**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.**

This request is being submitted on behalf of the Expanded Programme of Immunization (EPI), Department of Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO). This includes an email consultation with EPI focal points in all 6 WHO Regional Offices and the Immunization monitoring focal point in UNICEF-HQ. We also had a conversation with JSI. In relation to questions on acceptance and demand for vaccination, this part was put forward in collaboration with a multiparter working group on the topic. In addition to completed the template, we put forward the following:

**General comments**

1. Emphasize that the vaccination schedule of the country and types of home-based records or vaccination cards, including any recent modification, must be taken into consideration when adapting the questionnaires
   1. Include booster doses and measles second dose, where appropriate
   2. Include HPV vaccination if used in the country (see below)
2. Related to the bullet above, question 516B1 assumes OPV3 +IPV recommended at the same visit, but some countries have IPV instead of OPV1 or OPV1 and OPV2.
   1. It should be revised based on the countries national immunization schedule.
   2. Recall questions may need to be adapted where this is the case. Because if for example OPV1 is replaced by IPV then the total possible number of oral doses is 2. In this situation, it may be more appropriate to ask if the child received 2 injections around the first dose (usually around 2 months old) – DTP1/Penta1 and IPV.

**Modifications to the reports**

1. In the preliminary DHS results report, included coverage data separated by card and by card+recall, and add DTP1.
2. Include the percent of respondents that answered “didn’t know” or nonresponse for recall-based coverage indicator
3. Include the immunization schedule as in a table in the report and highlight recently introduced vaccines, which may explain low coverage for some vaccines.
4. Include the observed Intracluster correlation coefficient (ICC) and design effect (DEFF) statistic in the annex of the DHS report
   1. This would be extremely helpful for the EPI survey designs.

**Topics for Discussion and Clarification with DHS**

1. How can DHS better involve EPI programmes in survey design, training and piloting to promote more accurate and used immunization data and use of DHS results
2. Discuss with DHS regarding their procedure for conducting facility trace-backs for vaccination records
   1. DHS did facility traceback in the most recent surveys in Ethiopia. It added to the % of data from documented evidence, but it is unclear to us how it worked (effort vs. what was gained)
      1. What are plans for other DHS countries to use facilities traceback? Are there any planned revisions to the Ethiopia facility-traceback from 2016 since they will have another DHS in 2019?
      2. After reviewing the optional MICS Questionnaire Form for Vaccination Records at Health Facility, it is not clear what the procedure is for MICS.
   2. Our current recommendation has been attempting it, but first doing a pilot to decide whether is feasible to get child vaccination data from the facilities
3. Discuss whether to ask recall questions BEFORE transcribing or making photos of home-based records (HBRs).
   1. If HBRs are photographed and the process is robust, it may not be necessary to transcribe the dates on the spot. Transcription can be done later manually or with some machine learning tools. This would allow asking recall questions systematically.
      1. The feasibility of this approach (which has worked in some Vaccination Coverage Surveys) should be tested in the DHS context.
4. Ask DHS their procedure for recording child’s date of birth and the imputation procedure currently used
   1. DOB was previously recorded for prior DHS questionnaires. Now there is only Question 7 on Household Schedule which asks for age and question 20 which asks for birth registration.
   2. What is done if the age is unknown, or if there is no birth registration?
5. Confirm with DHS – what is recorded if the card is illegible? - I can envisage situations where a card is shown but so poor a state that information needs to be collected from verbal recall.
6. Confirm with DHS - In the questions on history of vaccination, what is currently recorded if the mother doesn't remember how many doses the child received (see point 6 on page 1 here)?
7. Discuss the possibility of adding a few questions on barriers to vaccination and other demand challenges.
8. Increasing transparency and reproducibility of indicators in the reports
   1. Share analytical code or a better explanation of how new variables are created and share the augmented database (complete with newly constructed variables)
   2. Need to better understand how “never vaccinated” indicator is calculated
   3. Share/explain how dates of birth are imputed when not available
   4. Share/explain how missing data is treated
   5. Does DHS change dose number if an intermediate one is missing? E.g. if DTP1 and DTP3 are recorded, does DTP3 become DTP2 in the DHS analysis?

