey, and including the flag in internal DHS field check tables.

#### **2.4.5 Next steps**

We recommend piloting a flag for interviewers to indicate field estimation of ages and dates in an upcoming DHS survey. Potentially during the fieldwork pilot stage some interviewers could be asked the simplified flag for respondents and for children born in the past five years, others a more detailed flag, and survey managers could receive feedback about the burden of each type of flag and then determine whether to proceed with a detailed or simplified flag of respondent's age, year of birth, month of birth, and possibly children's dates of birth during fieldwork.

As this flag for age and date estimation would not affect the questionnaire and could improve the quality of data collection and monitoring of interviewers, we anticipate that it should not be too difficult to find a country that would allow this pilot. If implemented, flags may benefit survey managers who track data quality throughout the course of fieldwork.

The flags for age and date estimation would naturally be included in the datasets accompanying release of the final report. In terms of presenting results in final DHS reports, we recommend that immediately before or after the standard DHS Appendix Table on Completeness of Reporting (Appendix Table A.7), a table could be added to indicate what percentage of ages and dates of birth were stated outright or computed in some other way, as well as what percentage were imputed during data processing (a variable that already exists in the dataset but is not tabulated in final reports). Such a table, and the inclusion of these flags in the DHS API/StatCompiler, would be valuable summary information for readers as well as valuable data for analysts.



## 3 POSSIBLE SUPPLEMENTAL QUESTIONS

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### 3.1 Follow-up Questions on Fear of Side Effects/Health Concerns

#### 3.1.1 Motivation

Fear of side effects is the most commonly cited reason for contraceptive nonuse in DHS surveys in Africa, Latin America, and the Caribbean, and the second most common reason in Asia (Sedgh and Hussain 2014). While DHS data on reasons for nonuse are valuable to researchers and policymakers, the ‘fear of side effects’ category is so frequently cited and so broad as to be difficult to interpret. Policymakers and program implementers could benefit from knowing whether fear of side effects is based on rumors, secondhand information, information shared by a health provider during a consultation, and/or personal experience as they develop messaging and design programs (Castle and Askew 2015; Hindin, McGough, and Adanu 2014; Sedgh and Hussain 2014).

#### 3.1.2 Proposals

We proposed that if the woman replies to Q810 that she is not using a method due to side effects or health concerns, then additional probes be added. First, a general probe along the lines of “*What is the main reason you came to believe that you cannot use contraception due to side effects or health concerns?*” In other words, are these side effects that she herself has experienced, things that she has heard about in the form of secondhand information, something her partner believes, advice from her mother or mother-in-law (Char, Saavala, and Kulmala 2010), generalized rumors (along the lines of “all hormonal methods prevent women from giving birth afterward”), or has she been warned away from modern methods by health providers or community health workers?

Based on the response to this probe about the main reason why she believes that there are side effects or health concerns with contraceptives, we recommended three additional follow-ups:

- If she herself has experienced these side effects, we suggested that a question be included about which of the methods she has mentioned using in her lifetime had she experienced these side effects. Note that if proposal 2.1 on ‘ever use’ is accepted, then in a CAPI survey the interviewer could select from a list of the methods she reported ever using, but in a paper survey, cross-referencing methods ever used could be somewhat difficult for the interviewer.
- If the information is secondhand, something her partner believes, or based on general rumors, it would be valuable to know from whom this information is coming: partner/husband, mother or mother-in-law, other family member, friend, health care provider. The source of the information is particularly valuable when cross-referenced against new DHS-7 questions on the decisionmaker for family planning.
- If—as occasionally was the case in Ghana and Nepal—she cites a medical provider or community health volunteer as having warned her away from contraception due to side effects, a probe on provider type would likely be valuable.

### **3.1.3 Advantages and disadvantages**

In addition to the common downside of adding a new set of questions to an already very long questionnaire, the complexity of responses is a possible downside to this proposal. For example, women may have different side effect concerns about different methods, and it may not be possible to summarize the nuances cleanly in a quantitative survey such as the DHS.

However, we believe that these additional questions could yield valuable additional information. In Nepal, and to some extent in Ghana, when we probed about side effects as a reason for not using a method, we learned that this reason was frequently due to the husband's strongly held views and her deference to those views; hence, women's lack of reproductive empowerment was an important factor in unmet need. These additional probes would enable analysis of the source of these concerns in tandem with new data about contraceptive decisionmaking. In Ghana, the perception in the literature was that women were basing their fear of side effects on rumors, but we found that often women themselves had used a single method with side effects and that experience, *combined* with rumors, led them to extrapolate that all modern methods, or all hormonal modern methods, were unusable. And, in both countries, we found instances where doctors and community health volunteers had recommended the respondent use a traditional method to avoid side effects of modern methods or reduced fecundability from injectables. Hence, information provided by these probes can be used to identify issues with different types of provider training and to improve contraceptive messaging and counter myths, both for women and men.

### **3.1.4 Panel discussion**

The panel had a diversity of viewpoints about this proposal. Some panelists thought that it would be difficult for interviewers to categorize the likely wide range of spontaneous responses to the general probe, which might go into very specific or complex circumstances. Another panelist thought that if respondents reported having personally experienced side effects, we would want to know from which methods and which types of side effects they experienced, which could dramatically increase length and complexity. We noted that if the experience with side effects happened in the last five years, it might be better to capture it through a follow-up during the contraceptive calendar on reasons for discontinuation, as that lends specificity to method type and length of use.

Overall, three panelists recommended that these probes are better suited to a qualitative study. On the other hand, one panelist who frequently works in Central and Western Africa thought that this was an excellent proposal as it helps shed light on a common and poorly understood response to the question about reasons for nonuse.

### **3.1.5 Next steps**

Based on the panel discussion, we conclude that these questions may be best thought of as optional additions in settings where there is particular interest in disaggregating the reasons behind perceived side effects and health concerns. The insertion of these questions into the DHS Woman's Questionnaire could be overly burdensome in contexts where demand satisfied is high, or where other factors (such as infrequent sex or spousal absence) are majority responses. Additional details are not very valuable if there is insufficient sample size to gauge their prevalence. These dynamics are well-suited to a qualitative study, however not to the typical type of convenience sampling at health facilities done in qualitative studies.

In terms of the effect that these questions would have on a survey final report, we note that reasons for nonuse are not tabulated in the DHS tab plan, but the dataset variables on these reasons are routinely employed in studies of unmet need (Bongaarts and Bruce 1995; Machiyama and Cleland 2014; Sedgh and Hussain 2014). Given that demand for modern methods satisfied, which is based on unmet need, is a Sustainable Development Goal, if these follow-up probes are included in a country questionnaire, regardless of the adoption of the proposal above it may be desirable to add a table to the tabulation plan about reasons for nonuse to final reports. Additional aspects of side effects could be tabulated as subcategories or included in a separate table. Additionally, questionnaire designers should keep in mind the possibility of adding probes to side effects as a reason for discontinuation in the contraceptive calendar.

