**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 by UNAIDS.

# **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.*

Biomarkers

1. Percentage and number of people living with HIV who may have been recently infected according to antibody concentration, proportion, avidity.
2. Percentage and number of people living with HIV where the presence of ART is detected
3. Percentage and number of people living with HIV who have suppressed viral loads (<1000 copies/mL).
4. CD4 absolute count among people where no ART is detected

Questions:

1. Percentage and number of people living with HIV who self-report knowing their HIV status.
2. Percentage and number of people living with HIV who self-report receiving ART.

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

For all of the biomarkers recommended above, the rationale for their inclusion is that connecting HIV knowledge, attitudes, beliefs and behavior with biomarker data enables greater understanding of the social context in which HIV infection occurs. These measures also provide an important framework in which HIV programmes can be monitored for impact and contribute to our understanding of progress towards global targets including 90-90-90 and incidence reductions.

In addition to the overall rationale for expanded biomarker inclusion, please note the following for specific biomarkers:

Recent infection testing: Data on recency of infection are useful in terms of characterizing the behavioural factors associated with recent transmission as well as an overall measure of the current state of the HIV epidemic.

Exposure to ARV medicine: Determining the proportion of people living with HIV receiving ART can be an important indicator for many HIV programmes. This measure can be used to monitor progress towards 90-90-90, to validate ART programme data and to provide additional information about potential non-disclosure of HIV status.

Viral load testing: HIV viral load testing is critical to monitoring 90-90-90 and measuring the impact of treatment. It is also necessary to verify the recency of infection. In the latter case, viral load testing is only required for specimens where a recent infection is indicated although we recommend viral load testing for all HIV positive specimens. The results from the viral load test can be used to reclassify people with low viral load as not recently infected.

CD4 T-cell count: An individual’s CD4 count is a marker of immune response to HIV infection. CD4 count data provide a clinical assessment of HIV infection at the individual level. Within a survey, population estimates of CD4 count can be used to characterize symptoms among those living with HIV who are untreated. Moreover, because of linkage between biomarker data and individual-level data, inclusion of CD4 data, and increasingly viral load data, may provide useful information for HIV programmes on the impact of expanded ART.

Regarding knowledge of status, although self-reported information on knowledge of status is not directly useful, when linked with behavioural and other biomarker data, it can be used as a marker of potential stigma or perceived discrimination.

Regarding self-reported ART use, it is useful in estimating program impact and in correcting ARV coverage among people living with HIV and also explaining any inconsistencies between viral load suppression and treatment biomarkers, even though self-reported ART use would not be used as a reliable indicator of treatment coverage/impact.

# **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.

UNAIDS welcomes additional questions about HIV-related mortality and testing in the DHS Sibling Module proposed by researchers at Johns Hopkins University and LSHTM, provided there is sufficient evidence for validation of the proposed questions. These questions are provided below:

1) Has [NAME] ever been tested for HIV?

• YES  Q2

• NO  Q4

• DON’T KNOW  Q4

• REFUSE  Q4

2) How long before [NAME] died did he/she last test for HIV?

• WITHIN THE LAST YEAR

• …. YEARS AGO

• DON’T KNOW

• REFUSE

3) What was the HIV status of [NAME] at the last test ?

• POSITIVE  end

• NEGATIVE

• DON’T KNOW

• REFUSE

4) (for all who did not answer “POSITIVE” in question 3), How likely do you think it is that [NAME] had HIV?