**Request to DHS: questions on acceptance and demand for vaccination**

With the recent open comment period to input into DHS questionnaires, we worked with a group of key experts to develop potential questions related to acceptance and demand for vaccination, and reasons for under-vaccination. These discussions took place within the auspices of a recently-established WHO working group effort to develop a modular and adaptable package of quantitative measures that will offer a more standardised approach to the gathering and use of quality data on the various factors that contribute to vaccination.

After intensive discussions and much careful consideration, we agreed that it is too early to put forward added questions to the DHS on this topic. However, given the status of our efforts and need to complete a review of existing measures and carry out initial testing of proposed new questions, we would like to ask if the DHS consider a form of collaboration in 2020 (and potentially beyond). Where DHS surveys will be planned in countries in 2020, could we work together to add questions about acceptance and demand for vaccination – conceived broadly as reasons for under-vaccination? This will contribute to a key stage of testing and validation of questions. We will then be well-placed for a submission during the next open comment period.

Given the importance of understanding barriers/facilitators to vaccination and the global attention now on this area, especially with the current outbreaks, we hope it may be considered. For any questions or follow up to this request, please contact: Lisa Menning, Technical Officer at WHO HQ. [menningl@who.int](mailto:menningl@who.int)

# **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)**

Childhood immunization indicators

* Additional Indicator 1. Percentage of children that receive most vaccines in public health facilities, private sector, outreach, or other.
* Additional Indicator 2. Percentage of children vaccinated during supplementary immunization activities (SIA) or vaccination campaigns

Human Papilloma Virus (HPV) Vaccination

* Indicator 1. Percentage of women/girls aged 15 years who have received at least one dose of Human Papilloma Virus (HPV) vaccine before the survey
* Indicator 2. Percentage of women/girls aged 15 years who have received at least two doses of Human Papilloma Virus (HPV) vaccine before the survey

Indicators 1 and 2 should be disaggregated by percentage vaccinated in the public or private facility, or in school.

* Indicator 3. Percentage of women/girls aged 15 years who had a vaccination card (for HPV Vaccination) seen
* Indicator 4. Percentage of women/girls aged 15 years who ever received a vaccination card (for HPV Vaccination)

Additionally, younger women should be asked the HPV questions according to the country HPV vaccination schedule. For example, if HPV is recommended for girls 10-13 then girls aged 14 and 15 should be asked the HPV questions.

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

Current immunization indicators

Vaccination in the private sector is increasing and little is known about the percentage this represents, as in many countries private sector reporting is incomplete or absent. Also, the proportion reached by outreach activities (mobile posts for example) is also unknown. The Strategic Advisory Group of Experts [on immunization] (SAGE) has requested that information of the role of private sector be collected. See <https://www.who.int/immunization/sage_conclusions/en/>

HPV vaccination

One of the indicators for SDG 3.b.1 is HPV Vaccination coverage among girls. The current strategy to monitor global data is by age 15. Though two doses are currently recommended for girls 9-14 years, studies on the effectiveness of one dose are being conducted. Thus, monitoring at both at least one and at least two doses is appropriate.

Given the small sample size of selecting only women aged 15 years old, the HPV module could be applied at the household level to all women aged 15 years.

As the HPV schedule changes, boys might also be targeted in the future.

Vaccination in the private sector is increasing and little is known about the percentage this represents, as in many countries private sector reporting is incomplete or absent. Furthermore, in countries using school vaccination, it is unclear the proportion of girls who do not receive them in school, but go on to being vaccinated in health facilities (public or private).

# **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.

Childhood immunization indicators

1. Where does NAME usually receives his/her vaccinations. Options (Public health facility, private sector, outreach other, etc).
   1. Need to define “usually” in the instructions
   2. Need to explain how outreach is done in a given country

HPV Vaccination

1. Did you ever have a National Immunization Record for HPV for (*name*)?
2. May I see the card(s) (and/or) any other document? *Record all documents shown.*
3. Is the National Child Immunisation Record the original that you received or a replacement or copy?
4. *Copy dates for each vaccination from the documents for HPV1, HPV2 (and HPV3, if relevant).*
5. Recall questions: Has the girl ever been given an injection in the arm (HPV vaccine) to prevent her from getting cancer of the cervix?
6. How many times did the girl get this HPV injection? Include a “don’t know” option
7. Where was the 1st HPV vaccination received from (public health facility, private health facility, school)?
8. Where was the last HPV vaccination received from (public health facility, private health facility, school)?

