DESIGNING THE QUESTIONNAIRE

This chapter is for survey coordinators. It will help you to:

➢ Decide which indicators will be measured with the survey

➢ Determine what information you need to collect

➢ Learn how to ask questions to obtain the information you need

➢ Design a good questionnaire

➢ Decide who the respondents will be

➢ Understand the contents of MICS4

MONITORING INTERNATIONAL GOALS AND TARGETS

The information provided in this chapter will help you collect data that can be used to plan and improve programmes as well as to report on progress towards various global goals and targets. The MICS4 questionnaires build upon the previous rounds of the Multiple Indicator Cluster Survey, but provide additional questions and modules to monitor newly agreed upon indicators. If all current standard modules were to be included, MICS4 would be able to collect information on more than 100 internationally agreed upon indicators. The complete list of indicators that can be measured through MICS4 and used for global reporting are provided in MICS Manual Chapter 'Getting Started'.

As with previous rounds of MICS, it is important that countries first examine all sources of data already available before deciding to conduct a MICS.

MICS4 QUESTIONNAIRES

MICS4 questionnaires provide the basic set of questions needed to obtain population-based estimates of a large number of indicators. The questionnaire modules are the product of a long consultative process, and the indicators estimated through MICS4 are largely comparable with those obtained by using most other international household survey programmes. Of particular significance in this context is the Demographic and Health Surveys (DHS) project. UNICEF worked closely with MEASURE DHS to standardize questions so that many of these indicators can be measured using either one of these survey questionnaires. In countries where a recent DHS has been conducted, or will be conducted before the end of 2011, the DHS survey, rather than the MICS, should be used as the primary data collection vehicle.

For the current round of MICS, four model questionnaires have been designed: the Household Questionnaire, the Questionnaire for Individual Women, the Questionnaire for Children Under Five and the Questionnaire for Individual Men. These questionnaires include the so-called standard modules.

The MICS4 model questionnaires comprise ten modules in Household Questionnaire, 17 modules in the Questionnaire for Individual Women, eight modules in Questionnaire for Children Under Five and ten modules in the Questionnaire for Individual Men. UNICEF strongly recommends that every participating country adapt the standard modules that are relevant to their country and where there are data gaps (i.e., the relevant data are not available from another reliable source).

In addition to these standard modules, two questionnaire forms are available: (1) the Questionnaire Form for Child Disability, and (2) the Questionnaire Form for Vaccinations at Health Facility.

The Questionnaire Form for Child Disability is administered to mother or caretakers of all children age 2-9, and should be used in countries where medical assessment (of children identified by this form as potentially having a disability, and of sample of children screening negative to all the questions in the form) is planned after the survey.

The Questionnaire Form for Vaccinations at Health Facility should be used in countries where vaccination cards of significant numbers of children are kept at health facilities. Survey teams are expected to visit health facilities and complete this form.

It is important to remember that the more modules that are included, the more complex the survey will become and the more difficult it will be to ensure that fieldwork produces high-quality data. Therefore you should choose only

To develop your questionnaire, choose only the modules for indicators you need to monitor with a survey.

those question modules you actually need in your new survey. When another survey is planned, one or more modules can be 'piggy-backed' onto the existing questionnaire of that survey.

> **EXAMPLE:**
> If a country is planning to conduct a Demographic and Health Survey,
> you should request that DHS include the MICS4 'Child Labour' module.
> This module is not covered in the model DHS questionnaires, but can be
> easily added on to a DHS survey.

In addition to the model questionnaires, UNICEF recommends the use of Geographic Positioning Systems (GPS) in MICS4. Such devices can be used to enhance the quality of data collected, open new avenues for data analysis, and aid fieldwork by making possible the easy identification

of sample points. Uses of GPS devices in MICS4 are discussed in MICS Manual Chapter 'Global Positioning Systems'.

WHY DO WE NEED MODEL QUESTIONNAIRES?

The model questionnaires have been designed for two reasons. First, they provide standard questions needed to estimate indicators of internationally agreed-upon goals so that each country's indicators can be compared with others. If the survey methods are adequate and appropriate sampling techniques are used, these national indicators can also be compared with earlier estimates. Second, the questionnaires and modules provide questions and standard methodologies that countries can use to collect data to plan and improve a wide range of programmes. These questions can provide data at country and regional level to assess need, advocate for new programmes, modify existing programmes, and collect baseline data for evaluation when programmes begin.

Each country will want to adapt the model questionnaires and modules to meet their particular needs and circumstances. The information in this chapter will help you design a survey that is not only relevant, but that is easy to use and that will provide the best data possible. You will find out why each

If you follow the advice in this chapter carefully, you can adapt the questions to serve the data needs of your programme, while ensuring that results are internationally comparable.

module appears in the questionnaires and how it can be adapted to furnish the data you need. At the same time, it will ensure that you can report valid, reliable and internationally comparable data to assess and track your country's progress.

HOW DO I DESIGN A GOOD QUESTIONNAIRE?

The first step in designing a good questionnaire is to be clear about your aims and collect only the minimum amount of information necessary. Don't make the interview too long by including modules or questions that are not relevant to your needs.

Collect only the minimum amount of information you need. Overloading the questionnaires may compromise the quality of all the data collected in the survey.

It is always tempting to add more questions. But you run the risk of overloading your field workers, demanding too much of your respondents and making data analysis too complex. You and your team need to know why each question is included and what you will do with the information after it is obtained. *Overloading the questionnaires may compromise the quality of all the data collected in the survey.*

On the other hand, retaining too few modules may result in very short questionnaires that lack the rhythm for a successful face-to-face interview. It is important to remember that

questionnaires are tools to systematically collect information from respondents in a conversational fashion. They should follow a logical pattern.

The following pages provide general guidance on constructing a good questionnaire. Once the questionnaire is designed, it will be in your best interest to send it to your UNICEF Regional Office and to UNICEF Headquarters in New York for review, to ensure that your customized questionnaire is internationally comparable and capable of producing estimates of internationally agreed-upon indicators. Mechanisms will be created in each UNICEF region to make sure that you receive timely feedback on your survey tools and responses to other technical support needs. Implementing the survey will require careful preparation and oversight. Here too, you will need to stay in close contact with the MICS coordinator at UNICEF Regional Office and the UNICEF Headquarters.

A well designed survey instrument minimizes the amount of error that occurs when gathering information. Interviewers can only obtain answers that are reliable and valid if they are using well-designed questionnaires. By *reliable*, we mean that, no matter who asks the question or where and when it is asked, the same respondent would most likely give the same answer. When a questionnaire is well designed, each question is asked in the same way by every interviewer, and differences between interviewers will be kept to a minimum. By *valid*, we mean that the question elicits a response that is true and accurate, and measures whatever it is that you want to measure. A good questionnaire should enable you to obtain valid measures by helping to ensure that the respondent understands what information is being sought.

Sources of Error in Surveys

Data from household sample surveys that collect retrospective information can contain errors for many reasons. These errors can be grouped under two main headings:

Sampling error arises by chance, because the survey questions a sample of respondents rather than the whole population. Errors can also arise because your sample does not adequately represent the entire population. You can avoid these kinds of errors by ensuring that your sampling frame is adequate and your sample size is large enough to enable your measurements to be precise. In MICS Manual Chapter 'Designing and Selecting the Sample', we discuss ways to avoid sampling and coverage errors.

Measurement error results from imperfectly measuring what you set out to measure. This kind of error is usually more serious than sampling error because it cannot be corrected, and sometimes cannot even be detected. One important way to avoid measurement error is to ensure that your survey is carefully designed. MICS Manual Chapter 'Designing the Questionnaire' explains how to go about that. Another way to avoid measurement error is to ensure that well-trained and supervised field staff conducts the interviews. MICS Manual Chapter 'Preparing for Data Collection and Conducting Fieldwork' discusses this aspect of the survey in detail.

These considerations are especially important for international household survey programmes such as MICS, since one of their purposes is to measure trends over time and to compare indicators internationally. A good design and translation, and thorough pre-testing of the questionnaire, can help make sure that your survey collects reliable and valid data.

The questionnaires are designed to be used all over the world. Using these questionnaires verbatim is the best way to ensure that the results of your survey are comparable to the results from other countries and to the results from previous MICS. *For this reason, it is important to retain the exact wording of the questions in the model questionnaires.*

The other aim of a good questionnaire is to elicit the necessary information quickly and easily. As mentioned earlier, this means that it should contain the minimum number of

Questions must be asked in the same way each time a survey is conducted.

questions needed to obtain the required data. Both the interviewer and the respondents should be able to understand these questions easily. The wording and question sequence are designed to motivate respondents and help them recall difficult information. The survey instrument is designed to be manageable, economical and to intrude as little as possible on the activities and privacy of families that are interviewed.

However, even when you are using a good questionnaire, there is no guarantee that interviewers will stick to the correct interpretation of the questions. *Good training in the use of the questionnaire is essential.* Instructions for administering the

Your interviewers must learn how to ask questions properly. Be sure you use the interviewer guide to train your field staff.

questionnaires are found in MICS Manual Chapter 'Instructions for Interviewers'. You should translate this, if necessary, and make copies for survey staff. Give a copy to each fieldwork staff during the training programme. Advice on how to select and train interviewers is found in MICS Manual Chapter 'Preparing for Data Collection and Conducting Fieldwork'.

A guide to help you analyse the data obtained through the MICS4 questionnaires is provided in MICS Manual Chapter 'Analysis'. In addition to estimating indicators at the national level, indicators can be tabulated by a range of background characteristics to allow the identification of disparities and their extent, sample sizes permitting.

CUSTOMIZING MICS4 QUESTIONNAIRES AND MODULES

The questionnaires you need for conducting your survey are described in MICS Manual Chapter 'Model Questionnaires'. These are standard questionnaires that are designed for implementation in all countries. The questionnaires are designed in a module format so that countries can easily remove those modules that are designed to collect data that are not locally relevant. When adapting the questionnaires, survey managers are encouraged to keep the following points in mind.

Before removing modules or adapting individual questions, survey managers should review the list of indicators and the tabulation plan. Many MDGs and other indicators are calculated from questions located in different parts of the questionnaire. If the questionnaire is not adapted carefully, then changes could result in an inability to calculate key indicators.

It will be necessary to adapt questions to the national context. For example, question MN18 asks where a birth occurred. It will be necessary to review the coding categories and modify them according to the health system/facilities in the country.

Survey organizers should be very cautious about incorporating in any new questions. The standard MICS4 questionnaires are already very lengthy and it is not advisable to include any additional questions unless modules are removed.

Reviewing the questionnaires with local stakeholders, including government agencies, donors, and other local organizations can ensure a national sense of ownership and support for the survey.

It is common sense that no single model questionnaire can represent diverse experiences and realities of countries around the world. However, it is also true that successful adaptation or customization of survey tools to country situations is possible, while retaining comparability with other countries. You will decide on some of the changes or adaptations to be made during the initial process of designing the questionnaire. Others will be made after the questionnaires have been pre-tested (information on the usefulness of pre-testing is provided below).

In adapting the questionnaires, UNICEF recommends that the following guidelines be followed to ensure comparability and quality:

- First, decide on the indicators for which you need to collect data. This should be followed by the identification of modules that you will need to include in your questionnaires. MICS Manual Chapter 'Indicators for Global Reporting' includes information on the numerators and denominators of all indicators covered by MICS4, as well as the modules in which they are found.
- In deciding on the modules you want to use, be aware that a decision to exclude one may affect another. A typical example is the 'Child Mortality' module. One of the objectives of this module is to identify women who have had a live birth during the 2-year period preceding the survey. This will help identify those women who should answer questions contained in the 'Desire for Last Birth' and 'Maternal and Newborn Health' modules.
- For reasons already discussed, do not overload the questionnaires.
- Retain the order of modules and questions unless there is a very good reason to do otherwise. Remember that for the majority of modules, the ordering suggested has been tested many times over the years, both in the context of previous MICS rounds and other

international household surveys. MICS4 questionnaires have also been pre-tested by UNICEF Headquarters and have been modified and finalized based on the pre-test.