## 3.2 Questions on Postabortion Family Planning Counseling and Use

### 3.2.1 Motivation

In several DHS countries, there is interest in postabortion counseling, including on family planning. Nepal is one such country. The follow-up mixed-methods study in Nepal found that, among women who had ever had an abortion, only 25% received postabortion counseling, in part because there was no postabortion visit, for example the woman obtained the abortion through pharmaceutical means or from a nonmedical provider (Staveteig et al. 2018). Note, however that the sample size was very small (n=28). The parent study in Nepal, the NDHS, found that just over half (52%) of all women who had an abortion in the 5 years preceding the survey received family planning method counseling (Ministry of Health [Nepal], New ERA, and ICF 2017). Postabortion family planning counseling and the availability of long-acting methods at the abortion site have been shown to increase contraceptive acceptance and use (Ceylan et al. 2009; Curtis, Huber, and Moss-Knight 2010; Huber et al. 2016), which helps prevent future unwanted pregnancies and repeat abortions.

### 3.2.2 Proposal

We proposed, for countries that are interested in postabortion counseling, that a woman who has had a postabortion visit for her most recent abortion be asked whether she received counseling on a family planning method during that visit. Also, we recommended asking if she used a contraceptive method within two weeks after the abortion. Typically, to help ensure recall, DHS questions about health care are only asked about if the visits occurred in the past five or six years. The 2016 NDHS provides a good example of how these questions can be phrased (Figure 8).

**Figure 8 2016 NDHS questions on postabortion family planning counseling and use**

229F	Did anyone talk to you about family planning methods during your post abortion visit?	YES .....	1
		NO .....	2
		DON'T KNOW .....	8
229G	Did you use any contraceptives within two weeks of abortion?	YES .....	1
		NO .....	2

However, we recommended an option in the first question of Figure 8 to indicate that there was no postabortion visit, as was the case for 43% of women who had an abortion in the Nepal follow-up study. These women indicated that there was no postabortion visit because they obtained the abortion through

pharmaceutical means, outside of a medical provider, or because they found it unnecessary or too difficult to return for the recommended visit (Staveteig et al. 2018).

### **3.2.3 Advantages and disadvantages**

Postabortion family planning questions face the common downside of adding to the length of an already very long questionnaire. However, we believe that their advantages outweigh this disadvantage as they can help policymakers and program managers in several ways. They help provide information on the number of women who are not receiving postabortion care, and the number who receive such care but are not counseled about family planning. And, when combined with data on the type of facility in which the abortion took place and the type of provider, these data can assist policymakers in assessing the need for postabortion education packages, for provider re-education and training, and for investigating and potentially improving contraceptive availability at the abortion provision site. If contraceptive counseling seems ineffective at improving postabortion family planning uptake, additional in-depth research on the content and efficacy of counseling may be warranted.

### **3.2.4 Panel review**

As the panel discussion focused on postnatal family planning counseling, we did not explicitly discuss postabortion family planning counseling. However, all three panel members who provided in-depth review and all three who provided a summary review either actively supported or did not object to this idea in contexts where there is interest in postabortion counseling.

### **3.2.5 Next steps**

We recommend that upcoming surveys in countries with expressed interest in postabortion counseling consider these additional questions on counseling about family planning and on method use within two weeks of a reported abortion.

## **3.3 Questions to Capture Prolonged and Postpartum Abstinence as a Method to Regulate Fertility Risk**

### **3.3.1 Motivation**

Some follow-up respondents in Ghana who had been classified as having an unmet need for contraception by the GDHS (18%) reported being intentionally abstinent for long periods of time as a method of preventing or avoiding pregnancy. Postpartum women were not included in the study, so postpartum abstinence was not captured. However, it is widely known that prolonged and/or postpartum abstinence is traditionally used among married couples, particularly in some parts of Central and West Africa, to space and limit births (Bongaarts and Potter 2013; Oni and McCarthy 1986; Page and Lesthaeghe 1981). Contemporary evidence indicates that prolonged and postpartum abstinence, along with abortion, continue to be used as methods of fertility regulation in Africa (Lauro 2011; Rossier and Hellen 2014; Van de Walle and Foster 1990) and that postpartum abstinence is regularly practiced in other contexts as well (Cleland, Shah, and Benova 2015).

Some early definitions of unmet need excluded women practicing prolonged abstinence (DeGraff and Siddhisena 2015). The current definition of unmet need—and, by extension, of demand for modern methods

satisfied—implicitly considers all married women to be sexually active. One argument for including abstinent women in unmet need calculations is that they have a prospective need for family planning once abstinence ends (Ross and Winfrey 2001). We argue that such information could be better obtained through questions about contraceptive preparedness. While abstinence is not a contraceptive method as such, it is a method of regulating fertility risk that is 100% effective (CDC 2018). Moreover, it meets the definition of current use asked about by DHS and shown in Figure 1 (“*doing anything or using a method to delay or avoid getting pregnant*”). We believe it is problematic that prolonged and postpartum abstinence, two effective means of fertility regulation, are not explicitly recorded as responses to the standard question on doing something to delay or avoid getting pregnant in DHS surveys.

### 3.3.2 Proposal

Currently, the DHS Woman’s Questionnaire does not provide space for prolonged or postpartum abstinence to be recorded separately as a means to delay or avoid pregnancy (Figure 1), nor are these techniques of fertility regulation included in the knowledge inventory. Recently, interviewer instructions were modified to state that prolonged abstinence can be reported as an ‘other traditional method’ in Q304 (Figure 1). We are uncertain to what extent this new guidance is being implemented in countries; typically, only a very small number of women report using an ‘other traditional method’ and we have no additional means of disaggregating that category. We believe that prolonged abstinence should not simply be recorded as an “other” method as it is not an actual contraceptive practice, but a fertility regulation practice, and due to its obvious efficacy, it is important to capture. Particularly in countries where prolonged and/or postpartum abstinence is prevalent among married couples, we recommended that it be recorded and tabulated distinctly but not, of course, included in contraceptive prevalence calculations. While reports of other traditional methods are extremely low, we believe that adding it to the inventory of knowledge and ever use (see first proposal) would increase its reporting in surveys.