4.1.1 If requesting multiple questions, please specify the relative priority of each new question.

NA

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

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| --- | --- | --- | --- |
| **DHS-7 question number** | **DHS-7 question text** | **Proposed new question** | **Rationale** |
| 513A |  | Did (NAME) receive a Hepatitis B vaccination, usually given at birth or soon after, that is, an injection in the thigh to prevent Hepatitis B?” | Remove ‘within 24 hours’. Current wording may result in different responses from what is obtained from cards (Q508A). |
| Questions 516A, 518A, 520A, 522A, 524A |  | Add the option “Don’t know” to questions about how many times the child received a vaccine | Currently interviewer seems forced to write a number |
| Ask a campaign question to everyone, not just to those that don't have all vaccination dates completed on question 508B. | | | Differentiation between supplementary immunization activity (SIA) or campaign vs routine immunization (RI) |
| 504b |  | include an option for a card given during a campaign as well as routine immunization (RI) cards. Options (Yes, only RI card; Yes, only campaign card, Yes, both cards; Yes, only other document; No, neither card seen or other documentation) |
| 511A |  | Reword or split question to differentiate between never ever vaccinated (neither as part of a campaign or supplementary immunization activity (SIA) nor through routine immunization (RI) |
|  |  | Consider asking question(s) that probe for recent SIA vaccination (similar to what MICS is doing) or, where appropriate, ask recall of when doses received in vaccination campaigns were (with option to record at least 2 separate years) |
| Tetanus questions for mothers | | |  |
| 414 |  | Was the vaccine given TT or Td (if the mother can identify it) | Switching from TT to Td is a recent WHO recommendation. |
| 414 |  | Remove convulsion from the probe | Convulsion is not a symptom or sign of NT.  The symptoms and signs include: - Inability to suckle; irritability; spasms provoked by noises, touch, light. These usually appear 2 days after birth and within 28 days (neonatal period). |
| Questions 417, 418, and 419 |  | It is better to ask for history of TT vaccination during previous pregnancies. | It is easier to link TT vaccinations to pregnancies. |
|  |  | Add two questions on IF and WHAT any substance was applied to the umbilical cord after it was cut. Options can include mud, ash, traditional herbs, oil, soap and water, chlorhexidine, other antiseptic, etc). | It can help understand practices linked to NT |

Tetanus questions

Reflect revised WHO recommendations: <https://www.who.int/immunization/policy/position_papers/tetanus/en/>

**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?**

Childhood immunization indicators

It should not affect most indicators. However, Hep birth dose by recall may be affected as asked differently. Similarly, it is unclear how DHS is currently able to differentiate doses given in routine immunization, vs. campaigns and the change would need to be flagged to users.

HPV Vaccination

There is no implication on trend measurement to adding HPV-related questions. However, before standardizing the questions, more validation may be needed. Also, ascertaining the concordance of HPV vaccination responses, when cards are not seen between mothers/caregivers and the girls themselves needs further exploration.

# **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.**

Changes proposed do not affect how vaccination coverage indicators are calculated. The “don’t” know answers proposed would not go to the numerator, but yes would be kept in the denominator and the proportion replying “don’t know” would need quantification.

Disaggregation – it would be helpful to disaggregate as currently done for other vaccines

**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?**

Useful at national and subnational levels

*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. |
| Ownership of mobile phone |  |  |  |
| Use of mobile phone for financial transactions |  |  |  |
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# **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 additional questions proposed for childhood vaccines and the place of vaccination have been used in several Vaccination Coverage Surveys.

There has been no formal validation of the HPV questions.

**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).**

Reports from Vaccination Coverage Surveys can be requested to [vpdata@who.int](mailto:vpdata@who.int)

MICS surveys include a question about SIA vaccination (see last row under table in 4.2)

# **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?**

The changes proposed will be useful to national immunization programs in all countries. It will also be useful to global and regional immunization stakeholders. It can allow better understanding and engaging with the private sector. Also, the differentiation between campaigns and routine immunization will better help develop vaccination strategies, particularly for measles (as these stakeholders were those most adamant about said questions).

The additional information requested for childhood vaccination cannot be obtained from routine admin data sources in most countries. DHS, along with MICS and Vaccination Coverage Surveys are the main sources of additional immunization data not collected by routine information systems. The same questions are included in VCSs and are being discussed with MICS and others, as included in the WHO White paper on immunization indicators from surveys (attached).