- MICS Manual Chapter 'Model Questionnaires' provides information on some style and formatting characteristics of the MICS4 questionnaires and modules. These include standardization of question numbers, use of certain response codes for particular types of responses and other formatting features, such as the use of lowercase or uppercase letters. You should make sure to retain these standard characteristics.
- UNICEF recommends that the original question numbers be retained during the customization process, even when questions are deleted or inserted. This will facilitate the comparison of questionnaires from different countries, make the adaptation of model data processing programs by countries easier, and minimize the risk of producing modules where skip patterns may be incorrect.
- There might be a need to add questions to the MICS4 questionnaires that are not included in the model questionnaires. In doing so, utmost care should be taken to make sure that numbers assigned to the new questions do not replace the numbers on questions in the model questionnaires that may have been excluded because of their lack of relevance to the country situation. If new questions are added, they should be assigned numbers not used in the model questionnaires. For instance, if a new question is to be added between HA15 and HA16, it can be assigned the number HA15A.
- UNICEF recommends that Latin numerals be retained in question numbers.
- In adapting response categories, you should first understand what the existing categories aim to capture. In some cases, a likely response category in a country may already be included in the model question, using a different term. In such cases, the wording can be changed to the term used in the country. If a new response category has to be added, it should not take up the numeric or letter code of a response category already used in the model questionnaires and modules.
- It is very important that the eligibility criteria, usually expressed in age ranges, not be changed. Eligibility criteria are based on the definitions of internationally agreed upon indicators, and such changes may result in an inability to measure the indicator. For instance, child discipline questions are asked of children aged 2-14 years, and indicators based on this module are calculated for this age group. If the age range were to be changed from 2-14 years to 2-9 years, for instance, this would mean that child discipline indicators could not be calculated. If changes are desired in this respect, they should only be in terms of capturing a wider group; then, the appropriate age group can be selected during the analysis stage and the appropriate indicator calculated.

Once again, UNICEF strongly recommends that participating countries share their questionnaires with UNICEF Regional Offices and UNICEF Headquarters to make sure that rules are correctly followed when customizing the surveys. This will also enable UNICEF to provide technical assistance to survey implementing agencies, as needed.

TRANSLATING AND BACK-TRANSLATING QUESTIONNAIRES

Survey questions have been carefully designed to measure each global indicator. Therefore, changes to the questions should be avoided as much as possible. This also applies to translations, where subtle changes in the meaning of questions can occur.

The question modules need to be translated into the respondents' local language *before* the survey begins. Translation should never be left to the interviewer, since small differences in interpretation can destroy the reliability and validity of your data. As a general rule, you should plan to translate and print the questionnaires into any language that will be used by approximately 10% of your sample or more. Note that it may also be necessary to translate the instruction manuals and fieldwork forms for interviewers, supervisors and editors.

There are a number of different techniques that can be used to translate the questionnaires. One technique is when one person, preferably a native speaker of the language, translates the questionnaire. Another technique is group translation. This approach utilizes a small group of people who discuss the meaning of each question and then come to a consensus

All the interviewers must ask the questions in the same way.

about the best way to translate. Following that, another translator independently translates the questionnaire back into the original language. The two versions can then be compared. Back translation works as a double check in both techniques to ensure that the translation does not change the integrity of the standard questionnaires.

Regardless of the techniques used, keep the following in mind:

- Word for word translations must be avoided. Instead, the meaning of each question should be easily understood in colloquial language.

- People who are working on the translation need to have good language skills but also understand the terms and concepts used in the questionnaires. Previous experience indicates that hiring professional translators often results in mistakes because they are not familiar with the intent of each question. It is essential for senior survey staff to be involved in the translation process to ensure that the meaning of each question is maintained.

- Discuss any words or terms that seem to be ambiguous or confusing, and agree on the correct translation. Refer to MICS Manual Chapter 'Instructions for Interviewers' for more information on each question.

- If a MICS or DHS has previously been conducted in the country, those translated questionnaires should be used for reference. While those translations can be useful,

text should not be copied over without a thorough review. Some MICS4 questions that seem similar at first glance may have been modified slightly. Furthermore, it is possible that there were problems in the original translation.

- When more than one local language exists in the area to be surveyed, use the translation procedures suggested above for all the questions and the instructions, for each language that will be used.

> **EXAMPLE:**
> Make sure the order of the questions is not changed during the translation process. Take particular care over the translation of phrases such as 'seek advice or treatment'. Be careful, as well, when referring to answers from previous questions (for example, 'during the episode of diarrhoea').

In a separate operation, *another translator* should then translate the new questions back into English (or the original language), without referring to the original model. This new translation should match the original version. Discuss any ambiguous words or phrases and decide on the correct translation for the local language.

PRE-TESTING THE QUESTIONNAIRE

The translated questionnaire needs to be ***pre-tested*** in the community, using respondents similar to the respondents likely to be in the survey sample. You will find more information about doing a pre-test in MICS Manual Chapter

The pre-test provides a great deal of information for designing the final questionnaire.

'Preparing for Data Collection and Conducting Fieldwork'. This pre-test should identify any problem areas, misinterpretations or cultural objections to the questions.

IMPORTANT: *A pre-test of your questionnaire is very important, since it is easy for mistakes in flow, translation and other aspects of question wording to be accidentally incorporated into the questionnaire. A pre-test can provide a great deal of information for designing the final questionnaire and for planning other aspects of the survey process.*

You may find that the response categories for some questions are not sufficient to allow for the range of answers you receive. For example, you may need to add a particular type of health facility to the list of places where a woman might give birth (See 'Maternal and Newborn Health' module). Or, you may find that there are categories that do not apply to your country and need to be removed.

Do not ignore the lessons of the pre-test, but also be careful not to change the order or the meaning of the questions. You may need to do more than one pre-test before your questionnaire is satisfactory. Discuss the results with

> **Do not rush to print your questionnaires before you have done the pre-test and made the necessary changes.**

experienced colleagues and with the interviewers, and decide what changes are needed. Follow the simple rules listed above. Make any changes necessary to the instructions to interviewers, to the wording of prompting questions and to the translation. Only then are you ready to reproduce the questionnaire forms.

What a Pre-test Can Tell You

- ✓ Are respondents willing to answer the questions in the form you propose to use?
- ✓ What are the country-specific response categories?
- ✓ Are any of the questions particularly difficult or sensitive? Do interviewers understand the questions? Extra training can focus on these questions.
- ✓ Do the respondents misinterpret the questions? Are any of the words ambiguous or difficult to understand? The pre-test should point to where changes in wording or improved translation are needed.
- ✓ Does the questionnaire flow smoothly? Can the interviewers follow the instructions easily?
- ✓ Is there adequate space on the form and are the answers clearly coded? The pre-test should show where the format needs to be improved before the final questionnaire is printed.
- ✓ Is it necessary to create new codes for common answers that were not included in the original questionnaires?
- ✓ How long does an interview take? The answer to this question will help you decide how many interviewers are needed and how long the fieldwork will take.

In summary, the final questionnaire should be the product of careful preparatory work. It should ask only for the information your programme needs and will use. It should be as short and as easy for interviewers to use as possible.

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│                        Questionnaire Checklist                            │
│                                                                           │
│   ✓   Questions should be clear and as short as possible; use simple      │
│       language.                                                           │
│   ✓   The questions should flow clearly and logically, and the layout     │
│       should make it easy to administer the questionnaire.                │
│   ✓   Appropriate codes should be used for all response categories, and   │
│       a code should be available for a category of answers that does not  │
│       fit into the other response categories.                            │
│   ✓   Instructions to interviewers should be easy to follow and easy to   │
│       distinguish from the questions to respondents.                      │
│   ✓   Make sure the questionnaires have been translated, back-translated  │
│       and pre-tested.                                                     │
│   ✓   Check that the questionnaires provide *all* the information needed  │
│       to calculate estimates for each indicator.                         │
│   ✓   Ensure that MICS4 question numbering is maintained.                 │
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RESPONDENTS TO MICS4 QUESTIONNAIRES

The *Household Questionnaire* is designed to be administered to every household drawn for the survey sample. You may begin the household interview with any knowledgeable adult who is usually living in the household visited. For the purposes of MICS4, adults are defined as household members over the age of 15. The Household Questionnaire can be completed with this person, who is assumed to know the answers to basic questions about the dwelling and the household, such as the water and sanitation situation, and can be assumed to be knowledgeable enough to provide proxy information on other household members in regard to education, orphanhood, age and sex.

It is useful, therefore, to start the Household Questionnaire with a mother or primary caretaker. This may result in more reliable data (responses from mothers or primary caretakers regarding a child's education, for example, are likely to be more accurate than those obtained from another adult member of the household, even though they are eligible to supply such information).

All women of reproductive age (15−49 years) living in the household are eligible respondents to the *Questionnaire for Individual Women.*[1] Under no circumstances should a proxy respondent be accepted to answer questions on an eligible woman's behalf. It is very important to conduct this interview alone with the respondent, since the topics covered are sensitive in nature and answers may be biased in the presence of others. There are, however, some questions and modules in this questionnaire that some women will not be asked to respond to. For example, the 'Maternal and

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[1] A small number of countries will prefer to ask some of the modules in this questionnaire only to women who are or have ever been married. Although this approach should not be adopted unless absolutely necessary, there are ways of accommodating this additional element of eligibility into the questionnaires, which is discussed later in this chapter.

Newborn Health' module is only administered to women who have had a live birth during the 24-month period preceding the survey.

In the *Questionnaire for Children Under Five*, each mother or primary caretaker is asked about the children under age five in her (or his) care.[2] The questionnaire is designed to ask all questions about all children under five, except in a few cases. This focus on children under five is intended to simplify the job of interviewers, so that they do not have to make too many decisions in the field about a child's age and eligibility for particular questions.

THE MODEL QUESTIONNAIRES

Many of the indicators in MICS4 were also included in the previous three rounds of Multiple Indicator Cluster Surveys, and the questions for measuring most of the indicators remain unchanged. In a few cases, the questions have changed slightly to conform to international agreement on the best measurement approach. For example, malaria indicators measured by MICS have been expanded and the questions to measure them have been harmonized with other malaria-specific surveys. In this section, we provide a module-by-module description of the current MICS4 model questionnaires. Questions that have been modified and questions that were not included in previous rounds receive special attention.

FLOW OF THE HOUSEHOLD QUESTIONNAIRE

The Household Questionnaire consists of ten modules. All of these modules can be completed with a knowledgeable adult household member (referred to as respondent). It is useful if the respondent is also the mother or primary caretaker of children living in this household.

The Household Questionnaire begins with a cover page, the 'Household Information Panel', which includes information on the household and should be completed for all sampled households, including those where the interview was not completed. This is followed by the 'Household Listing Form', used to collect information on all usual residents of the household, including their age, sex, and relationship to the household head as well as questions on orphanhood. The 'Education' module includes questions on the educational attainment of household members who are 5 years of age or over, as well as school attendance for household members aged 5-24 years. The subsequent two modules, 'Water and Sanitation' and 'Household Characteristics', concern the household and the dwelling. In malaria-endemic countries, the modules on 'Insecticide Treated Nets' and 'Indoor Residual Spraying' are to be included. The 'Child Labour' module includes questions about work any of the children aged 5-14 years living in the household may do. For the 'Child Discipline' module, if there is more than one children age 2-14 living in the household, only one child is randomly selected with the help of a Kish

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[2] When the relevant indicator targets narrower age groups, as in the case of breastfeeding and introduction of complementary foods, these narrower age ranges will be selected during data processing and analysis.