In a recent Guttmacher survey in Ghana (Juarez et al. 2015; Tapales, Juarez, and Philbin 2016) prolonged and postpartum abstinence were added to the knowledge and ever use inventory preceding the question about method use. The phrasing of the definition of postpartum abstinence was “*women can abstain from sexual intercourse after birth to prevent a pregnancy.*” The definition of [prolonged] abstinence<sup>6</sup> was “*women can abstain from sexual intercourse to avoid getting pregnant.*” Out of 328 users of modern and traditional methods captured by the Guttmacher survey, 13 (4%) reported current use of postpartum abstinence, while 24 (7%) reported currently using prolonged abstinence.<sup>7</sup>

We recommended, in a country with a high prevalence of abstinence, piloting separate knowledge inventory questions on postpartum and prolonged abstinence, following the Guttmacher model above, and separate response categories for these two methods. In this way, we could observe whether there is any confusion between responses and how many women who report abstinence elsewhere state it as a means of fertility regulation. We suggested keeping reports of prolonged and postpartum abstinence in a variable on fertility regulation that is separate from the question on method use so as to avoid including it in method mix.

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<sup>6</sup> In the Guttmacher questionnaire, called simply ‘abstinence’.

<sup>7</sup> Authors’ personal correspondence with Jesse Philbin, August 31, 2018.

Alternately, a second composite variable including all responses to the question on current use could be created.

Note that there are complications. First, is the abstinence intentional on the part of both members of a couple? A woman's ability to use abstinence depends on her level of sexual empowerment within the relationship. However, the same is true of withdrawal and periodic abstinence. Second, with prolonged abstinence there is a complication of whether the category can apply to unmarried women, many of whom avoid sex for a number of reasons, including to prevent pregnancy. While the sequencing of DHS Woman's Questionnaires prevents filtering out married women during contraceptive method questions,<sup>8</sup> we could tabulate prolonged abstinence among married women only. Alternately, the reports among unmarried women could be left as is, but they would automatically drop out of the sexually active category and thus typically not be counted.

Our proposal noted that the intentionality behind abstinence could be considered in deciding whether the response of postpartum or prolonged abstinence is sufficient to be counted separately from other responses to this question, such as through a follow-up question confirming the intention behind abstinence. However, no other responses to the question on method type are subject to this requirement, and we believe that by stating it as a means to delay or avoid pregnancy, intentionality is implied.

### **3.3.3 Advantages and disadvantages**

As with proposals to correct the underreporting of traditional methods, a tabulation of postpartum and prolonged abstinence would enable our survey results to more accurately reflect the intentional means that married women are using to space or limit births. Moreover, we could measure the extent to which periods of prolonged and postpartum abstinence (captured elsewhere in the questionnaire) are explicitly being thought of as a means to prevent or delay pregnancy. While these two additions to the 'ever use' inventory would add more length to the questionnaire, and some complications of measurement, the results would be a valuable way to measure abstinence as a means of fertility regulation.

### **3.3.4 Panel discussion**

This was a controversial proposal. While two additions to the knowledge inventory were not seen as difficult or burdensome for interviewers and respondents, there were several other objections. First, whether these methods would count in contraceptive prevalence. DHS, which is funded by USAID, follows the USAID definitions of contraceptive method types and categories. As stated above, abstinence is technically a means of fertility regulation and not a contraceptive method, hence it could be used to restrict the denominator for calculations of unmet need and thus of demand satisfied—as infecundity already is (Bradley et al. 2012)—but should not be included in CPR. However, tabulating prolonged and postpartum abstinence alongside method use could be a valuable reflection of the means women use to delay or avoid pregnancy.

Second, several panelists felt strongly that the definition and intentionality behind prolonged abstinence is unclear. For example, a panelist asked whether labor migration would count as prolonged abstinence if it is involuntary. We believe prolonged abstinence would count even if it is circumstantial rather than truly

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<sup>8</sup> We were told that in DHS surveys women are intentionally asked about their contraceptive use before being asked about their marital status in order to help reduce underreporting of contraceptive use among unmarried women.



intentional, *as long as it is a response to the standard DHS question* (Figure 1) *about using a method or means to delay or avoid pregnancy*. Abstinence itself is already captured through questions on sexual frequency and on resumption of intercourse after a recent birth; what separate entries on the knowledge and ever use inventory and separate responses to the standard question on delaying or avoiding pregnancy add to this is a sense of intentionality or consciousness. Postpartum abstinence, and, to some extent, prolonged abstinence may also have the primary purpose of helping to protect a woman's health. Yet we again posit that if women are responding to the question about delaying or avoiding pregnancy with the response of abstinence, then its intentionality is implied and the other reasons for abstinence are irrelevant.

Third, panelists also noted the difficulty with having unmarried women possibly state that they are using abstinence as a method. Abstinence among married women, compared to, for example, young women who have never had sex, is a qualitatively different phenomenon. Our response about women who have never had sex reporting that they use abstinence as a method—which we agree is qualitatively different from reports among married women—would not be part of the contraceptive method tabulation in variable v312, but as a separate variable, and in any case would drop out of standard DHS tabulations of method use among unmarried women, which restrict the denominator to sexually active women.

On a related note, a panelist noted that FP2020 and other groups are moving toward measurement of contraceptive use among all women regardless of their marital status or sexual activity, so abstinence could indeed confuse counting. However, because FP2020 focuses on modern methods only, women using prolonged or periodic abstinence to avoid pregnancy would continue to be counted as nonusers. However, tabulations of the proportions of women and couples engaging in abstinence could help improve contraceptive messaging or support for contraceptive planning. The only concern about confusion in method use reporting would be if prolonged or postpartum abstinence would be counted as a method in the family planning method type variable (v312) and could thus distort computations of contraceptive method mix. As abstinence is not a contraceptive method, we believe that it would be wise to tabulate it separately under a separate variable next to v312. Users would then have the option to combine both variables, but it would not otherwise distort method mix calculations or CPR estimates.

Fourth, panelists raised the potential confusion between reporting on periodic versus prolonged abstinence. Respondents could potentially hear the word abstinence three times in the inventory (periodic, prolonged, and postpartum) and be confused about which to report. Our correspondence with Guttmacher about their Ghana study, which included all three types of abstinence in the knowledge and ever use inventory, indicated that no women reported using more than one type of abstinence and that interviewers did not report any confusion between these three types of abstinence.

Fifth, a concern was raised on the minimum duration of prolonged abstinence. We replied that we would not measure prolonged abstinence by length (as women may have just begun a day ago) or add specific probes on intentions, but simply count whether women stated it as a spontaneous response to the question on current means to delay or avoid pregnancy. Stating any other method or means in response to the question on delaying or avoiding pregnancy is considered sufficient evidence for it being used as a method, so we are not certain why abstinence would be treated differently.

