**Template for Requests for Revisions to the DHS Model Questionnaires, Optional Modules, and Biomarkers for DHS-8 (2018-2023)**

# **Section I. Information about the requesting party**

1. Is this request being submitted on behalf of a group? If so, please provide the name of the group and the participating parties.

Yes, on behalf of a group: USAID, Office of Population and Reproductive Health

# **Section II. Indicator definition and rationale**

2. Please define the indicator or indicators you are requesting The DHS Program to incorporate. *Multiple indicators derived from a single set of questions should be included in the same submission.* (Response required)

 **Age at menarche: Percentage of women age 15-49 who had first menstruation (menarche) by specific exact ages and mean age at menarche, according to current age.**

3. What is the rationale for measuring this indicator (each of these indicators) in DHS surveys? (Response required)

This question has been included in 30+ DHS. We are suggesting it be a standard in all DHS surveys so that we can better understand the timing of various life events for women and girls and the relationship of various events (here, menarche) to one another (like school continuation, early marriage, experience of violence, and more).

# **Section III. Proposed additions/revisions to the questionnaires or biomarkers**

4. Please describe the requested addition or revision.

*If the requested change is the addition of new questions to the DHS questionnaires or modules, complete questions 4.1 and 4.1.1. If the requested change is a revision to existing questions, complete question 4.2. If the change relates to anthropometry or a biomarker, please complete question 4.3.*

4.1. **For additions**: If you have developed a question or set of questions to measure the indicator(s), please provide them in the space below or in a separate file attached with your submission.

 “How old were you when you first had your menstrual period?”

4.2. **For revisions to existing questions**: Please specify the DHS-7 question number, the proposed revision to the question, and the rationale.

 N/A.

4.3. **For anthropometry and biomarkers**: Please describe the measurement procedures or specimen collection procedures, point-of-care or laboratory testing procedures (as relevant), and any recommendations for return of results.

 N/A

5. Can any related questions be deleted from the questionnaire to make room for the proposed new content? If so please specify which questions using the DHS-7 question numbers.

 No.

6. What are the implications of these requested changes on measurement of trends using DHS data?

None.

# **Section IV. Indicator calculation**

7. Indicate how to calculate the indicator(s). Include detailed definitions of the numerator and denominator of each individual indicator. If you have developed a tabulation plan for the indicator(s), please attach a file including the suggested table(s) with your submission.

 **Percentage of women age 15-49 who had first menstruation (menarche) by specific exact ages and mean age at menarche, according to current age** (for example, see Table 4.4 of the Philippines 2017 DHS)

For mean age at menarche among all women, the calculation would be:

Numerator: Age of Women 15-49 when they first started menarche

Denominator: Women age 15-49

8. Is the indicator useful when measured at the national level, or is it useful only when disaggregated to specific subnational areas, such as endemicity zones or project intervention regions?

*For each indicator, select one of the three options by clicking in the appropriate box.*

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Useful only for subnational endemicity zones or project intervention regions. A single estimate at the national level is not meaningful. | Useful at both national and subnational regions, as sample size allows. | Useful only at the national level. Subnational estimates are not needed. |
| Age at menarche |[ ] [x] [ ]

# **Section V. Prior testing of the proposed question(s)**

9. Have the proposed questions undergone any formal validation; i.e., have the questions been tested against a “gold standard” to assess their accuracy? If yes, please describe how well or poorly the questions performed and/or provide a publication or report of the validation exercise (or a link).

The proposed question has been implemented in 30+ DHS surveys already. It is part of numerous other health surveys and studies, such as the U.S. Nurses Health Study II, U.S. National Survey of Family Growth, U.S. National Health and Nutrition Examination Survey, and many more surveys around the world.

10. Have the questions undergone any other kind of testing; e.g., cognitive testing, pilot testing. If so, please describe the results of the testing and/or provide a publication or report of the findings (or a link).

 We believe these questions have been through cognitive and pilot testing, although we do not have any specific publication to point to.

# **Section VI. Other considerations**

11. Please provide information relevant to the kinds of questions below, and/or anything else you wish to share with us about this indicator (these indicators).

* Describe how the data for this indicator are being used (or will be used).
	+ Are the data produced by this indicator actionable?
	+ Who will use the data?
	+ What kinds of decisions will be made using these data?
* For what kinds of countries would the indicator(s) be most useful?
* Does the DHS survey offer any particular advantage over other available data sources for measuring this indicator? If so, what?

Age at menarche is an important analytical variable to understand health status (ACOG 2015). Various examples abound in the literature on the relationship of age at menarche to menstrual pain/side effects (Ameade and Garti 2016), BMI (Yermachenko and Dvornyk 2014), increased risk of preeclampsia (Abetew et al. 2011), and all-cause mortality (Jacobson, Heuch and Kvale 2007) to name a few. Age at menarche also provides important contextual information to other elements of women’s and girls’ lives, including school attainment and early marriage (Glynn et. al. 2010), childhood abuse (Boynton-Jarett et al. 2012), and more. Given the focus of health and development communities on youth, age at menarche is an important consideration along with initiation of sexual activity, child marriage (since menarche is a signal in many cultures of a girl reaching “marriageable age”) and more. Further, it is important to holistically understand the reproductive lives of women and girls, particularly adolescents and teenage girls; since DHS is a key survey of reproductive health, this information should be readily available for all DHS surveys.

**REFERENCES**

Abetew, Dejene F., Daniel A. Enquobahrie, Michal Dishi, Carole B. Rudra, Raymond S. Miller, and Michelle A. Williams. 2011. “Age at Menarche, Menstrual Characteristics, and Risk of Preeclampsia.” *International Scholarly Research Notices*. Retrieved March 7, 2019 (https://www.hindawi.com/journals/isrn/2011/472083/).

Ameade, Evans Paul Kwame and Helene Akpene Garti. 2016. “Age at Menarche and Factors That Influence It: A Study among Female University Students in Tamale, Northern Ghana.” *PLoS ONE.* 11(5).

ACOG. 2015. “Menstruation in Girls and Adolescents: Using the Menstrual Cycle as a Vital Sign - ACOG.” Retrieved March 7, 2019 (https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Adolescent-Health-Care/Menstruation-in-Girls-and-Adolescents-Using-the-Menstrual-Cycle-as-a-Vital-Sign?IsMobileSet=false).

Boynton-Jarett R. et. al. "Childhood abuse and age at menarche." *Journal of Adolescent Health.* 2013;52(2):241-247.

Glynn JR et. al. "Age at menarche, schooling, and sexual debut in northern Malawi." *PLoS ONE.* 2010;5(12):e15334

Jacobsen BK, Heuch I, Kvale G. "Association of low age at menarche with increased all-cause mortality: a 37-year follow-up of 61,319 Norwegian women." *Am J Epidemiol.*2007;166(12):1431–7.

Philippine Statistics Authority (PSA) and ICF. 2018. Philippines National Demographic and Health Survey 2017. Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF.

Yermachenko, Anna and Volodymyr Dvornyk. 2014. “Nongenetic Determinants of Age at Menarche: A Systematic Review.” *BioMed Research International*. Retrieved March 7, 2019 (https://www.hindawi.com/journals/bmri/2014/371583/).