Table[3] and the module is administered for this selected child. The next module is the 'Handwashing' module that requires the interviewer to do observation of the specific place in the household used for handwashing and the availability of water and soap there. The Household Questionnaire ends with a module on 'Salt Iodization', where the result of salt testing is to be recorded. Salt testing is carried out in all households in the sample and the salt used in the household for cooking is tested for iodine content, by using salt testing kits. MICS Manual Chapter 'Salt Iodization Testing' includes more information about the salt iodization testing.

FLOW OF THE QUESTIONNAIRE FOR INDIVIDUAL WOMEN

The Questionnaire for Individual Women is administered to all women aged 15-49 years, and consists of 12 modules. All modules in this questionnaire are to be completed with the eligible woman. Under no circumstances should a proxy respondent be allowed to respond on behalf of the woman herself.

As mentioned earlier, some countries may decide to administer this questionnaire to ever-married women only. In some settings, topics such as contraceptive use or sexual behaviour may be considered inappropriate for women who have never been married for cultural reasons, or the incidence of sexual activity or contraceptive use may be negligible. In such cases, it is possible to collect information on the marital status of women in the Household Listing Form of the Household Questionnaire and modify the eligibility for the women's questionnaire to 'all women aged 15-49 years who have ever been married'. This is not recommended, however, since it introduces a new dimension to the identification of eligible woman, makes analysis more difficult, and relies heavily on the responses from the respondent to the Household Questionnaire for the identification of the respondent. For these reasons, it is preferable to retain the eligibility criteria used in the model questionnaires, but to obtain information on the marital status of the woman in the Questionnaire for Individual Women and use this information to skip questions or modules that may be considered inappropriate. On the other hand, it is worthwhile to mention that, in many settings, never-married respondents are less reluctant to answer sensitive questions than survey administrators think they are. We therefore recommend that a thorough evaluation concerning the applicability of the questions be carried out and perhaps tested during the pre-test exercise, before a decision is made.

The Questionnaire for Individual Women begins with the 'Woman's Information Panel', which includes identification codes for the woman, and then the 'Woman's Background' module collects information on age, date of birth and literacy of the respondent. The 'Access to Mass Media and Use of Information/Communication Technology Module' module collects information on the exposure of respondents to mass media, and the use of computers and the internet. The module on 'Child Mortality' is used to collect information useful for estimating infant and under-five mortality rates, as well as information on the timing of women's last birth, if any. This latter information is used to determine whether the woman should respond to

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[3] Kish, L. (1949), "A Procedure for Objective Respondent Selection Within the Household", Journal ofAmerican Statistical Association, 44, pp. 380-387.

questions in the subsequent two modules, on 'Desire for Last Birth' and 'Maternal and Newborn Health', which are applied to all women with a live birth within the 2 years preceding the interview. 'Post-natal Health Checks' module includes questions to measure contact with a health provider at some point after the completion of the delivery process. Following this are three modules administered to all women: 'Illness Symptoms', 'Contraception' and 'Unmet Need'. In affected countries, the 'Female Genital Mutilation/Cutting' module should be included followed by 'Attitudes towards Domestic Violence' and 'Marriage/Union' modules. The module on 'Sexual Behaviour' is asked to all women and should be added immediately prior to the 'HIV/AIDS' module. The 'Maternal Mortality' module obtains information about the sex and survivorship of all of a respondent's siblings. Information is also collected about their current age, age at death, number of years since death and, in the case of deceased sisters, if the death occurred during pregnancy, childbirth or within two months of childbirth. The next module 'Tobacco and Alcohol Use' includes questions on cigarette smoking, use of smoked tobacco products, use of smokeless tobacco products and alcohol use. The last module 'Life Satisfaction' is administered to women age 15-24 years and intends to measure perceived level of well-being and happiness.

FLOW OF THE QUESTIONNAIRE FOR CHILDREN UNDER FIVE

The Questionnaire for Children Under Five is administered to mothers or primary caretakers of all children under 5 years of age living in the household. All of the modules are applicable to all children for whom the questionnaire is administered. The model questionnaire consists of eight standard modules. It begins with the 'Under-Five Child Information Panel' that covers the identification information, and then the 'Age' module includes questions to determine the age and date of birth of the child. This is followed by modules on 'Birth Registration', 'Early Childhood Development', 'Breastfeeding', 'Care of Illness', 'Malaria' (to be included only in malaria-endemic countries) and 'Immunization'. The model questionnaire ends with the 'Anthropometry' module, which is used to record the results of anthropometric measurements, that is, heights/lengths and weights of children. Use of standard equipment for this purpose is recommended. More information on anthropometric measurements is presented and the recommended boards and scales are described in MICS Manual Chapter 'Preparing for Data Collection and Conducting Fieldwork'. In households where there is more than one child under age five, it is recommended that all measurements be carried out after completing all interviews, for logistical reasons.

FLOW OF THE QUESTIONNAIRE FOR INDIVIDUAL MEN

With the exception of one module ('Circumcision'), the modules in the Questionnaire for Individual Men are very similar to those in the Questionnaire for Individual Women. The modules included are 'Man's Information Panel', 'Man's Background', 'Access To Mass Media And Use Of Information And Communication Technology', 'Child Mortality', 'Attitudes Toward Domestic Violence', 'Marriage/Union', 'Sexual Behaviour', HIV/AIDS', 'Circumcision', 'Tobacco And Alcohol Use', and 'Life Satisfaction'.

HOUSEHOLD QUESTIONNAIRE

HOUSEHOLD INFORMATION PANEL

The Household Questionnaire begins with a Household Information Panel, which contains space to record key information needed to link household information with information on individual women and children under five. A sample introductory sentence is provided on the model questionnaire, which should be customized to the country situation. *The introduction should contain an assurance that the information provided during the interview will remain confidential, and that respondents will not be penalized in any way if they refuse to participate. Respondents must be given the opportunity to refuse to participate if they so choose.* Other elements that should be included in the introduction are the name of the implementing agency, the approximate duration of interviews, the theme of the survey, and the fact that adults, including mothers or primary caretakers, will be interviewed.

The Household Information Panel consists of an upper and a lower panel. Most of the information to be recorded in the upper panel is known before the household is approached; this information relates to codes assigned to the household to identify it in the sample. The combination of cluster and household numbers assigned to the household before the interview begins is unique to each household in the sample. Identifying the supervisor and the interviewer is useful for monitoring and evaluating fieldwork. The date of the interview is also recorded here. It is important to ensure that this Information Panel stays attached to the rest of the questionnaire since it contains vitally important identification information for each household.

The lower panel provides space to record the results of the household interview and contains items that help to account for questionnaires for all eligible respondents in the household. There is also space for the field editor and data entry clerk to enter theirs names and identifying numbers.

HOUSEHOLD LISTING FORM

Monitoring international goals means that adults, as well as children, become important targets for several survey modules. To ensure that the relevant respondents are identified, the questionnaire begins by listing all household members – that is, persons who usually live in the household[4] – adults and children. A household is a person or group of persons who usually live and eat together. Adapt this definition to fit the definition of a household in use in your country. It is very important that this household list includes children who reside in the household and do

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[4] In MICS4, only *de jure* members (individuals who usually live in the household) are recorded in the household listing. Some countries may opt for a *de facto* sample, including all usual members as well as visitors to the household (determined by using a standard definition of a visitor, such as those who slept in the household the previous night), and selecting for analysis only the *de facto* household members. Both approaches have advantages and disadvantages.

not live with their biological parents. The total number of household members is later used to compute indicators for water and sanitation. Basic demographic information – age, sex and relationship to the household head – is obtained in this module.

Information on age and sex is very important, since eligibility of household members for administration of the individual questionnaires, as well as for several modules, is based on age and sex. Information on age is in terms of completed ages[5], as well as date of birth. The process of listing household members can be time-consuming, especially in households with very old individuals who do not know their ages. For this survey, the precise age of adults outside the prime reproductive and working years is not as vital as in other surveys. To conserve interview time, the code '98' is provided for those older than 50 years of age whose precise age is not known.[6]

Eligibility for the Questionnaire for Individual Women and for the Questionnaire for Children Under Five has already been emphasized (Household Listing Form questions 7 and 9, or HL7 and HL9). Children are linked to their mother or primary caretaker through the mother's or primary caretaker's line number from the household list.

Information on HL8 will be used during the analysis of various indicators. While this information is compulsory for the child labour and child discipline modules, it is also used to match the household respondent and the mother/caretaker and compare the responses of the two, for various indicators that use children 5-14 in their denominators.

Similarly, information on HL10 will be used during the analysis of insecticide treated nets modules and this question should be kept if insecticide treated nets module has been included.

Finally, there are questions to measure two important indicators: children's living arrangements and prevalence of orphans living in households. For all household members under age 18, the questions ask if the biological mother and father are still alive and, if so, whether they live in the same household (HL11-14). These indicators are especially important in countries where adult mortality from AIDS poses severe threats to family well-being. It may also be possible to examine whether these children are more disadvantaged with respect to other indicators, such as education, than children living with their biological parents.

EDUCATION MODULE

The 'Education' module begins with questions to assess the education level of household members who are 5 years of age and older, including all adults ('Education' module questions 3-4, or ED3-4). These questions are not needed to estimate MICS4 indicators, but can help to

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[5] The total number of full years that an individual has lived.

[6] As mentioned earlier in this chapter, in a small number of countries marital status is needed to determine eligibility for the women's questionnaire. Although this approach is not recommended, information on marital status can be obtained through the household listing. In such cases, a separate column should be added to the household listing.

characterize the social status of the household. This information will be useful if the data are analysed further. Responses to these questions can be obtained from those at home at the time of the interview. However, the main respondent to the Household Questionnaire can also provide proxy responses to these questions.

> **EXAMPLE:**
> You may want to discover if messages about National Immunization Days (NID) are reaching mothers with little or no schooling. Children who participated in the last NID can be tabulated according to the number of years their mothers or caregivers attended school.

Current and recent school attendance of children and young adults aged 5 to 24 years is also obtained through questions in the 'Education' module (ED5-8). Questions about current school attendance cover children and young adults aged 5 through 24 years. All countries should retain this age range. You will need to adapt the school year referred to in these questions to match your country's school year. These questions about school attendance should be asked about anyone who has reached age five, even if the usual age for entering school is later, up to and including age 24. We include persons up to age 24 in order to measure an MDG indicator, 'Female to male education ratio in primary, secondary and tertiary education'.

Children age five and above who are not yet in primary school may be attending pre-school or kindergarten, and this information is also obtained through the 'Education' module. A response category is provided for children age five and above who are attending pre-school.

Note that questions ED5-8 are about school attendance during both the current and previous school year. Information on current school attendance is needed to calculate indicators related to enrolment and attendance. Information on attendance during the previous school year is needed to calculate transitions between school years, dropouts and repetitions.