Finally, and on a related note, panelists asked that since abstinence typically ends, how would the DHS survey capture whether the couple will be protected afterwards? This can be particularly difficult in

relationships where women are physically unable or are not empowered enough to refuse sex. We argue that abstinence should not be treated any differently than other methods. We do not ask about what will happen after pill and condom use end, or what the woman would do if she was coerced into having sex during the time of her periodic abstinence, and feel that our contraceptive preparedness proposal (next section) covers the issue of planning for resumption of sex.

### **3.3.5 Next steps**

We recommend testing the inclusion of postpartum and prolonged abstinence in the knowledge-ever use inventory as valid options in response to the question on current family planning use. Those responses would be included as a variable separate from v312 on method type as a type of fertility regulation. While prolonged and postpartum abstinence should not be counted as contraceptive methods for the purposes of CPR, postpartum and prolonged abstinence could be included in a variable separate from v312 and shown as columns in tables about current method use (Appendix Table A.2), with a footnote to indicate that they are not included in contraceptive prevalence. However, we recognize that there is very little support for this proposal within DHS and that it is unlikely to be piloted.

## **3.4 Questions about Contraceptive Preparedness During Extended Periods of Marital Abstinence**

### **3.4.1 Motivation**

As described in proposal 3.3, prolonged and postpartum abstinence are used to delay or avoid pregnancy by married couples worldwide (Borda, Winfrey, and McKaig 2010; Rossier and Hellen 2014; Rossier et al. 2015). Similarly, a husband's extended absence due to labor or educational migration is extremely common in Nepal, and to varying degrees in many other Asian and African countries (Adams and Ahsan 2014; Chua and Wellman 2015; Coffey, Papp, and Spears 2015; Curtin 1997; Hoang and Yeoh 2015; Garcia et al. 2015; Mahtab 2015; Malhotra, Misra, and Leal 2016; Rain 2018; Segatti 2016). While abstinence is the only 100% effective method of pregnancy avoidance (CDC 2018), women and couples practicing postpartum abstinence tend to be poorly prepared for the resumption of sexual intercourse (Alum et al. 2015; Borda, Winfrey, and McKaig 2010). As described in the introductory section, the Nepal follow-up study asked specifically about contraceptive preparedness upon resumption of sex after a husband's return and found that, despite nearly universal knowledge of his return date, nearly half of all respondents with migrant husbands who did not want a/another child soon were unprepared or inadequately prepared for contraceptive use upon his return (Staveteig et al. 2018). The DHS questionnaire provides no real information on contraceptive preparedness in such situations.

### **3.4.2 Proposals**

The DHS Woman's Questionnaire asks, of nonpregnant women who have been sexually active in the past year and who do not desire having children in the next 23 months but are not using family planning, why they are not using a method to prevent pregnancy (ICF International 2015). We proposed that if a married or in-union respondent reports that she is not using family planning because she is not having sex,<sup>9</sup> ask

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<sup>9</sup> Reasons for nonuse are only asked of women who do not want a/another child soon, so contraceptive preparedness would only be assessed among this group.

about her plans for contraceptive use upon the resumption of intercourse. This may require two questions, one on anticipated time sexual intercourse will resume—for example, based on the date (if she knows it) when her husband returns, after six months postpartum—and at least one question on advance preparation for contraceptive use. The question on the resumption of sexual intercourse is not so much to pin down a specific timeframe, but to understand how well she can anticipate resumption of intercourse in the future.

A question on contraceptive preparedness could be phrased something like “*Do you expect to use a family planning method upon the resumption of sexual intercourse?*” and if yes, ask “*Have you made a plan personally or discussed together the method that you will use and how it will be obtained?*” Both parts, the contraceptive method and the source, would need to be known, or potentially at least perceived as commonly understood by the respondent, to count as a ‘yes’ answer. Some rephrasing may be necessary as traditional methods and LAM are not commodity- or service-based methods that require acquisition. Additionally, an implicit understanding with their partners, as some women with routinely migrant husbands in Nepal stated they had, is difficult to capture.

In any case, we are not necessarily interested in the specific method, rather in whether an actual plan is in place. In some countries and contexts, it may be useful to know more about the specific method type the respondent and her partner intend to use, and, if not coitus-dependent, the anticipated start time prior to the resumption of sex.

Note that the current DHS question on whether the respondent intends to use contraception at any point in the future (Figure 9), which we believe is generally too vague to be programmatically useful, could be removed from the core questionnaire to free up space for these specific questions about contraceptive preparedness among women who report no sex as the reason for contraceptive nonuse.

**Figure 9 Standard DHS-7 question about future contraceptive method use**

811	CHECK 303: USING A CONTRACEPTIVE METHOD?	NOT <input type="checkbox"/> ASKED NO, NOT <input type="checkbox"/> CURRENTLY USING YES, <input type="checkbox"/> CURRENTLY USING	→ 813
812	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES ..... 1 NO ..... 2 DONT KNOW ..... 8	

### 3.4.3 Advantages and disadvantages

These additional questions would provide valuable information on contraceptive preparedness in contexts where postpartum abstinence, prolonged abstinence, and extended spousal absence frequently puts women and couples at risk of an unwanted birth upon return. Analysis of these questions could be conducted in tandem with women’s sexual and reproductive empowerment (for example, her perceived ability to refuse sex, to decide on family planning, or to ask her husband to use a condom) to better evaluate possible programmatic approaches to encourage adequate preparation for a spouse’s return. However, contraceptive preparedness is a complex topic. Couples can sometimes be prepared without explicit communication, for example the woman follows her common habit of starting the pill a month in advance of her husband’s return. These questions may depend on the specific country context and the type of abstinence that is of primary concern.

### **3.4.4 Panel discussion**

One panelist noted that this proposal becomes complicated because some women may engage in extramarital sex when their partner is absent, so we cannot assume that respondents are only preparing for their husband's return. We agree that it would be challenging to include a specific question on contraceptive preparedness for extramarital sexual partners. At the same time, very few women in union in DHS surveys state that they have now or have recently had an extramarital partner, so it seems unlikely to be a line of questioning that would produce reliable data. Another panelist noted that correctly capturing contraceptive preparedness may require several questions, for example whether there is a plan, whether the plan has been discussed with her husband/partner, whether there is a specific method in mind, and—if the method involves a commodity or service—how it will be obtained. Then, some of the specifics on inadequate start time for a hormonal method would need to be captured separately, thus this could become a questionnaire module and not a simple addition. Other discussions related to this proposal were largely country- and context-specific. For example, a panelist noted that women in the Philippines are often the ones who go away for work and return, thus unlikely to be interviewed, so a measure of contraceptive preparedness would be better among men. Overall, it was suggested that this proposal be revisited based on demand, given that the proposal seems more geared toward specific countries or regions with large groups of labor migrants or in countries where contraceptive use following postpartum abstinence is a major concern.