• DEFINITELY

• VERY LIKELY

• SOMEWHAT LIKELY

• SOMEWHAT UNLIKELY

• VERY UNLIKELY

• DON’T KNOW

• REFUSE

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

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

|  |  |  |  |
| --- | --- | --- | --- |
| **DHS-7 question number** | **DHS-7 question text** | **Proposed new question** | **Rationale** |
| 712, 714, 1016(2) and 1018 (2), 1022 (2)  1027 (2)  1029 (2) | As an example: “I don’t want to know the results” | * Delete “I don’t want to know the results” * Add question: What is your HIV status? (for people who report having tested and received their result) | Countries use data on ever tested among people living with HIV to inform estimates of knowledge of status indicators. |
| 713, 1026 (2) | As an example: How many months ago was your most recent HIV test? | We would kindly request that DHS look at whether there are other methods of asking for dates related to testing history to see if more reliable data on the timing of the last test can be collected. | Our analysis of testing history during the last 12 months from DHS surveys as compared to programmatic data suggests that in many countries there is substantial telescoping bias (i.e., individuals remember their HIV test as having occurred more recently than it did). |

**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.**

Specimen collection procedures are described in the 2015 UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance guidance on Monitoring HIV Impact using Population-based Surveys in Table 2. (<http://www.unaids.org/sites/default/files/media_asset/JC2763_PopulationBasedSurveys_en.pdf>).   
  
Specific to return of results and consistent with the above mentioned guidance, we strongly recommend that DHS consider offering in an opt-out manner return of HIV test results as part of the household survey (rather than referring individuals to other counselling and testing facilities). We also strongly recommend that CD4 count and viral load test results be returned to nearby clinics and individuals so that these results can be used for clinical management of infection. We do not recommend that results of recency assays be returned to individuals, consistent with the 2018 Technical Update on http://www.unaids.org/sites/default/files/media\_asset/infection\_testing\_algorithm\_en.pdf.

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.

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

Inclusion of return of HIV test results may lead to differential non-participation bias. DHS should continue to explore and publish findings on non-response rates and determine the best statistical methods for reporting and adjusting for non-response.

# **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.

1. Numerator: Number of people living with HIV recently infected

Denominator: Susceptible population

Calculation: HIV incidence is calculated based on a formula that includes the estimated mean duration of recent infection and corresponding relative standard error, the false recent ratio, the estimated time before which a person is considered to be recently infected, the design factor for the prevalence of recent infection among positives and the results of the recent infection testing algorithm assays.

1. Numerator: Number of people living with HIV on antiretroviral treatment

Denominator: Number of people living with HIV

Calculation: Numerator/denominator

1. Numerator: Number of people with late diagnoses (defined as CD4<200 and CD4<350)

Denominator: Number of people living with HIV not on treatment

Calculation: Numerator/denominator

1. Numerator: Number of people living with HIV with suppressed viral loads (<1000 copies/mL)

Denominator: Number of people living with HIV  
Calculation: Numerator/denominator

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. |
| Viral load suppression |  |  |  |
| Treatment |  |  |  |
| CD4 count |  |  |  |
| HIV incidence |  |  |  |

# **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).

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).

# **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? The biomarker data are useful for monitoring progress towards 90-90-90 and other impact indicators and will spur programmes to address gaps in the cascade. Biomarker data, especially the presence of ARV, can be used to improve and validate self-reported measures of knowledge of status and access to treatment.
  + Who will use the data? National programmes use these data as inputs into the HIV estimates process using the Spectrum software tool. UNAIDS uses indicators to validate reported programme data and to monitor global progress on related indicators.
  + What kinds of decisions will be made using these data? These data are important for monitoring program impact and therefore will contribute to funding decisions and programme planning efforts.
* For what kinds of countries would the indicator(s) be most useful?
* Recent infection testing should be considered in countries with hyperendemic HIV, in which there has been either stagnant or increasing HIV prevalence over time. In most settings, HIV incidence biomarkers should only be included when the estimated HIV prevalence among adults 15–49 years old is 5% or greater and the estimated incidence is 0.3% or greater.
* Does the DHS survey offer any particular advantage over other available data sources for measuring this indicator? If so, what? National surveys provide a unique opportunity to link biomarker data with extensive behavioural and sociodemographic data. This level of detail cannot be collected through routine programmatic data collection activities.