WATER AND SANITATION MODULE

Indicators to monitor the progress of water and sanitation programmes and progress towards MDG goals have been refined since the 2000 monitoring exercise. Accordingly, questions to monitor these indicators have changed slightly. The WHO-UNICEF Joint Monitoring Programme on Water Supply and Sanitation (JMP) has prepared detailed guidelines for measuring progress towards water and sanitation goals.[7]

In the MICS4 questionnaire, the response categories for questions about the source of drinking water and type of toilet facility have been adjusted to reflect new standardized definitions of 'improved' sources of drinking water and 'improved' sanitary means of excreta disposal. The following sources of drinking water are now defined as improved: water that is piped into a dwelling, yard or plot; public tap or standpipe; tube-well or borehole; protected dug well or protected spring; and rainwater collection. Bottled water is not considered an improved water

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[7] The guidelines are available at www.wssinfo.org

source; it is only considered improved if water used for other purposes ('Water and Sanitation' module, question WS2) is obtained from an improved water source. WS2 is asked only to respondents who indicated under WS1 to use bottled water as their main drinking water source. Since usually a large proportion of these respondents also have a regular piped drinking water supply into their households, WS2 is designed to capture that information.

A question about how much time it takes to collect water is also provided in the module. To assess whether gender and generational differences exist among the persons who are usually responsible for hauling water for the household, WS5 is asked.

As programmes begin to promote home treatment of water to make it safer to drink, countries will want to monitor their success. To provide a baseline measure of home treatment of drinking water, two questions are asked (WS6-7).

The international indicator for measuring achievement of sanitation goals is the 'proportion of population with access to improved sanitation'. For this international indicator, the new, standardized definition of an acceptable 'sanitary facility' is a flush facility that flushes to a piped sewer system, septic tank, or pit (latrine); a ventilated improved pit latrine; a pit latrine with a slab, or a composting latrine. A pit latrine with a slab is defined as a dry pit latrine whereby the pit is fully covered by a slab except for the seat or drop hole. The slab can be made of any material. The new categories for WS8 make it easier to identify the type of toilet facility used by members of the household.

Definitions of each water source and type of sanitary facility listed are found in MICS Manual Chapter 'Instructions for Interviewers'. Pictorial aids are also available on the Internet to use when training fieldworkers.[8] Note that these pictorials aids should not be shown to respondents and should be used only for training interviewers.

The purpose of questions WS9-11 is to learn whether the household shares its sanitation facility with other households. The shared status of a sanitation facility is important because shared facilities can be less hygienic than facilities used by only a single household. Unhygienic conditions (faeces on the floor, seat or wall, and flies) may discourage use of the facility. Shared or public sanitation facilities are also considered to be less accessible than individual household facilities compromising use especially by women and children.

Survey coordinators will need to pre-test these questions to determine whether additional water sources, sanitary facilities, or types of home water treatment not already listed but typically used in the country need to be added to this list. *However, be sure to retain compatibility with the categories shown in the model questionnaire.*

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[8] http://www-staff.lboro.ac.uk/~cvrjs2/JMP-Final-Report.htm

If you need more information about measuring the water and sanitation-related indicators, consult the Joint Monitoring Programme's *Guide for Water Supply, Sanitation and Hygiene Related Survey Questions,*[9] which provides more detailed information.

HOUSEHOLD CHARACTERISTICS MODULE

For monitoring the Millennium Development Goals, it is very important to obtain information that will permit indicators to be disaggregated by socio-economic status. Such information will also be invaluable for later in-depth analysis. Further analyses will allow you to evaluate the equity of health programme coverage in your country, differentials in

> **Evaluate the equity of health programme coverage by tabulating your results according to socio-economic status.**

behavioural patterns by socio-economic status, and to assess disparities by wealth. If the data can identify population subgroups or geographic areas in need of special effort, programmes can be re-designed to help reach these groups and keep them on target.

The questions in this module require that response categories be adapted for specific country settings (HC1A–HC1C) and allow for local construction materials (HC3-5). Several questions are included that can be used to construct an index of household wealth[10] and can also be used to monitor a MDG indicator on use of solid fuels. In addition, information about cooking arrangements obtained in HC8 can be combined with information about type of fuel (HC6). This information can be used to monitor child survival programmes that aim to prevent respiratory illnesses.

Finally, there are two questions to record possessions owned by the household and its members. These are also used to construct an index of household wealth. The discriminatory power of the wealth index[11] improves when increased numbers of household and personal items are included in the 'Household Characteristics' module.

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[9] http://www.wssinfo.org

[10] See also Filmer, D., and L. Pritchett. March 1999.'The Effect of Household Wealth on Educational Attainment: Evidence from 35 countries'. *Population and Development Review* 25(1): 85-120; Rutstein, S.O., and K. Johnson. 2004. 'The DHS wealth index'. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.

[11] Filmer, D., and L. Pritchett. 1998. 'Estimating Wealth Effects Without Expenditure Data – or Tears: An application to educational enrolments in states of India'. *World Bank Policy Research Working Paper No. 199.* Washington, D.C.: The World Bank.
http://www.worldbank.org/html/dec/Publications/Workpapers/WPS1900series/wps1994/wps1994.pdf

Filmer, D., and L. Pritchett. March 1999. 'The Effect of Household Wealth on Educational Attainment: Evidence from 35 countries'. *Population and Development Review* 25 (1): 85-120.

Rutstein, S.O., and K. Johnson. 2004. 'The DHS Wealth Index', DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.

Recent research has shown that the inclusion of information on ownership of land and animals can increase the power of the index to distinguish the poor from the very poor in rural areas. It is recommended that countries add at least four additional household appliances so that the list includes at least three items that even a poor household may have, at least three items that a middle-income household may have, and at least three items that a high-income household may have. Some possible additions are clock, water pump, grain grinder, fan, blender, water heater, electric generator, washing machine, microwave oven, computer, VCR or DVD player, cassette or CD player, camera, air conditioner or cooler, colour TV, sewing machine.

INSECTICIDE-TREATED NETS MODULE

Malaria is a major killer in many countries around the world, and its control is specifically mentioned in the Millennium Development Goals. One of the three key strategies for combating malaria identified by the Roll Back Malaria (RBM) Partnership is vector control through insecticide-treated mosquito nets (ITNs). Nets used for sleeping that have been treated with an insecticide to repel or kill mosquitoes can substantially reduce malaria transmission, and programmes to provide access to ITNs are under way in many countries.

This module provides questions to measure a number of key RBM indicators, including 'proportion of households that possess at least one ITN' and 'children under five sleeping under an ITN', the latter also being an MDG indicator. The household ITN module has thus expanded since previous rounds of MICS to measure which household members slept under an ITN the night before the survey in addition to measuring household ownership of nets. Thus, the new module not only allows for the measurement of proportion of children under five who slept under an ITN, but also the proportion of pregnant women and the proportion of all household members..

The Roll Back Malaria Partnership considers malaria to be endemic in 106 countries. Some of those countries report that no transmission is currently occurring, or very few localized cases, and the use of this module is not appropriate in those countries. However, in areas at risk of malaria and in malaria-endemic countries where malaria transmission is known to be occurring, this module (and the 'Malaria' module for children under five, which focuses on treatment of fever) should be included in the questionnaire.

A net treated with insecticide is effective in repelling or killing mosquitoes before they have the chance to bite. Various types of nets are available. 'Long-lasting Insecticidal Nets' are ready-to-use, factory-pretreated nets that require no further treatment for 4 to 5 years. Efforts are now being made to scale up their production. Other types of nets require treatment with an insecticide every 6 to12 months. These nets can be purchased already pre-treated with an insecticide or untreated, and can be treated or re-treated later.

If you plan to include the malaria modules in MICS, you should contact the national malaria control programme in your country to obtain information on the different brands of nets used in the country.

Survey coordinators must work closely with knowledgeable professionals in the national malaria control programme to identify all brands of treated mosquito nets that are available in the country, as well as prevention and treatment policies (covered in the other two malaria modules, for women and children under five). The pre-test will provide an opportunity to ensure that all common brands are included in the questionnaire and will also indicate whether respondents are generally willing to allow interviewers into their sleeping areas to observe the nets.

This module contains questions to identify whether a household possesses insecticide-treated mosquito net(s) and, if so, who slept under the net or nets the night before the interview. Each net is asked about separately. The first step is to identify the type of net with questions about the brands of treated and untreated nets available in the household, the length of time that the household has owned a pre-treated net, and, if applicable, when the most recent treatment of a net occurred. Then, the respondent is asked who slept under the net the previous night.

Sometimes respondents do not know the brand name of the net or nets the household owns, and interviewers may attempt to examine the net to identify the brand. It is often difficult to actually observe nets used for sleeping, because families are concerned about the privacy of their sleeping quarters. In this case, the interviewer may try to identify the brand of net using pictorial aids. Survey coordinators will need to arrange to have photographs of each brand's logo, if there is one, or the packaging in which the treated nets are sold to help with identification. Each interviewer should be given a copy of these photographs to show to respondents to assist them in identifying different brands of nets in the field.

INDOOR RESIDUAL SPRAYING MODULE

Indoor residual spraying (IRS) is the organized, timely spraying of an insecticide on the inside walls of houses or dwellings. It is designed to interrupt malaria transmission by killing adult female mosquitoes when they enter houses and rest on the walls after feeding, but before they can transmit the infection to another person. IRS has been shown to be effective in reducing vectorial capacity and malarial disease in a wide variety of settings, and is particularly effective in locations where mosquitoes are indoor-resting and malaria is seasonally transmitted.

The information in this module will permit countries to calculate the RBM indicator 'households covered by vector control' which is defined as the proportion of households with at least one ITN or sprayed by IRS in the last 12 months.

Before including this module, survey organizers should check with the national malaria control programme to determine whether or not IRS campaigns, whether conducted by government spray teams, an NGO or a private company, are conducted in the country.

During fieldwork, it is essential that only spraying conducted as part of an organized IRS campaign is included in the module. Spraying outside the home or conducted by a member of the home with a household insect repellent are not considered IRS activities.

CHILD LABOUR MODULE

Information to monitor the prevalence of child labour is collected from the respondent to the household questionnaire for each child aged 5 through 14 years. The age of the target group may be adapted to the individual country situation to accommodate country policies, but should *include* children aged 5 through 14 years for reporting on the global indicator. Like all modules in this questionnaire, it is important to translate and pre-test these questions before printing the final questionnaire.

Although it would be desirable to assess the risks working children face, and get information on those who work in a hazardous occupation, this module contains only a minimum set of questions. With these questions you will be able to estimate – for children living in households – the prevalence of paid and unpaid employment outside the home, and the prevalence of unpaid household services (i.e. household chores). Responses to these questions can also be analysed in combination with information on school attendance from the 'Education' module and with information on orphans from the Household Listing.

CHILD DISCIPLINE MODULE

Child discipline is an integral part of child rearing in all cultures. It teaches children self-control and acceptable behaviour. Although the need for child discipline is broadly recognized, there is considerable debate regarding violent physical and psychological disciplinary practices. Research has found that violent practices have negative impacts on children's mental and social development[12]. Harsh discipline is also a violation of a child's right to protection from all forms of violence while in the care of their parents or other caregivers, as set forth in the Convention on the Rights of the Child.

Few data are available on how parents and other caregivers discipline children, especially in low- and middle-income countries. This makes it difficult to describe the nature of child disciplinary practices, their extent and their consequences – and to develop evidence-based strategies that can improve those practices. Additional data on the nature and prevalence of child disciplinary

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[12] Straus, M.A., and M.J. Paschall, 'Corporal Punishment by Mothers and Development of Children's Cognitive Ability: A longitudinal study of two nationally representative age cohorts', Journal of Aggression, Maltreatment & Trauma, vol. 18, no. 5, 2009, pp. 459-483; Erickson, M.F., and B. Egeland, 'A Developmental View of the Psychological Consequences of Maltreatment', School Psychology Review, vol. 16, 1987, pp. 156-168; Schneider, M.W., A. Ross, J.C. Graham and A. Zielinski, 'Do Allegations of Emotional Maltreatment Predict Developmental Outcomes Beyond that of Other Forms of Maltreatment?', Child Abuse & Neglect, vol. 29, no. 5, 2005, pp. 513–532.

practices worldwide are needed to establish baselines, inform the development of more effective parenting strategies and monitor progress. Such data could also guide the development and improvement of educational campaigns, laws, regulations and services that contribute to children's well-being.