### **3.4.5 Next steps**

While contraceptive preparedness is likely too specific an issue to be added to the core questionnaire, we recommend that countries with substantial levels of stated contraceptive nonuse due to no sex and where there may be interest in measuring contraceptive preparedness, such as Nepal, Bangladesh, or the Philippines, consider in their next survey piloting a series of questions—or potentially a short module—on plans for the resumption of sex, as detailed above. These questions could be used in place of the generic DHS question on whether the respondent intends to use contraception at any point in the future, which tends to be too vague for programmatic use. The data from these questions could be tabulated before, after, or instead of the current DHS tabulation plan table on future use of contraception (Appendix Table A.9) to indicate contraceptive preparedness among those who are not using because they don't have sex.

## 4 SUMMARY AND PROPOSED NEXT STEPS

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In addition to their substantive findings, recent DHS follow-up studies in Ghana and Nepal provide insights on ways to improve DHS questionnaires and fieldwork procedures. In this report, we detailed our eight proposals for improvement: four proposals that received some support to be added to the core questionnaire and fieldwork, and four potential supplemental questions or modules that could be used in certain contexts. The aim of this report was not to achieve complete consensus among the expert panel—due to the current length of the questionnaire, two panelists said that they typically oppose *any* additions to the DHS Woman’s Questionnaire—but rather to engage survey experts who can assess viability and value of our proposals and who may have ideas of their own. The assignment given to The DHS Program was to find ways to improve the questionnaire and fieldwork procedures; finding ways to cut the questionnaire would have been an entirely different undertaking altogether. However, when possible, we suggested times when new questions could substitute for extant questions that we do not perceive as particularly valuable.

Ultimately, we hope that our recommendations will contribute to the large-scale process of DHS core questionnaire revisions that will occur at the beginning of DHS-8. Below is a summary table of key issues, ultimate decisions after our panel discussion, recommended next steps, and benefits of these suggestions. The main downside of each proposal is its addition to the length of the core questionnaire; for reasons of space and redundancy we did not make this its own column.

**Table 4.1 Summary of issues, proposals, and recommendations in this report**

Section	Title	Issue	Ultimate decision	Recommended next steps	Policy and programmatic benefits
<i>Recommended changes to the core DHS Woman's Questionnaire</i>					
2.1	Questions to improve the accuracy of family planning method reporting	Both follow-up studies found, upon prompting, that traditional contraceptive methods had been substantially underreported by respondents who understood DHS to be asking about modern methods only. There was also one case of underreporting a natural modern method (LAM). Panelists expressed additional concerns about possible underreporting of sterilization and coitus-dependent methods.	Consider reintroducing an 'ever use' column to the contraceptive knowledge inventory that precedes the question on current use, as was included in DHS-1 through DHS-5. By having to think about their prior use of every method, women may be less likely to underreport traditional methods, natural modern methods, sterilization, and coitus-dependent methods.	In upcoming DHS surveys, test whether an ever-use inventory actually addresses underreporting by probing on methods that are likely underreported after current use (i.e., a modified version of Figure 2). If ever-use inventory reduces or eliminates underreporting, then strongly consider whether to reintroduce the ever-use column to the contraceptive knowledge inventory in the DHS-8 core questionnaire.	By obtaining more accurate reports of current family planning use, including traditional methods, sterilization, and coitus-dependent methods, policymakers and program implementers can make better use of time and funding to increase uptake among the potential 'market' of family planning users. In particular, correct estimates of traditional method users would enable an examination of whether and how they should be reached separately from nonusers.
2.2	Questions about family planning counseling around the time of the most recent birth	Using family planning during the postpartum period helps protect the health of mother and baby and contributes to optimal birth spacing. Optimal spacing reduces maternal and child mortality, reduces health risks to siblings, and has other beneficial effects. The period surrounding childbirth is a critical time to reach women and couples with counseling and messaging about birth spacing and family planning method awareness.	Given the importance of postpartum family planning, we recommend adding questions about antenatal and postnatal family planning method counseling to existing questions about antenatal and postnatal care. Questions about postnatal family planning counseling have been successfully fielded by DHS; it would not be overly burdensome to test antenatal counseling questions.	As postnatal counseling questions have already been tested, they could be added straightaway to the DHS-8 Woman's Questionnaire. Antenatal counseling on birth spacing and on counseling about postpartum family planning methods could be pretested to understand whether the distinction between the two is useful before adding these to the questionnaire as well.	Antenatal and postnatal family planning counseling have been shown to increase uptake of postnatal contraception. Measuring counseling during antenatal and postnatal care—in conjunction with existing measures of the type of provider, timing, and facility—helps policymakers gauge the extent to which national guidelines are being followed, and allows program directors to determine the effectiveness of counseling on postpartum family planning. These data, in turn, will help in reviewing what types of retraining and what social and behavior change communication interventions could be improved.

(Continued...)