The purpose of this module is to obtain information to assess the use of a variety of physical and psychological ways of disciplining children. The questions were adapted from the Parent-Child Conflict Tactics Scale (CTS-PC) – an epidemiological instrument widely used to assess the treatment of children[13] – and are based on the WorldSAFE survey questionnaire, which has been used in developing countries to assess family violence.[14] This module, like the CTS-PC, includes items to measure a range of responses, from non-violent forms of discipline to psychological aggression to severe physical means of disciplining and punishing children. The scale has been tested in different parts of the world and found to provide valid results when careful field procedures are followed.[15,16,17]

HANDWASHING MODULE

The 'Handwashing' module is a new module in MICS4. Research conducted by the USAID-supported Environmental Health Project, and its successor the Hygiene Improvement Project as well as studies from other leading researchers in the field of hand washing[18], have found that observation of a designated place used for hand washing in the household and the presence of soap and water at that specific place is a robust objective indicator for handwashing behavior. A designated place for hand washing is the place that an interviewer is shown by a respondent as the place where members of the household most often wash their hands.

The presence of soap and water at a specific place for handwashing indicates that, at a minimum, the tools necessary for washing hands are present in the same place. Moreover, there is some

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[13] Straus, M.A., S.L. Hamby, D. Finkelor, D.W. Moore, and D. Runyan. 1998. 'Identification of Child Maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect* 22(4): 249-270.

[14] Sadowski, L.S., W.M. Hunter, S.I. Bangdiwala, and S.R. Munoz. 2004. 'The World Studies of Abuse in the Family Environment: A model of a multi-national study of family violence'. *Injury Control and Safety Promotion* 11(2) 81-90.

[15] Theodore, A.D., J.J. Chang, D.K. Runyan, W.M. Hunter, S. Bangdiwala, and R. Agans. 2005. 'Epidemiologic Features of the Physical and Sexual Maltreatment of Children in the Carolinas. *Pediatrics* 115(3): e331-337.

[16] Runyan, D.K., C. Wattam, R. Ikeda, F. Hassan, and L. Ramiro. 2002. 'Child Abuse and Neglect by Parents and Other Caretakers. In: *World Report on Violence and Health,* edited by Krug, E, L. Dahlberg, J. Mercy, A. Zwi, R. Lozano. Geneva: World Health Organization.

[17] Hunter, W.M., L.S. Sadowski, F. Hassan, D. Jain, C.S. DePaula, B. Vizcarra, and M.L. Amarilla. 2004. 'Training and Field Methods in the WorldSAFE Collaboration to Study Family Violence. *Injury Control and Safety Promotion* 11(2): 91-100.

[18] Luby SP, Halder AK. Associations among handwashing indicators, wealth, and symptoms of childhood respiratory illness in urban Bangladesh. Trop Med Int Health. 2008 Mar 24;13(6):835-44.

evidence to suggest that having soap / water at a designated place for handwashing is associated with reduced disease risk.[19]

Research has found that the likelihood that people wash their hands at critical times is highest in households which have a designated place for hand washing where water and soap are present at the designated place.

For correct hand washing to take place at the designated place the presence of water – standing or running water – and the presence of any type or soap (bar, liquid, or powder) is a prerequisite.

The presence of any kind of soap (bar, liquid or powder) anywhere in the household is an indication that the household has access to a market that sells soap, and apparently is aware of some of the benefits of using soap. This information is likely more relevant for rural than for urban areas.

The questions in this module do not ask respondents about specific times when they wash or should wash their hands. Research conducted by the Demographic and Health Survey found that self-reporting in hand washing behaviour leads to significant over reporting. Further research determined that the presence of a designated place for hand washing with water and soap present is the best indicator for the likelihood that hand washing actually takes place. For the moment this is deemed the best possible information on hand washing that can be obtained through a MICS type of household survey.

SALT IODIZATION MODULE

Iodine deficiency disorder is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also significantly raises the risks of stillbirth and miscarriage for pregnant women. It is most commonly and visibly associated with goitre. Iodine deficiency disorder takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability and impaired work performance.

Iodization of salt is a key strategy for achieving the goal of eliminating iodine deficiency. This module is used to test the iodine content of salt used for cooking in the household.

There are two methods of iodizing salt: with potassium iodate or with potassium iodide. You will have to find out which method is used in your country for salt iodization at the production stage, and purchase the appropriate salt testing kit (see MICS Manual Chapter 'Salt Iodization Testing' for more information). The tested level of iodization must be 15 parts per million or more.

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[19] Luby SP, Halder AK. Associations among handwashing indicators, wealth, and symptoms of childhood respiratory illness in urban Bangladesh. Trop Med Int Health. 2008 Mar 24;13(6):835-44.

OBSERVATIONS

Space is also provided at the end of the Household Questionnaire for notes about the interview. Here, the interviewer, field editor and field supervisor may write their notes about the interview and the household, for instance to indicate an appointed time for the survey team to return to the household if no one is at home or any problems encountered during the interview which may have affected the responses.

QUESTIONNAIRE FOR INDIVIDUAL WOMEN

The modules in the women's questionnaire are directed only to women aged 15-49 years. The questionnaire covers some very sensitive topics, and only female interviewers should be used. Special precautions should be taken to guard the confidentiality of women's responses.

The following section summarizes the most important things to note about modules in the Questionnaire for Individual Women.

WOMEN'S INFORMATION PANEL

The women's questionnaire begins with a Women's Information Panel, which contains space to record key data needed to link information about individual women with information on her household and the children she cares for. The introductory sentence provided on the questionnaire should be customized to country circumstances. There will be no need to repeat these sentences to women who have already been respondents to the household questionnaire.

Cluster, household, woman's line number and interviewer identification is entered on the Women's Information Panel. It is important to ensure that this panel is not separated from the rest of the women's questionnaire, since it contains vitally important identification linking the woman to her household. This panel also provides space to record the results of the woman's interview, as well as a space for field editor and data entry clerk identification.

WOMEN'S BACKGROUND MODULE

In this module, we ask woman's age and date of birth to ascertain her true age. Age is one of the most important information in the interview, since almost all analysis of the data depends on the respondent's age.

In this section we also obtain information on individual women's education, and, for women who did not attend school or attended only primary school, we test their ability to read a simple sentence. This information will be used to measure MDG indicator 2.3, on literacy. Survey coordinators should adapt the sentences provided as examples for the literacy test to sentences that are meaningful in their country, and translate them into relevant languages.

The sentences in each language should be printed on a separate card so that interviewers can choose the card with the appropriate language and show it to each respondent. There are several sentences on the card, so that if there is more than one respondent in a household, each one can be asked to read a different sentence. This will help to avoid one respondent overhearing the answers of the first, and simply repeating the sentence, even if she herself cannot read.

ACCESS TO MASS MEDIA AND USE OF INFORMATION AND COMMUNICATION TECHNOLOGY MODULE

To be added…

CHILD MORTALITY MODULE

Child Mortality Module for surveys with Birth History to be added…

One of the overarching goals of the MDGs and the World Fit for Children is to reduce infant and under-five mortality. Monitoring progress towards this goal is an important but difficult objective. Measuring childhood mortality may seem easy, but attempts using direct questions, such as "Has anyone in this household died in the last year?" give inaccurate results. And using direct measures of child mortality from birth histories is time consuming and complicated. Demographers have therefore had to devise ways to measure childhood mortality indirectly. These 'indirect methods' minimize the pitfalls of memory lapses, inexact or misinterpreted definitions, and poor interviewing technique.

One of the most reliable methods is known as the 'children ever born/children surviving' (CEB/CS), or Brass, method of mortality estimation. This method uses data from a few simple questions about the number of live births a woman has ever had and the number of those children who have died to derive estimates of infant and under-five mortality. It does not require respondents to provide dates of birth or death, so the data can be gathered quickly.

The original version of the CEB/CS method – referred to in this manual as the 'age-based' method – relies on women's reports of their ages to estimate the length of time that children have been exposed to the risk of dying. This is the main method that should be used in the current MICS; the 'Child Mortality' module in the model questionnaire includes the necessary questions for it.

However, in countries where pregnancy outside marriage is rare, there is sometimes sensitivity about asking unmarried women about any births they may have had. Where questions on children's births and deaths can only be asked of women who have ever been married, estimates of child mortality using the 'age-based' method becomes more complicated. In these countries, which are relatively few in number, the 'marriage duration' variant of the method should be used, based on questions from the 'Marriage/Union' module. Before designing the questionnaire,

survey coordinators and their technical advisers need to decide which version of the CEB/CS method to use.

Data collection, calculation and interpretation of mortality estimates are complex undertakings. *You should enlist the help of a local demographer or statistician who is conversant with these methods before you conduct the survey.* You should also obtain the recommended publications to assist you and your consultant demographer to collect, analyse and interpret these findings. [20]

It is important to note that if a woman has had no live births, the rest of the 'Child Mortality' module and the next two modules are skipped over and the interviewer goes on to the 'Marriage/Union' module. If she has ever had a live birth, the interviewer goes on to administer the entire 'Child Mortality' module. The information from this module is combined with information on her age to make the estimates. The final segment of this module (CM11-12) inquires about live births within the past 2 years and has to be retained (along with CM1), even if the 'Child Mortality' module is omitted, to determine eligibility for the 'Maternal and Newborn Health' module.

DESIRE FOR LAST BIRTH MODULE

The Desire for Last Birth module is one of several modules required to measure the MDG indicator on unmet need for contraception. The questions in the this module have not been included in the Unmet Need module, however, because extensive experience with these questions indicates that it is more comfortable for respondents to talk about whether or not they wanted the last birth before getting into the more detailed questions of the Maternal and Newborn Health module.

Women who report either that they do not want any more children (also referred to as limiting births) or that they want to wait two or more years before having another child (also referred to as spacing births) are considered to have an unmet need for contraception. Unmet need can be challenging to measure because in order to understand her childbearing desires, different questions need to be posed to the respondent depending on whether or not she has recently given birth or is currently pregnant.

The module contains just three questions that are asked of women who gave birth in the two years preceding the survey. These women have been identified in the Child Mortality module. When analyzed with information on last menstrual period, which is asked about in a later module, the questions in the Desire for Last Birth module allow us to identify post-partum amenorrhoeic women whose last birth was mistimed or unwanted. These women are considered

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[20] The estimation method is explained more fully in: United Nations Department of Economic and Social Affairs. 1990. *A Step-by-Step Guide to the Estimation of Child Mortality.* Information on data collection and training can be found in: David, Bisharat, and Hill. 1990. *Measuring Childhood Mortality: A Guide for Simple Surveys.* Amman: UNICEF's Middle East and North Africa Regional Office.

to have an unmet need for contraception and thus will constitute one part of the numerator of the unmet need indicator.

MATERNAL AND NEWBORN HEALTH MODULE

In this module, women who have had a live birth in the 2 years preceding the survey are asked about antenatal care (ANC) during the last pregnancy, delivery care, and selected aspects of newborn care. Note that a number of questions, particularly those that relate to who provided ANC and delivery care and where the delivery took place require modification during the questionnaire adaptation and pre-test to ensure that the categories are appropriate for the country. However, it is important to note that provider questions are used to calculated to key MDG5 indicators – at least one antenatal visit with a skilled health personnel and skilled attendant at delivery – and thus any adaptation should remain consistent with international definitions of skilled health personnel.

To estimate tetanus toxoid (TT) coverage among children under 1 year of age, mothers who have given birth in the 2 years preceding the survey are asked about their tetanus toxoid immunizations (Mothers often do not possess a card on which their own immunizations are recorded, but their recall is usually adequate). Although a woman may not have received immunizations during the last pregnancy, an infant can be protected against TT if the mother received immunizations during previous pregnancies and the module has been designed to measure coverage even if the immunizations were received in the past.

In malaria-affected countries, several questions are available in the Maternal and Newborn Health module to estimate the effectiveness of programmes to provide pregnant women with intermittent preventive treatment for malaria.

Malaria infections can cause several pregnancy-related complications, malaria-related severe anaemia, and can even result in maternal death. In addition, malaria may cause adverse outcomes for the foetus, including low birthweight, spontaneous abortion and neonatal death. Interventions to reduce the risks of malaria-related pregnancy complications include the use of antimalarial drugs during pregnancy. The current recommendation from the Roll Back Malaria Partnership is to provide all pregnant women in areas with stable malaria transmission with at least two preventive treatment doses of an effective antimalarial drug (usually SP/Fansidar, a combination of sulfadoxine and pyrimethamine) during routine antenatal clinic visits. Three questions to estimate the use of intermittent preventive treatment are included in this module for areas where there is a malaria risk and countries where malaria is endemic.

The appropriateness of including these questions in the MICS will depend upon your country's policy regarding intermittent preventive treatment. Survey coordinators must work closely with knowledgeable professionals in the national malaria control programme to decide if these questions should be included.

Measurement of Caesarean-section (C-section) is new to MICS4. It is estimated that delivery via C-section may be necessary in approximately 5-15 percent of births. Levels of C-section that fall either below 5 percent or above 15 percent, whether at the national level or for sub-national populations, can provide programme managers with useful information.

There are also questions in this module that are used to estimate the incidence of low birthweight. Mothers are asked to give the numerical birthweight of their children, as well as to assess the relative size of their babies at birth. The relationship between mothers' assessment of relative size and the numerical weight for babies who were weighed at birth is then used to estimate the weight of infants for whom only relative size is available. They produce data to make a good estimate, in the aggregate, of the prevalence of low birthweight even for countries where many newborns are not weighed at birth.[21, 22] These questions also enable one to calculate the proportion of babies not weighed at birth.

Questions are also asked to measure the prevalence of timely breastfeeding initiation, an important indicator of newborn care. Early initiation of breastfeeding – putting the infant to mother's breast within one hour of birth – provides the infant with colostrum, which is not only highly nutritious, but which protects babies from infection before their immune systems have developed. This practice contributes to reducing overall neonatal mortality and reducing a mother's risk of post-partum hemorrhage, one of the leading causes of maternal mortality.

POST-NATAL HEALTH CHECKS MODULE

The primary measurement objective of this module is to collect data on postnatal care visits specifically. MICS defines a "postnatal care visit" as a contact with a provider occurring after discharge, in the case of facility deliveries, or after the birth attendant leaves the home, in the case of home deliveries. MICS defines a "postnatal health check (in two days of birth)" as any check on health whether occurring immediately or soon after delivery (while in facility or at home) or within two days of delivery, regardless of location of the check, so as to be able to measure the global indicator using a definition similar to DHS. This is a different indicator than postnatal visit.

The MICS Post-natal Health Checks module is structured to collect information on births regardless of place of delivery. Furthermore, the objective is to collect information on newborns' and mothers' contact with a provider, not content of care. The rationale for this is that as post natal care (PNC) programmes scale up, it is important to measure the coverage of that scale up and ensure that the platform for providing essential services is in place. Content is considered more difficult to measure, particularly because the respondent is asked to recall services delivered up to two years preceding the interview.

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[21] Boerma, T., K. Weinstein, S.O. Rutstein, and E. Sommerfelt. 1996. 'Data on Birth Weight in Developing Countries: Can surveys help?', *WHO Bulletin OMS* 74:209-216.
[22] Blanc A. and Wardlaw T. 2005. 'Monitoring low birthweight: an evaluation of international estimates and updated estimation procedure', Bulletin of the World Health Organization, 83(3):178-185.

This module is asked to women with a live birth in the two years preceding the date of interview. In order to obtain information on postnatal health contacts, each respondent is asked a series of questions about the care that she and her newborn received. The module appears rather lengthy and complex because it is necessary to ask different questions of women who deliver in a facility versus those who do not. However, only sub-sets of questions are applicable for each individual respondent.

In the case of facility deliveries, the respondent is first asked how long after delivery she stayed in the facility. The question refers to the mother only in case the newborn was discharged at a different time. The respondent is then asked whether anyone checked on the newborn's health while in the facility, and in a subsequent question, is asked about any checks on her own health while in the facility.

In the case of assisted home deliveries - those deliveries in which the respondent has already mentioned earlier in the questionnaire that a health professional, traditional birth attendant or community health worker was present - respondents are asked whether the attendant checked on the newborn's health before leaving the house. In a separate question, the respondent is asked whether the attendant checked on her own health before leaving.

All respondents, regardless of place of delivery and whether or not the delivery was attended, are asked a series of questions about postnatal care visits. Questions are asked about a first PNC visit for the newborn and then asked about a first PNC visit for the mother herself. For both the newborn and the mother, the timing of that first visit is asked, followed by questions on who provided the health check and finally the location of the health check.

ILLNESS SYMPTOMS MODULE

In this module, women who are mothers of children under age 5 are asked to name the signs of serious illness that would prompt them to seek immediate treatment for the child at a health facility. Some common responses are provided in the list, but other responses can also be recorded. Responses should *never* be prompted. These data will enable you to calculate an indicator to monitor the success of this educational aspect of the Integrated Management of Childhood Illness (IMCI) programme. In particular, knowledge of the signs of pneumonia, which is the largest killer of children under five worldwide, can be identified.

CONTRACEPTION MODULE

This module obtains information to estimate the prevalence of contraceptive use among couples and contains three questions. (A few countries may restrict these questions to women who have ever been married, as previously discussed). The questions are designed to obtain information to estimate the prevalence of contraceptive use among women. These questions are personal and need to be introduced carefully by the interviewer, after ensuring absolute privacy.

The woman is asked if she is currently doing something or using a method to delay or avoid pregnancy, and, if so, which method she is currently using. For obvious reasons, pregnant women are not asked the current use question. A list of contraceptive methods is provided as possible responses, but responses should *never* be prompted. Only spontaneous responses should be recorded. Multiple responses are allowed, as women might be using more than one method at the time of the survey.

It is important that interviewer training includes information on each of the methods, as well as common local terms, to ensure that respondents' answers are properly recorded.

UNMET NEED MODULE

Unmet need for contraception has already been defined in the Desire for Last Birth module. Unmet need is an MDG indicator and for MICS4, UNICEF has worked with UNFPA to ensure that the indicator can be properly calculated.

As previously indicated, calculated unmet need requires information from a number if different modules including Unmet Need, Desire for Last Birth, and Contraception. The Unmet Need module is complicated, because it includes a number of different skips and filters. It is important that these skips and filters are not modified, because different women will need to be asked different questions based on their own personal characteristics, such as whether or not they are currently pregnant and whether or not they are using a method of contraception.

FEMALE GENITAL MUTILATION/CUTTING MODULE

Female genital mutilation/cutting (FGM/C) involves total or partial removal of the external female genitalia. The operation is performed on young girls, usually before they reach puberty, by traditional midwives and/or circumcision practitioners and frequently without anaesthesia.

FGM/C is a fundamental violation of women's and girls' rights. It violates the rights to health and to physical integrity, to be protected from harmful traditional practices, to be free from injury, abuse and degrading treatment. Furthermore, girls usually undergo the practice without their informed consent, depriving them of the opportunity to make independent decisions about their bodies.

Despite these efforts to eradicate the practice, the FGM/C persists in many countries. The 'Female Genital Mutilation/Cutting' module is designed to collect data on a woman's own experience of FGM/C as well as that of her living daughters. These data will enable researchers to better understand the circumstances surrounding the practice and to track intergenerational changes. Finally, a question to assess the woman's attitudes towards the practice is included.

ATTITUDES TOWARD DOMESTIC VIOLENCE MODULE

Women are vulnerable to abuse by their spouses and other household members. In many – if not most – countries, the problem of domestic violence is a hidden one. Discussion of the problem is infrequent, and attitudes of both men and women towards this phenomenon are often unknown.

Attitudinal questions towards wife-beating are used to assess the acceptance of certain social norms on gender roles. Positive attitudes do not necessarily signify approval by women of wife-beating, but they signify women's acceptance of such norms.

The following module – a single set of prompted attitudinal questions – is included to shed light on the development of programmes to promote a change in the social norms of silence and acceptance that uphold various forms of violence against women. Questions are addressed to all women aged 15-49, regardless of their marital status and experience of violence. The standard indicator refer to the percentage of women 15-49 years of age who think that a husband is justified in hitting or beating his wife in at least one of the following circumstances: (1) she goes out without telling him, (2) she neglects the children, (3) she argues with him, (4) she refuses sex with him, (5) she burns the food. Countries may adapt the standard questionnaire to their social contexts by including different circumstances. However, these circumstances need to reflect expected gender roles.

MARRIAGE/UNION MODULE

This module is included to obtain more detailed information about marital status. Data from questions in this module will permit measurement of several World Fit for Children indicators on child protection, including an estimate of the prevalence of early marriage (marriage before age 15 and age 18) and age differences between women and their spouses.

Polygyny is the practice of a man having more than one wife. It is considered a harmful traditional practice for a young woman to have to enter into a polygynous union. In countries where polygyny is practised, this module has several questions added to it to ascertain the prevalence of polygynous unions and the average number of partners in these unions. If polygyny is not practised, then these questions should be removed.

SEXUAL BEHAVIOUR MODULE

As the HIV epidemic spreads globally, it is increasingly clear that young people are at especially high risk. One of the reasons for this increased risk is that young people often do not have the information or the skills they need to protect themselves. Prevention programmes aim at persuading young women to delay their first sexual experience, to restrict the number of sexual partners they have, and to use condoms with their partner each time they have sex.

This module is included to help countries obtain better information to develop or improve HIV prevention programmes and designed to obtain information about women's sexual behaviour. *It is extremely important that your interviewers ensure absolute privacy when administering this module.* It is also important that the women consent to answering these questions. It must be clear to every woman interviewed that she is *free to refuse* to respond to these questions if she is uncomfortable answering them. Special care must be taken to train interviewers (who must be female) to administer this module, so that their assurance to the woman that her answers are completely confidential can, in fact, be realized.

In some countries, the survey coordinators may feel that the questions on sexual behaviour are too sensitive to be included in a general household survey. If survey coordinators are concerned that including this module will jeopardize the quality of data gathered in other MICS modules, or that the interviewers will not be able to ask these questions easily, do not include this module. In some countries, you may decide to obtain parental consent before administering the questionnaire to women under age 18. Survey coordinators and the MICS4 national steering committees must decide if the module is suitable for inclusion.

It is extremely important that your interviewers ensure absolute privacy when administering the 'Sexual Behaviour' module. You should provide extra training to interviewers if you plan to include this module in your survey.