**Table 4.1—Continued**

Section	Title	Issue	Ultimate decision	Recommended next steps	Policy and programmatic benefits
<i>Recommended changes to the core DHS Woman’s Questionnaire (cont.)</i>					
2.3	Questions to gauge proximal fertility intention concordance with partner	While empowerment around family planning is important, fertility preferences typically precede the question of whether to use family planning. In Ghana, and to some extent in Nepal, we found that differing proximal fertility preferences between partners was a critical dimension of unmet need. To better understand women’s reproductive empowerment, it would help to gauge concordance between her own stated preferences and her impression of his proximal fertility preferences, which presumably has a greater effect on her decisionmaking than what he states to an interviewer.	Consider replacing the DHS question on partner’s desired number of children (Figure 6) with questions about partner’s proximal fertility preference similar to those already asked to women (Figure 7). In this way, concordance of fertility intentions can be studied among all couples in relation to family planning empowerment and use.	Test these questions, likely during a pilot followed by cognitive interviewing or during a pretest to an upcoming DHS survey to discern how well respondents understand and feel comfortable answering these questions, along with how much additional information they provide (above and beyond his own statement, when available).  If desired, consider adding a follow-up question on fertility empowerment based on the perceived concordance of the couple’s proximal fertility intentions.	Given the growing demand to measure women’s reproductive empowerment and assess how it is connected to their reproductive outcomes, data on women’s impression of their husband’s/partner’s proximal fertility preferences would be valuable. Some women experience reproductive coercion, which results in the women using contraception covertly, or in undesirable outcomes. Through analysis of proximal fertility preference concordance, empowerment, and family planning use, stakeholders will be better equipped to understand how to design programs and interventions with reproductive empowerment in mind.
2.4	Flags to indicate field estimation of ages and dates	Accurate age and date reporting is foundational to the computation of nearly every demographic and health indicator that uses DHS data. The follow-up study in Ghana showed that a number of respondents did not know their age or date of birth and did not recall any type of field estimation, but were labeled as having provided complete age and date information. It is unknown how widespread field estimation is, and what means are being used.	Panelists expressed concern about the added burden placed on interviewers by having to indicate in detail how the age or date of birth was derived, particularly if flags applied to dates of birth of children, but there was a near-consensus that a simple flag to indicate whether the respondent’s age and date of birth had been stated outright, derived through some other method, or estimated without other data would be valuable and not overly burdensome. Panelists recommended piloting the flag in an upcoming survey.	We recommend piloting both a simplified flag and a more detailed flag for field estimation of the respondent’s year of birth, month of birth, age, and dates of birth of children born in the past 5 or 6 years. The two types of flags could potentially each be tried during a fieldwork pilot, and the survey manager could request feedback on their ease of use and decide how to implement flags in the full survey. Results would be added to the dataset and final report.	Given the importance of accurate age and date information to indicators such as infant and child mortality, the Total Fertility Rate, teenage pregnancy and motherhood, demand satisfied among young women, and anthropometric measurements, we expect that the inclusion of these flags could be an important means to improve the quality of data and estimates in three ways. First, by making interviewers cognizant of the type of estimation they are doing; second, by allowing DHS fieldwork monitoring to track these flags; and third, because analysts could use these flags to improve the accuracy of confidence intervals around key demographic and health indicators monitored by policymakers.

*(Continued...)*

**Table 4.1—Continued**

Section	Title	Issue	Ultimate decision	Recommended next steps	Policy and programmatic benefits
<i>Optional/supplemental questions</i>					
3.1	Follow-up questions on fear of side effects/health concerns	Fear of side effects and health concerns is the most commonly cited reason for nonuse of contraception in DHS surveys in Latin America and the Caribbean as well as in Africa, but encompasses such a wide range of experiences and concerns as to be fairly uninformative for programmatic purposes. We propose that if respondents report fear of side effects/health concerns as a reason for nonuse, follow-up questions be posed to ascertain the nature and source of these fears.	There are concerns that additional inquiries about side effects and health concerns are complex, difficult for interviewers to code, and best left to qualitative studies that can provide an in-depth exploration. On the other hand, there was agreement that knowing whether side effects were experienced directly, based on rumors, or partner's preferences could be very valuable in contexts such as Central and West Africa where fear of side effects is common.	Keeping in mind the caveats about complexity and length, in countries where fear of side effects is a frequently cited and poorly understood category, consider including the suggested follow-up questions to better understand this response. More in-depth qualitative studies may also be warranted.	Program implementers, policymakers, and health providers will be better able to implement more context-specific guidance, messaging, and training related to different contraceptive methods, and potential side effects. By learning, for instance, how women are getting their information on side effects, stakeholders will be able to target their messaging and counseling with these social networks in mind.
3.2	Questions on postabortion family planning counseling and use	In countries where there is an interest in postabortion counseling, questions about method counseling and use after the most recent abortion would help gauge the efficacy of the healthcare system in helping to prevent future unwanted and mistimed pregnancies.	We recommend that in countries where abortion questions are included in a DHS survey, women be asked whether they received postabortion care and, if so, whether it included counseling on family planning method use. And, regardless of whether they received counseling, ask respondents whether they used a method of family planning in the first two weeks after the abortion.	Develop and offer standard phrasing on counseling about postabortion family planning counseling and on method use within two weeks of a reported abortion for future surveys in countries interested in postabortion counseling.	Questions about method counseling and use after the most recent abortion would help gauge the efficacy of the health-care system in preventing future unwanted and mistimed pregnancies. By incorporating counseling questions related to family planning and method use after an abortion visit, these data could help ensure implementation of health-care guidelines and gauge whether provider retraining is necessary.

(Continued...)



**Table 4.1—Continued**

Section	Title	Issue	Ultimate decision	Recommended next steps	Policy and programmatic benefits
<i>Optional/supplemental questions (cont.)</i>					
3.3	Questions to capture prolonged or postpartum abstinence as a method to regulate fertility risk	Prolonged and postpartum abstinence are fertility risk management strategies frequently used to avoid and delay pregnancy in many countries, particularly Central and West Africa, but—despite their efficacy—postpartum and prolonged abstinence are not explicitly captured by DHS surveys in the question about doing something to delay or avoid pregnancy (Figure 1). Including postpartum and prolonged abstinence in the knowledge inventory, and counting these responses separately from other traditional methods, would more accurately reflect means women and couples use to delay pregnancy.	There are concerns about the intentionality behind abstinence, the difficulty of fielding reports about abstinence among unmarried women (as marital status is not yet known at the time of the family planning questions), the risk women face when abstinence ceases, and whether to include abstinence in CPR (see text). Prolonged and postpartum methods are fertility risk mitigation strategies, so they should not be included as contraceptive methods unless USAID declares them as such. There was also a concern about possible confusion between prolonged and periodic abstinence. Testing of these questions in a recent Guttmacher survey in Ghana supports their utility; there was no evidence of confusion.	We recommend testing the inclusion of questions about prolonged and postpartum abstinence during the knowledge inventory, and allowing them as separate responses during the question on what method or strategy women and couples are using to delay or avoid pregnancy, particularly in areas where their usage is common. As prolonged and postpartum abstinence are not contraceptive methods, we believe they should be counted separately from method types so as not to distort method mix and CPR reporting. In terms of intentionality, we believe that responding to a question about methods to delay or avoid pregnancy is sufficient evidence of intentional or at least conscious use.	It is important for surveys to fully reflect the strategies women and couples are using to prevent pregnancy, not only for the sake of accuracy, but also because they might change messaging around family planning. For example, data on abstinence, when reported as a means to delay or avoid pregnancy, could prompt more messaging around preparation for contraception after the resumption of sex. By testing the inclusion of these questions, we can better understand the intentionality of these fertility risk management strategies and whether their inclusion in a core DHS questionnaire is useful or whether they should be saved for countries where postpartum and prolonged abstinence is particularly high.
3.4	Questions about contraceptive preparedness during extended periods of marital abstinence	Contraceptive preparedness during periods of postpartum abstinence, during a husband's absence, or other periods of prolonged abstinence, is important to help avoid unintended pregnancies. Postpartum abstinence is routinely used by couples worldwide, and temporary labor migration is common varying degrees in many other African and Asian countries. Contraceptive preparedness questions would provide valuable information on how well-prepared couples are and on how important it is for policymakers to consider messaging around contraceptive preparedness.	While questions on contraceptive preparedness have value, there are concerns about the number of questions required, the standard for planning (for example, must it require discussion), and hence the possible utility of the information collected. Discerning a contraceptive plan is quite complex, for example does it have to involve a clear source where the method will be obtained (if it is a commodity- or service-based method)? Is it necessary for both partners to communicate directly about the plan? In some countries, there would not be sufficient numbers of respondents using abstinence to justify inclusion of a new series of questions.	We recommend that in countries with substantial levels of abstinence within marriage, such as postpartum abstinence or temporary spousal migration, questions about contraceptive preparedness for the resumption of sex be included, perhaps as a module since several questions are involved. See text for detail on proposed question phrasing.	By gaining an understanding of whether—and to what extent—women and their partners prepare for the resumption of intercourse will help program implementers shape programs in a way that will proactively engage couples in these types of important discussions. Adequate contraceptive preparedness enables women and couples to prevent unintended births.