The module begins with questions about the respondent's first experience of sexual intercourse, which is used to measure the prevalence of women having sex before age 15. This is followed by questions concerning the relationship she had to the man with whom she last had sex and condom use at that time. The prevalence of sex with non-marital partners among young women and sex with multiple partners are also measured as well as the proportion of these women who used a condom when having sex the last time they had sex with a non-marital partner, which is a Millennium Development Goal indicator.

Sex between young women and older men can be especially risky since young women often lack the skills to effectively negotiate safer sex. Moreover, older men are more likely than younger men to be infected with HIV, because they have presumably been sexually active for a longer period of time. The module contains questions about the age of a woman's last sexual partner, even if she does not know his exact age, in order to estimate the extent of 'age-mixing' in sexual relationships. As women get to better understand the risks of having sex with older men, changes in their behaviour will be reflected in this indicator.

More information about these indicators and the methods for administering questions in this module can be found in *National AIDS Programmes: A guide to indicators for monitoring and evaluating national HIVAIDS prevention programmes for young people[23] and Guidelines on construction of core indicators – 2010 reporting[24], and Guidance and specifications for additional recommended indicators, 2008, addendum to Guidelines on construction of core indicators – 2010 reporting[25]*.

HIV/AIDS MODULE

The final module in the women's questionnaire aims to examine knowledge about HIV transmission and AIDS, attitudes towards persons living with HIV, and HIV testing (practice and knowledge). The purpose of this module is to obtain information that will help programme managers and policy makers plan more effective programmes to prevent the spread of HIV.

The module is meant to be used in all countries, but there are notes on the questionnaire showing where and how several questions may need to be adapted locally. The questions and the indicators that can be constructed from the data they provide were developed by UNAIDS and partners. They are part of a set of indicators used to help monitor changes in knowledge, attitudes and practices that are being promoted in HIV prevention programmes around the world.

First, questions are asked to determine the respondent's basic knowledge about HIV transmission. Questions are asked about ways to avoid HIV infection and to assess the prevalence of misconceptions about how HIV is transmitted.

Three questions aim to determine whether a woman knows that the AIDS virus can be transmitted from mother to child. Negative attitudes and discrimination against persons living with HIV affect efforts to prevent transmission and to care for infected individuals. People may be discouraged from seeking HIV testing and treatment services. Several questions are asked to obtain information about discriminatory attitudes and practices.

The purpose of the remaining questions is to obtain information about the level of unmet need for HIV testing. They first ask about experience of HIV testing among women with a live birth during the last two years. Provider initiated testing and counselling as well as voluntary testing

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[23] The guide can be found on the UNAIDS website at this address:
http://data.unaids.org/publications/irc-pub06/jc949-nap-youngpeople_en.pdf
[24] Joint United Nations Programme on HIV/AIDS, 'Core Indicators for National AIDS Programmes: United Nations General Assembly Special Session on HIV/AIDS, Monitoring the Declaration of Commitment on HIV/AIDS. Guidelines on construction of core indicators – 2010 reporting, UNAIDS, Geneva, March 2009 -
http://data.unaids.org/pub/manual/2009/jc1676_core_indicators_2009_en.pdf
[25] Joint United Nations Programme on HIV/AIDS, 'Core Indicators for National AIDS Programmes: Guidance and specifications for additional recommended indicators' (addendum to United Nations General Assembly Special Session on HIV/AIDS, Monitoring the Declaration of Commitment on HIV/AIDS. Guidelines on construction of core indicators – 2009 reporting), UN AIDS, Geneva, April 2008 -
http://data.unaids.org/pub/BaseDocument/2009/20090305_additionalrecommendedindicators_en.pdf

and counselling are encouraged, in the belief that if a person knows his or her HIV status, he or she is more likely to adopt behaviours to prevent contracting the virus or, if positive, of transmitting it and seeking HIV treatment. Many of those who do get tested do not return to receive the test results, but the proportion of those who do return should increase as the quality of pre-test and post-test counselling improves and as people appreciate the importance of HIV testing. To monitor the level of demand for such services, questions are included to obtain an estimate of the number of those tested who return to receive the test result and counselling. For women with a live birth during the last two years who were not tested for HIV and for women without a live birth during the last two years, questions to determine whether the woman was ever tested for HIV and, if tested the timing and if they received the test results are also included. Finally, for those who have not previously been tested, respondents are asked if they know of a place where an HIV test can be performed.

As with all the modules in this questionnaire, it is important that interviewers administer this module with care. It is especially important that they be trained to read out each question in this module exactly as it is written, and to ask questions in the order in which they appear. It is essential that the interview be conducted in a confidential setting.

MATERNAL MORTALITY MODULE

Reducing maternal mortality is MDG target 5A. Monitoring progress towards this vital target is an important but difficult task. A majority of countries still lack a complete civil registration system with good attribution of cause of death, making it challenging to accurately assess the extent of progress towards MDG 5.

Household surveys are one of the sources that supply maternal mortality estimates in the absence of complete and accurate civil registration systems although, like other sources, it has its own set of limitations in estimating the true levels of maternal mortality.

MICS4, as well as DHS, uses the 'direct sisterhood method' to measure maternal mortality at the country level. This method obtains information by interviewing a representative sample of respondents about the survival of all their siblings (to determine the age of all siblings, how many are alive, how many are dead, age at death and year of death of those dead, and among sisters who reached reproductive age, how many died during pregnancy, delivery, or within two months of pregnancy). Although this approach is an important source of information for maternal mortality estimation, it has the following limitations: it identifies pregnancy-related deaths, rather than maternal deaths; it produces estimates with wide confidence intervals, thereby diminishing opportunities for trend analysis; it provides a retrospective rather than a current maternal mortality estimate (usually referring to a period of 0-6 or 0-9 years prior to the survey); the analysis is more complicated than other key maternal health indicators. The sisterhood method is not appropriate for use in countries likely to have a low maternal mortality ratio or where fertility is very low.

Measuring maternal mortality poses considerable difficulty. Because maternal deaths are rare events, even in countries with very high risk, large samples are usually required. Even with very large surveys it is difficult to estimate time trends in maternal mortality. Furthermore, maternal mortality is usually underreported. The estimates generated by the measurement techniques currently available are too imprecise to permit meaningful monitoring of maternal mortality over time. Furthermore, estimates can only be generated at the national level, and so no subnational disaggregation is possible. Countries should not attempt to measure the maternal mortality ratio more often than every 10 years or so. In the short term, indicators of health service use and quality of care are preferred for monitoring progress towards the MDGs. For example, the care a woman receives at the time of delivery is linked to improved health outcomes. Attendance at delivery by skilled health personnel as well as antenatal care can be used as proxy indicators of the impact of programmes to reduce maternal mortality.

TOBACCO AND ALCOHOL USE MODULE

To be added...

LIFE SATISFACTION MODULE

To be added...

OBSERVATIONS

Space is provided at the end of the Questionnaire for Individual Women for notes about the interview. Here, the interviewer, field editor and field supervisor may write their notes about the interview or the respondent.

QUESTIONNAIRE FOR INDIVIDUAL MEN

The modules in the men's questionnaire are directed only to men aged 15-49 years. The questionnaire covers some very sensitive topics, and only male interviewers should be used. Special precautions should be taken to guard the confidentiality of men's responses.

With the exception of the 'Circumcision' module, the content of the Questionnaire for Individual Men are similar to the modules included in the Questionnaire for Individual Men with questions customised to be asked to men.

CIRCUMCISION MODULE

To be added...

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

The Questionnaire for Children Under Five is addressed to all caretakers of young children living in the household. The modules measure:

- prevalence of birth registration
- indicators of early childhood development
- breastfeeding
- care of diarrhoea
- care of suspected pneumonia
- malaria treatment and use of insecticide-treated nets
- immunization coverage
- nutritional status (anthropometry)

The inclusion of a separate Questionnaire for Children Under Five in MICS makes it possible to collect data on children whose mothers may have died or are living elsewhere. Such children usually constitute a more vulnerable group and it is important to obtain information on them. In many other similar surveys, such as the Demographic and Health Surveys (DHS), information on children under five is normally collected only if the mother is interviewed. Identification of a primary caretaker (through the Household Questionnaire) is essential, since he or she is a source of valuable information on these motherless children. Interviewers should take utmost care to ensure that the correct household member is identified as the caretaker.

UNDER-FIVE CHILD INFORMATION PANEL

The Questionnaire for Children Under Five begins with a Child Information Panel containing space to record key information needed to link each child's information with information on his or her household and mother or primary caretaker. The introduction is repeated here to be read to caretakers of children who have not been respondents to the Questionnaire for Individual Women. *The child's mother or primary caretaker must be given the assurance that the information given during the interview will remain confidential, and that the respondent will not be penalized in any way if she/he refuses to participate. Respondents must be given the opportunity to refuse to participate if they so choose.*

Cluster, household, child, mother/caretaker and interviewer identification is entered on the Under-Five Child Information Panel. It is important to ensure that this panel stays attached to the rest of the questionnaire, since it contains vitally important identification information linking the child to household and caretaker information. This panel also provides space to record the results of the under-five child interview.

AGE MODULE

The children's questionnaire then begins with questions to obtain a precise birth date and age. Interviewers will have to probe, if necessary, to make sure that the child's date of birth is

obtained as month and year, so that later on the child's age in months can be calculated (this is important in estimating certain indicators, such as anthropometry, which rely on precise age calculations). Advantage is taken here of the fact that the child's mother or primary caretaker is likely to have the best information about the child's age. These questions also provide a good introduction to questions about birth registration.

BIRTH REGISTRATION MODULE

Birth registration, the official recording of the birth of a child by the government, is a fundamental human right and an essential means of protecting a child's right to an identity. Drawing from the right to a name and nationality contained in article 7 of the Convention on the Rights of the Child, the 2002 General Assembly Resolution 'A World Fit for Children' reaffirms governments' commitment to ensure the birth registration of all children and to invest in, care for, educate and protect children from harm and exploitation. In order to achieve these goals, it is necessary for governments to have accurate population data in order to plan service provision for children and their caregivers. Birth registration, therefore, is not only a fundamental right in itself but also key to ensuring the fulfilment of additional rights. A boy or a girl whose birth is not fully registered and who is not provided with a birth certificate is denied the right to a name and nationality, a situation that may also lead to barriers in accessing other rights including health care, education, or social assistance. Later in life, identity documents help protect children against early marriage, child labour, premature enlistment in the armed forces or, if accused of a crime, prosecution as an adult.

The birth registration module aims at identifying the extent of the problem of non-registration. As the registration systems differ significantly across countries, it is essential to identify the right authority at the state level in charge of the official recording of births, and customize the questionnaire accordingly.

If there is a legal obligation to register births, these questions about registration may be perceived as threatening and must be administered with care. It is important that respondents understand that the information they provide is confidential and that individual data will not be disclosed to government authorities.

EARLY CHILDHOOD DEVELOPMENT MODULE

Early childhood is a very active period of brain development that lays the foundation for later learning. A child's early life has consequences for their adult years. Poor outcomes in early childhood can be long-lasting, affecting school attainment, employment, wages, criminality, and social skills in adulthood. It is accepted consensus that strong early childhood foundations (including good health, nutrition and a nurturing environment) can help to ensure a smooth transition into primary school, a better chance of completing basic education, and a route out of poverty and disadvantage.

This module starts with a question on the existence of children's book in the household. Exposure to books in the early years not only provides the child with greater understanding of the nature of print, but may also give the child opportunities to see others reading, such as older siblings doing school work. It is a simple measure to include and is important for later school performance.