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# APPENDIX A: SECTIONS OF THE DHS-7 TABULATION PLAN FINAL REPORTS REFERRED TO IN PROPOSALS

**Appendix Table A.1 DHS-7 standard tabulation plan table 7.3: Current use of contraception according to age**

**Table 7.3 Current use of contraception according to age**

Percent distribution of all women, currently married women, and sexually active unmarried women age 15-49 by contraceptive method currently used, according to age, [Country Survey Year]

Age	Modern method														Traditional method			Not currently using	Total	Number of women			
	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Female condom	Emergency contraception	SDM	LAM	Other	Any traditional method	Rhythm	Withdrawal	Other						
ALL WOMEN																							
15-19																					100.0		
20-24																						100.0	
25-29																						100.0	
30-34																						100.0	
35-39																						100.0	
40-44																						100.0	
45-49																						100.0	
Total																						100.0	
CURRENTLY MARRIED WOMEN																							
15-19																						100.0	
20-24																						100.0	
25-29																						100.0	
30-34																						100.0	
35-39																						100.0	
40-44																						100.0	
45-49																						100.0	
Total																						100.0	
SEXUALLY ACTIVE UNMARRIED WOMEN <sup>1</sup>																							
15-19																						100.0	
20-24																						100.0	
25+																						100.0	
Total																						100.0	

Note: If more than one method is used, only the most effective method is considered in this tabulation.

SDM= Standard days method

LAM = Lactational amenorrhoea method

<sup>1</sup> Women who have had sexual intercourse within 30 days preceding the survey

## Appendix Table A.2 DHS-7 standard tabulation plan table 7.4.1: Current use of contraception according to background characteristics

Table 7.4.1 Current use of contraception according to background characteristics

Background characteristic	Modern method					Traditional method			Total	Number of women								
	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom			Female condom	Emergency contraception	SDM	LAM	Other	Rhythm	Withdrawal	Other
<b>CURRENTLY MARRIED WOMEN</b>																		
<b>Number of living children</b>																		
0																		100.0
1-2																		100.0
3-4																		100.0
5+																		100.0
<b>Residence</b>																		
Urban																		100.0
Rural																		100.0
<b>Region</b>																		
Region 1																		100.0
Region 2																		100.0
Region 3																		100.0
Region 4																		100.0
<b>Education</b>																		
No education																		100.0
Primary																		100.0
Secondary																		100.0
More than secondary																		100.0
<b>Wealth quintile</b>																		
Low est																		100.0
Second																		100.0
Middle																		100.0
Fourth																		100.0
Highest																		100.0
Total																		100.0
<b>SEXUALLY ACTIVE UNMARRIED WOMEN<sup>1</sup></b>																		
<b>Residence</b>																		
Urban																		100.0
Rural																		100.0
Total																		100.0

Note: If more than one method is used, only the most effective method is considered in this tabulation.

SDM = Standard days method

LAM = Lactational amenorrhea method

<sup>1</sup> Women who have had sexual intercourse within 30 days preceding the survey.

**Appendix Table A.3 Example of final report table about ever use of contraception by method**

Table 5.9 Ever use of contraception

Percentage of ever-married women and of currently married women who have ever used a contraceptive method, by specific method and age, Indonesia 2002-2003

Age	Modern method										Traditional method				Total	Number of women	
	Using any method	Any modern method	Female sterilization	Male sterilization	Pill	IUD	In-ject-ables	Im-plants	Male con-dom	Dia-phragm	LAM	Any tradi-tional method	Periodic absti-nence	With-drawal			Any folk meth-od
EVER-MARRIED WOMEN																	
15-19	59.0	58.3	0.0	0.0	24.2	1.0	43.5	1.5	1.5	0.0	0.2	2.4	0.2	1.6	0.8	100.0	956
20-24	75.3	73.8	0.0	0.1	30.6	3.1	58.9	5.1	1.7	0.0	1.6	5.2	1.7	2.9	1.2	100.0	3,875
25-29	83.2	81.7	0.3	0.1	42.1	6.5	63.6	9.2	2.8	0.2	1.9	7.6	2.6	4.6	1.6	100.0	5,375
30-34	85.4	83.1	1.5	0.5	44.5	13.9	61.1	11.0	5.1	0.4	2.3	9.0	3.9	5.2	1.2	100.0	5,428
35-39	84.8	82.7	5.2	0.6	44.2	20.5	53.8	12.2	4.6	0.3	2.6	10.2	4.9	5.0	2.2	100.0	5,181
40-44	80.1	77.4	7.8	1.3	43.2	24.1	42.4	10.5	4.9	0.4	2.5	11.2	5.3	5.3	2.7	100.0	4,581
45-49	70.7	67.8	8.4	1.2	36.4	23.0	29.6	6.2	4.3	0.3	1.7	8.4	4.4	3.8	1.8	100.0	4,086
Total	79.9	77.7	3.6	0.6	40.2	14.7	52.2	9.0	3.9	0.3	2.1	8.5	3.7	4.5	1.8	100.0	29,483
CURRENTLY MARRIED WOMEN																	
15-19	60.6	59.9	0.0	0.0	24.6	1.1	44.7	1.6	1.6	0.0	0.2	2.4	0.2	1.7	0.7	100.0	912
20-24	75.7	74.2	0.0	0.1	30.3	3.1	59.6	5.2	1.7	0.0	1.6	5.3	1.7	3.0	1.2	100.0	3,761
25-29	84.4	82.9	0.4	0.1	42.7	6.7	64.7	9.3	2.9	0.2	2.0	7.7	2.6	4.7	1.7	100.0	5,217
30-34	87.3	84.9	1.6	0.6	45.6	14.4	62.7	11.3	5.3	0.4	2.4	9.3	4.1	5.4	1.2	100.0	5,150
35-39	86.1	83.9	5.4	0.6	45.0	20.9	54.8	12.5	4.6	0.3	2.6	10.4	5.0	5.1	2.2	100.0	4,953
40-44	82.8	80.0	8.2	1.3	44.8	24.9	44.2	10.8	5.1	0.4	2.7	11.7	5.5	5.5	2.8	100.0	4,294
45-49	73.0	70.0	8.9	1.2	37.3	24.2	30.8	6.3	4.4	0.2	1.8	8.8	4.5	4.2	1.8	100.0	3,570
Total	81.6	79.4	3.7	0.6	41.0	15.0	53.7	9.3	4.0	0.3	2.2	8.7	3.8	4.6	1.8	100.0	27,857