The module includes questions on the variety and complexity of the child's play materials. Young children learn by manipulating objects – testing relationships, sequences and developing a sense of roles and functions in society. They imitate the activities of adults with things, learn social interactions, and keep working on problems (like how to make a simple car) until they can master them. Learning materials need not be purchased. Children enjoy not only store-bought items, but also objects from the household and outside the home. In fact, having learning materials made by family members is more likely to be predictive of later school performance, since it may tell us that the household has a greater recognition of the child's right to play, and makes a special effort to see that this right is exercised. These home-made toys require no money, but may involve skill and time – such as a ball made out of banana leaves or a doll from sticks tied together. Poverty probably reduces the number and availability of toys, time to play with them, and the child's energy to engage with the materials. Conversely, these activities can reduce the effects of poverty on children.

The module is also designed to collect information on two measures of potentially unsafe care-giving environments: children left alone, and children left in the care of young caregivers when their mothers are out. There is evidence that these potentially risky care situations may have less positive outcomes than when children are left with more mature caregivers, and are probably associated with an increase in accidents.

Two questions are provided to obtain information about attendance at organized early childhood education programmes. These questions only concern children aged 3 and 4 years. These questions are meant to obtain information about programmes that provide learning activities for pre-school children. Child-minding or babysitting alone does not qualify as an 'organized, early learning programme'. Survey coordinators should work together with UNICEF and government education advisers to translate this question, and train interviewers to effectively obtain the desired information.

A young child's readiness for formal schooling depends very much on a family environment that encourages the child's learning and development. It is now well recognized that a period of rapid brain development occurs in the first 3 to 4 years of life – and the quality of the home environment is the major factor determining the child's development during this period. Many studies in different parts of the world have shown that children from homes where they are exposed to a variety of learning experiences and learning materials are more likely to be successful in their early schooling than children who lack these experiences.

Early Childhood Development is the holistic development of children from conception. *Development* is defined as the process of change in which the child comes to master more and more complex levels of moving, thinking, feeling and interacting with people and objects in their environment. There are various aspects of development, and these are called *developmental domains* such as physical, social, emotional, language and cognitive development.

Children will develop at different rates on each of the developmental domains. For example, if you observe 1,000 babies and observe how old they are when they begin moving around, you will generally see children starting to crawl from 6 to 10 months of age. This age range is considered the normal *developmental range* for this ability. That is the entire period during which the ability can appear and the child is still considered on course for healthy development. The rates and patterns of development during the early years are highly variable, and not all children who are doing well are doing the same thing at the same time.

Developmental delay occurs when children have not reached these *developmental milestones* within the expected time period. For example, if the normal range for learning to walk is between 9 and 15 months, and a 20-month-old child has still not begun walking, this would be considered a *developmental delay*.

The remaining questions in this module are designed for children age 3 and 4 and a result of rigorous investigation. In 2007, UNICEF commissioned development of a broad set of indicators as potential contributors to a global indicator of child development. Following this, the potential indicators were tested along with other instrumentation in Jordan and the Philippines in the spring and summer 2008. Based on extensive statistical validity, reliability and consistency analyses, an 18-item version was piloted in the MICS4 pilot study in Kenya in February 2009. As a result of feedback from the field and the outcomes, further analytical procedures led to a shorter version consisting of 10 items, each with yes/no responses, encompassing four major developmental areas: language-cognitive, physical, socio-emotional, and approaches to learning. The resultant Early Child Development Indicator (ECDI) is to contribute to a new/enhanced 'Early Childhood Development' module and will enable countries to 1) Monitor child development over time, 2) compare child development across regions, 3) compare child developmental outcomes to other countries and 4) evaluate ECD interventions and programs.

BREASTFEEDING MODULE

This module provides five measures of infant feeding patterns, including exclusive breastfeeding, continued breastfeeding and timely complementary feeding rate, as well as frequency of complementary feeding.

As in the three earlier MICS, the 'current status' approach is used to assess current breastfeeding practices at the time of the survey. This approach, which asks about feeding practices in the 24 hours during the day preceding the interview date, is the *only* reliable method to obtain information about duration of breastfeeding in a cross-sectional survey. The numbers of children

encountered in the age ranges of interest are likely to be quite small: children aged 0–3 months, 0-5 months, 6–8 months, 12-15 months and 20–23 months. In order to stay within feasible sample sizes, the precision with which breastfeeding indicators are measured may be less than that of some other indicators.

CARE OF ILLNESS MODULE

In June 2004, UNICEF and WHO held a joint meeting with other key agencies to reach inter-agency consensus on a minimal set of indicators for monitoring progress towards goals related to child survival. One of the main aims was to maintain continuity with the established indicators used during the 1990s to track progress related to the World Summit for Children, as well as to harmonize the indicators with those already agreed upon by the international community, including those used in the MDGs.

This module covers questions related to treatment of diarrhoea and pneumonia, two of the biggest killers of children under five. Specifically, the questions are limited to illness episodes that occurred in the 2 weeks prior to the survey.

The questions about diarrhoea treatment ask about drinking and eating patterns. In addition to asking about oral rehydration salts, the respondent should be asked about homemade fluids that are recommended by the Ministry of Health (MOH). In order to properly adapt the questionnaire, it will be important to involve appropriate MOH personnel who can advise on the types of fluids recommended by the government. Note that homemade fluids NOT recommended by the government can be recorded in a later question (CA7).

Improper disposal of the faeces of young children poses a risk of diarrhoeal disease. At the end of the module a specific question is asked to provide information about disposing of the waste of young children in the household (CA15).

A series of questions in the module aim to identify a case of suspected pneumonia or other acute respiratory infection *needing assessment* by an appropriate health provider (as defined by WHO/UNICEF).

For survey identification, the World Health Organization defines these suspected cases of pneumonia as children reported to have had an illness with a cough accompanied by fast and/or difficult breathing. A second question is used to filter out simple cases of a cold with a blocked nose: "Were/are these symptoms due to a problem in the chest or a blocked nose?" If a local term for 'rapid breathing' exists, using that term may be the simplest way to obtain cases of acute lower respiratory tract infection that should be seen by a health care provider.

For those children identified as having suspected pneumonia, questions are asked about care-seeking outside the household. The definition of 'appropriate health care provider' is usually agreed upon at the country level. A key strategy for reducing the number of suspected cases of pneumonia is prompt treatment with an appropriate antibiotic. For this reason, questions are also asked to assess whether the child with suspected pneumonia was treated with an antibiotic.

MALARIA MODULE

This module contains questions that will provide the basic data to calculate indicators for malaria treatment. Cases of fever in the 2 weeks preceding the survey are identified. Caretakers are asked if any medicines were given to the child for fever or malaria, and if so, which ones were taken. The options include both anti-fever medications (antipyretics) such as paracetemol, and antimalarials.

The list of antimalarials must be formulated at country level, and country coordinators should work closely with the national malaria control programme to decide which malaria medicines are available and should be listed in the questionnaire. To facilitate identification, survey coordinators should also arrange to print photographs of packages of each common, locally used medicine. These photographs can be carried by the survey team and displayed to caretakers who may not know the names of drugs administered.

Several additional questions are also included in the 'Malaria' module. These ask whether the child received treatment at a health facility, and whether the child was treated at home before being taken to the facility. These questions provide information about the significance of caretakers compared to health workers as providers of antimalarial treatment. The information is essential for knowing where to intervene.

A key question regarding promptness of treatment is also asked in this module. Question ML11 asks about the time interval between the onset of the fever and when the child took the first dose of an antimalarial medication. This information is important to programmes because the most severe types of malaria progress very quickly and children must be treated promptly at onset of a fever. In MICS, treatment received the same day or the next day is considered prompt treatment.

IMMUNIZATION MODULE

The questions on immunization remain virtually unchanged from the earlier MICS. However, the module must still be adapted to reflect vaccines and doses as specified on government-approved vaccination cards. Several vaccines that have come into more common use in countries have been added to the list of potential vaccines.

> **EXAMPLE:**
> In countries where the combined measles, mumps and rubella vaccine
> (MMR) is used instead of measles vaccine alone, MMR should replace

> 'measles' in the list, just as it appears on the vaccination card. If both
> vaccines are in use, retain both items.

Other antigens may also be used in national immunization programmes, and several possible ones are also listed in the model questionnaire. Remove any antigen that does not appear on vaccination cards and are not in use in your country.

> **EXAMPLE:**
> Measles vaccine is normally given as an injection in the arm at the age of
> 9 months. In some countries, measles vaccine is now given at 12 months
> or 15 or 18 months. In some countries, children may receive the vaccine
> as an injection in the thigh. Question IM16 will need to be adapted to
> reflect the usual age recommended for measles vaccine.

Vitamin A doses are now sometimes included on a child's vaccination card, especially if the supplements are delivered in routine child health clinic visits. We have included space for recording the dates of the most recent dose of vitamin A, if recorded on your country's vaccination cards. If routine doses of vitamin A are indicated on vaccination cards in your country, you will be able to make some assessment of the regularity of dosing. Correct dosing is an important component of supplementation programmes, because children who are deficient in vitamin A need to receive supplements every 4 to 6 months – at least twice a year.

A question is also included that asks if any doses not shown on the card were given to the child, including vaccines received during a National Immunization Day. This includes campaigns that provide vaccines other than polio, such as measles immunization campaigns.

In some countries, vaccination cards are kept at health centres and are not given to mothers. In these countries, an additional module prepared for this purpose which includes a page identical to the first page of the 'Immunization' module in the questionnaire should be printed, and if necessary, health centres should be visited to record information from the child's health card. The 'Immunization' module should be used in its entirety during the interview, however.

When no vaccination card is available, the caretaker is asked a series of probing questions (IM6-17) to ascertain the type of vaccine and the number of doses, or additional doses received. Lastly, participation in National Immunization Days can be obtained by inserting the dates of the most recent national campaigns (including non-polio campaigns and 'vitamin A days') in IM19 of the module. If possible, include the season of each campaign to help jog the memory of caretakers who cannot recall specific dates. Vaccine coverage rates are calculated based on card records and/or mothers' responses to probing questions; responses to the question on participation in National Immunization Days will *not* be added to the calculation of coverage.

ANTHROPOMETRY MODULE

Good nutrition is the cornerstone for survival, health and development of current and future generations. Well-nourished children perform better in school, grow into healthy adults and, in

turn, give their children a better start in life. Undernutrition is implicated in more than half of all child deaths worldwide. Undernourished children have lowered resistance to infection, they are more likely to die from common childhood ailments like diarrhoeal diseases and respiratory infections; for those who survive, frequent illness saps their nutritional status, locking them into a vicious cycle of recurring sickness and faltering growth. The key indicators for monitoring the nutritional status of a child are underweight (weight for age – an MDG indicator), stunting (height for age) and wasting (weight for height). These can be measured by obtaining the height or length and weight of the child along with the age in months.

The process of weighing and measuring children can be disruptive, and is best left until all the questionnaires for the household are complete. Weight and height or length (children under age two must be measured in recumbent position) are obtained last. To take these measurements properly, enlist the help of local experts to help design and conduct the training for measurers.

The training programme for measurers is crucial. Consult MICS Manual Chapter 'Anthropometry' for more guidance. The training programme should always include practice weighing and measuring real children; you should obtain permission and make arrangements to carry out practice sessions at a local day-care or other facility where children are found. Be sure to make arrangements early to obtain the necessary equipment, so that you have it in place and ready for the field staff training (see also MICS Manual Chapter 'Preparing for Data Collection and Conducting Fieldwork').

OBSERVATIONS

Space is provided at the end of the Questionnaire for Children Under Five for notes about the interview. Here, the interviewer, field editor and field supervisor may write their notes about the interview or the respondent.