LAM = Lactational amenorrhea method

**Appendix Table A.4 DHS-7 standard tabulation plan table 9.3: Components of antenatal care**

**Table 9.3 Components of antenatal care**

Among women age 15-49 with a live birth in the 5 years preceding the survey, percentages who took iron tablets or syrup and drugs for intestinal parasites during the pregnancy of the most recent live birth; and among women receiving antenatal care (ANC) for the most recent live birth in the 5 years preceding the survey, percentage receiving specific antenatal services, according to background characteristics, [Country Survey Year]

Background characteristic	Among women with a live birth in the past 5 years, percentage who during the pregnancy for their most recent live birth:		Number of women with a live birth in the past 5 years	Among women who received antenatal care for their most recent live birth in the past 5 years, percentage with the selected services			Number of women with ANC for their most recent birth
	Took iron tablets or syrup	Took intestinal parasite drugs		Blood pressure measured	Urine sample taken	Blood sample taken	
<b>Age at birth</b>							
<b>Birth order</b>							
<b>Residence</b>							
<b>Region</b>							
<b>Education</b>							
<b>Wealth quintile</b>							
<b>Total</b>							

**Appendix Table A.5 DHS-7 standard tabulation plan table 9.10: Type of provider for the first postnatal checkup**

**Table 9.10 Type of provider for the first postnatal check for the mother**

Among women age 15-49 giving birth in the 2 years preceding the survey, percent distribution by type of provider for the mother's first postnatal health check during the 2 days after the last live birth, according to background characteristics [Country Survey Year]

Background characteristic	Type of health provider for mother's first postnatal check				No postnatal check during the first 2 days after the birth	Total	Number of women
	Doctor/nurse/midwife	Auxiliary nurse/midwife	Community health worker	Traditional birth attendant			
<b>Age at birth</b>							
<20						100.0	
20-34						100.0	
35-49						100.0	
<b>Birth order</b>							
1						100.0	
2-3						100.0	
4-5						100.0	
6+						100.0	
<b>Place of delivery</b>							
Health facility						100.0	
Elsewhere						100.0	
<b>Residence</b>							
Urban						100.0	
Rural						100.0	
<b>Region</b>							
Region 1						100.0	
Region 2						100.0	
Region 3						100.0	
Region 4						100.0	
<b>Education</b>							
No education						100.0	
Primary						100.0	
Secondary						100.0	
More than secondary						100.0	
<b>Wealth quintile</b>							
Lowest						100.0	
Second						100.0	
Middle						100.0	
Fourth						100.0	
Highest						100.0	
Total						100.0	

**Appendix Table A.6 DHS-7 standard tabulation plan table 6.1: Fertility preferences according to number of living children**

<b>Table 6.1 Fertility preferences according to number of living children</b>									
Percent distribution of currently married women and currently married men age 15-49 by desire for children, according to number of living children, [Country Survey Year]									
Desire for children	Number of living children							Total 15-49	Total 15-54[59]
	0	1	2	3	4	5	6+		
<b>WOMEN<sup>1</sup></b>									
Have another soon <sup>2</sup>									na
Have another later <sup>3</sup>									na
Have another, undecided w hen									na
Undecided									na
Want no more									na
Sterilized <sup>4</sup>									na
Declared infecund									na
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	na
Number of women									na
<b>MEN<sup>5</sup></b>									
Have another soon <sup>2</sup>									
Have another later <sup>3</sup>									
Have another, undecided w hen									
Undecided									
Want no more									
Sterilized <sup>4</sup>									
Declared infecund									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number of men									

na = Not applicable

<sup>1</sup> The number of living children includes the current pregnancy.

<sup>2</sup> Wants next birth w ithin 2 years

<sup>3</sup> Wants to delay next birth for 2 or more years

<sup>4</sup> Includes both female and male sterilization

<sup>5</sup> The number of living children includes one additional child if respondent's w ife is pregnant (or if any w ife is pregnant for men w ith more than one current w ife).

**Appendix Table A.7 DHS-7 standard tabulation plan appendix table C.3: Completeness of reporting**

**Table C.3 Completeness of reporting**

Percentage of observations missing information for selected demographic and health questions (weighted), [Country Survey Year]

Subject	Reference group	Percentage with information	Number of cases
<b>Birth date</b>	Births in the 15 years preceding the survey		
Day only			
Day and month			
Day, month, and year			
<b>Age at death</b>	Deceased children born in the 15 years preceding the survey		
<b>Age/date at first union<sup>1</sup></b>	Ever-married women age 15-49 Ever-married men age 15-54[59]		
<b>Respondent's education</b>	Women age 15-49 Men age 15-54[59]		
<b>Diarrhea in past 2 weeks</b>	Living children age 0-59 months		
<b>Anthropometry of</b>	Living children age 0-59 months (from the Biomarker		
Height			
Weight			
Height or weight			
<b>Anthropometry of women</b>	Women age 15-49 (from the Biomarker Questionnaire)		
Height			
Weight			
Height or weight			
<b>Anthropometry of men</b>	Men age 15-49 (from the Biomarker Questionnaire)		
Height			
Weight			
Height or weight			
<b>Anemia</b>			
Children	Living children age 6-59 months (from the Biomarker		
Women	All women (from the Biomarker Questionnaire)		
Men	All men (from the Biomarker Questionnaire)		

<sup>1</sup> Both year and age missing

**Appendix Table A.8 DHS-7 standard tabulation plan table 7.15: Future use of contraception**

**Table 7.15 Future use of contraception**

Percent distribution of currently married women age 15-49 who are not using a contraceptive method by intention to use in the future, according to number of living children, [Country Survey Year]

Intention to use in the future	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
Intends to use						
<i>Intends to use and discussed plan (with partner)</i>						
Unsure						
Does not intend to use						
Missing						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women						

<sup>1</sup> Includes current pregnancy